Institut de recherche et documentation en économie de la santé

Les outils d'amélioration de la pertinence de soins

Les enseignements de l'étranger

Bibliographie thématique

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Sommaire

Problématique

Alors que les budgets sont sous tension, les systèmes de santé génèrent, en France comme dans la plupart des pays industrialisés, une part de « gaspillage », notamment sous la forme de soins inutiles ou redondants, d'interventions évitables ou à faible valeur ajoutée. L'Organisation de coopération et de développement économiques (OCDE) chiffre ce gaspillage à près d'un cinquième de la dépense de santé[1]. Ces constats ne sont pas nouveaux. Ils suscitent néanmoins, chez l'ensemble des acteurs du système de santé, une prise de conscience accrue. Face aux défis de la médecine de demain (vieillissement de la population, poids des maladies chroniques, technicité croissante des soins...), l'amélioration de la pertinence des soins représente en effet un enjeu majeur pour l'avenir et la pérennité des systèmes de santé. Renvoyant au « juste soin », approprié, adapté aux besoins des patients, conforme aux meilleurs standards cliniques », la pertinence médicale (appropriateness of care[2], high value care) conduit à conjuguer l'exigence de qualité et de sécurité des soins et l'amélioration de l'efficience des systèmes de santé, souvent pensées de manière antagoniste. Si des actions ont été engagées par les États et les systèmes d'assurance maladie, leurs résultats plafonnent dans la plupart des pays industrialisés.

Depuis une dizaine d'années, la pertinence de soins s'est invitée, en France dans le cadre de la politique de maîtrise médicalisée des dépenses de santé menée conjointement par l'État et l'Assurance Maladie. Mais l'organisation cloisonnée du système de santé et ses modes de financement peu incitatifs sont un frein à des avancées plus substantielles. Une vision stratégique et des évolutions structurelles sont aujourd'hui indispensables[3]. D'ailleurs la pertinence de soins est inscrite au cœur de la Stratégie nationale de santé 2018-2022.

Afin de faire un tour d'horizon international des outils à destination des professionnels de santé et des patients, susceptibles d'améliorer la pertinence des soins, cette bibliographie recense des sources d'information (ouvrages, rapports, articles scientifiques, littérature grise, sites institutionnels…) sur les dispositifs ou expérimentations existants. Si certains outils se révèlent peu efficaces, comme les incitations financières, d'autres, conjugués entre eux, comme la formation médicale, les référentiels, les stratégies de soins adaptés et les retours d'information des patients pourraient avoir un impact faible à modéré sur les pratiques médicales. Enfin, s'il ne semble pas y avoir « de solution miracle » ou de « formule magique », les outils d'aide à la décision pourraient être un levier intéressant de l'amélioration de la pertinence.

La revue de littérature basée sur l'analyse de cette bibliographie sera prochainement mise en ligne.

Les recherches bibliographiques ont été réalisées, entre le 8 et le 16 mars 2018, dans les bases de données suivantes :

Base EPOC de la libraIrie Cochrane

Le groupe EPOC (*Effective Practice and Organization of Care review group*), coordonné depuis 1997 par les Prs Jeremy Grimshaw (Ottawa, Canada) et Sasha Shepperd (Oxford, Royaume-Uni) recense l'ensemble des études publiées selon une méthodologie jugée valide qui évaluent une intervention destinée « à promouvoir la pratique professionnelle la plus efficace », qu'il s'agisse d'une intervention sur les professionnels de santé, d'intervention financière, d'une intervention organisationnelle ou d'une intervention sur les patients.
63 revues systématiques publiées par le groupe EPOC ont été retenues sur la **période 2000-2018**. Pour les études ayant fait l'objet d'une actualisation, seule la dernière version publiée a été prise en compte.

[1] Couffinhal, A. (2017). Tackling Wasteful Spending on Health. Paris OCDE
[2] Site de la HAS
[3] Vanlerenberghe, J. M. (2017). Rapport d'information sur la pertinence des soins. Paris : Sénat

Base de données Medline

Des recherches complémentaires ont été réalisées sur la base Medline incluant essentiellement des articles sur la période **2010-2018**.

Enfin, des recherches de littérature sur les définitions et le contexte de la pertinence de soins ont été effectuées sur la **base documentaire de l'Irdes**, la **Banque de données santé publique, Econlit** et **Nep-Repec.**

Essai de définitions et éléments de contexte

DES DEFINITIONS PROTEIFORMES

À l'étranger

La thématique de la pertinence des soins renvoie à la notion, plus ancienne, de « juste soin », c'est-à-dire d'un soin approprié, strictement nécessaire, adapté aux besoins des patients et conforme aux meilleurs standards cliniques[4].

La RAND Corporation de l'Université de Californie la définissait ainsi, en 1986 : un traitement est considéré comme approprié, et donc pertinent, quand « *le bénéfice escompté pour la santé (par exemple augmentation de l'espérance de vie, soulagement de la douleur, réduction de l'angoisse, amélioration de capacités fonctionnelles) est supérieur aux conséquences négatives attendues (par exemple mortalité, morbidité, anxiété, douleur, durée d'arrêt de travail) d'une façon suffisante pour estimer qu'il est valable d'entreprendre la procédure, indépendamment de son coût* ».

D'autres dimensions ont été soulignées dans le cadre de travaux menés par un groupe de travail du National Health Service, au Royaume-Uni en 1993, dans une définition complétant celle de la RAND Corporation : « *Pertinent, pour un soin, signifie qu'il a été choisi parmi l'ensemble des interventions disponibles qui ont démontré leur efficacité pour une affection, comme étant le plus vraisemblablement à même de produire les résultats attendus pour un patient donné. Une intervention ne peut être pertinente que si certaines conditions sont satisfaites. Les compétences techniques et les autres ressources nécessaires à l'intervention doivent être disponibles, en sorte qu'il puisse être dispensé selon les bons standards. L'intervention doit être réalisée d'une manière telle qu'elle soit acceptable pour le patient. Les patients doivent recevoir une information adéquate au sujet de toutes les interventions potentiellement efficaces. Leurs préférences sont centrales dans la détermination de quelle intervention sera pertinente parmi celles dont l'efficacité est connue.* »

Enfin, l'Organisation mondiale de la santé (OMS) prend en compte le rapport coût/efficacité, et définit ainsi un « soin de qualité » : celui-ci « *doit permettre de garantir à chaque patient l'assortiment d'actes diagnostiques et thérapeutiques qui lui assurera le meilleur résultat en termes de santé, conformément à l'état actuel de la science médicale, au meilleur coût pour un même résultat, au moindre risque iatrogène, et pour sa grande satisfaction, en termes de procédures, de résultats et de contacts humains à l'intérieur du système de soins* ».

En France

En France, la notion de pertinence des soins a émergé plus récemment que dans les pays anglo-saxons, dans le cadre de la politique de maîtrise médicalisée des dépenses de santé. Mais des prémices de cette notion de « pertinence de soins » sont à noter dès 1992. Dans son rapport « *la Sécu, c'est bien, en abuser, çà craint* », le médecin conseil Claude Béraud soulignait déjà que « *multiplier les activités médicales pour accroître la santé était un leurre* » et pointait des formes de gaspillages générés par le système de santé français. La loi Teulade

[4] Vanlerenberghe, J. M. (2017). Rapport d'information sur la pertinence des soins. Paris : Sénat

n° 93-8 du 4 janvier 1993 relative aux relations entre les professions de santé et l'assurance maladie[5] définit le concept de « maîtrise médicalisée » et reconnaît que « *donner le juste soin permettra une amélioration de la qualité des soins et un diminution de leur coût* ». Mais les premiers instruments utilisés comme les références médicales opposables (RMO) ont été perçus comme purement comptables, car fondés sur un objectif de réduction des dépenses et interprétés par les médecins comme une atteinte à la liberté de prescription. . Le système des sanctions a été censuré par le Conseil d'État et le système des lettres clés flottantes, créées en 1999, a été abandonné sans être mis en œuvre[6]. Depuis 2005, la Cnam établit chaque année un plan d'actions de maîtrise médicalisée des dépenses de soins de ville dans le rapport « *Charges et produits* ». Elle y donne une définition de la pertinence de soins. Il s'agit de « *promouvoir le « juste soin », pertinent, efficace, conforme aux recommandations, organisé de la manière la plus efficiente possible, en évitant de gaspiller des ressources sans valeur ajoutée pour la santé. (...). L'objectif de ces actions n'est pas de « faire des économies », il est de soigner mieux, à un coût supportable pour la collectivité. Car la recherche de gains de productivité, il faut le rappeler, n'est pas contradictoire avec l'amélioration de la qualité des soins.* ». Cette notion invite en effet à rapprocher l'objectif d'amélioration de la qualité des soins et celui d'amélioration de l'efficience des systèmes de santé, alors que ces objectifs ont souvent été pensés, en France selon des approches cloisonnées, voire antagonistes.

De son côté, la Haute Autorité de santé définit un acte de soin pertinent comme étant « *le bon acte, pour le bon patient, au bon moment* ». Cette définition synthétique, reconnue par les différents acteurs du système de santé, renvoie au caractère nécessaire et approprié d'une démarche diagnostique ou thérapeutique pertinente. En effet, si la notion de pertinence s'inscrit dans une approche médicale, elle renvoie également à l'organisation du système de santé.

Pour la HAS, en effet, la démarche de pertinence est d'abord tournée vers une exigence médicale de qualité et de sécurité des soins. Il s'agit de protéger le patient, par des soins strictement nécessaires, des conséquences :
- de l'intervention inutile ou excessive du système de santé (sur-usage ou overuse), tels que les examens ou traitements inutiles susceptibles d'entraîner un sur-diagnostic, de présenter des risques ou effets secondaires ou d'entraîner des complications (par exemple l'exposition excessive aux irradiations en raison d'examens radiologiques répétés, les risques liés à une intervention chirurgicale évitable...) ;
- des mauvaises indications (mésusage ou misuse), c'est-à-dire des soins inappropriés ou non conformes aux standards ;
- de l'absence d'intervention (sous-usage ou underuse), susceptible d'entraîner un retard au diagnostic ou au traitement d'une pathologie.

La réduction des dépenses de santé n'est pas l'objectif premier et principal de la démarche de pertinence, et c'est ce qui la distingue des autres approches, comme celle de maîtrise médicalisée des dépenses de santé avec laquelle elle se recoupe largement. Elle peut conduire à un accroissement au moins temporel des dépenses en visant aussi l'équité dans l'accès aux soins (pour lutter contre le « sous-usage »). Toutefois, la pertinence des soins renvoie également, au-delà de la qualité des pratiques médicales, à l'organisation du système de santé et à son efficience : ne retenir que les soins pertinents revient à réduire les coûts générés par les soins qui ne sont pas pertinents, sans que cela n'impacte la qualité des soins dispensés ou la santé des patients.

FOCUS : GASPILLAGE ET GISEMENTS D'EFFICIENCE DANS LES SYSTEMES DE SANTE

Dès 1992, le professeur Claude Béraud[7], médecin-conseil national à la Cnam, évaluait globalement à 120 milliards de francs (soit de l'ordre de 20 % de la dépense de soins) « l'argent dépensé inutilement », en rappelant que « multiplier des activités médicales pour accroître la santé est un leurre ». Si, sur la forme, le ton incisif de ce rapport à l'égard des médecins a été critiqué, le constat global n'a pas été réellement remis en question : d'autres enquêtes ont depuis corroboré cette évaluation.

[5] Cette loi met en place le codage des actes et des pathologies et des outils d'analyse de l'activité des professionnels de santé.
[6] Dans ce système, la Cnamts fixait des objectifs de dépense par profession, les dépassements des volumes des différents actes devant être récupérés de façon quasi-automatique par une baisse de leur valeur unitaire, ce qui conduisait à pénaliser de façon indifférentiée l'ensemble des médecins.
[7] Béraud, C. '2017). La Sécu, c'est bien, en abuser, ça craint.

Une enquête réalisée en 2012 pour la Fédération hospitalière de France (FHF) auprès de 803 médecins - pour moitié hospitaliers et pour moitié libéraux a mis en évidence que 28 % des actes étaient considérés comme n'étant pas « pleinement justifiés ». Les médecins interrogés avançaient plusieurs motifs pour expliquer cette situation : en premier lieu la demande des patients (cité par 85 % des répondants), puis la peur du risque juridique (58 %), le problème de formation (38 %), l'absence de référentiels partagés (37 %), l'absence de contrôle des pratiques (27 %), enfin l'incitation économique (20 %).

Un rapport de l'OCDE publié en janvier 2017[8] a montré que ce phénomène n'était pas une spécificité française. Ce rapport met ainsi en évidence que, dans les pays de l'OCDE, « une grande partie des dépenses et des activités des systèmes de santé constituent, au mieux, une forme de gaspillage, ou ont, au pire, des effets nocifs sur notre santé » : « alors que les budgets publics sont sous pression dans le monde entier, il est inquiétant de constater que près d'un cinquième des dépenses de santé apportent une contribution nulle, ou très limitée, à l'amélioration de l'état de santé de la population. En d'autres termes, les pouvoirs publics pourraient dépenser beaucoup moins dans ce domaine sans que cela n'ait d'impact sur la santé des patients ».

Trois types de gaspillage sont identifiés :

- un gaspillage dans les soins cliniques, ce qui inclut les événements indésirables évitables (« never events ») et les « soins de faible valeur », correspondant aux actes non pertinents car inefficaces (c'est-à-dire dont la valeur clinique n'est pas avérée ou pour lesquels le risque de préjudice est supérieur à l'effet bénéfique escompté) ou inappropriés (c'est-à-dire réalisés d'une manière ne correspondant pas aux recommandations de bonnes pratiques cliniques ou ne tenant pas compte des préférences des patients) ; cette catégorie correspond le plus au champ du présent rapport ;
- un gaspillage opérationnel, quand des soins procurant autant d'effets bénéfiques pour le patient pourraient être dispensés avec moins de ressources (par exemple par le recours à des médicaments génériques ou le traitement au niveau des soins primaires de patients accueillis aux urgences) ;
- un gaspillage lié à la gouvernance, ce qui recouvre les procédures administratives inutiles, mais aussi la fraude, les abus et la corruption.

Sur des sujets plus délimités, la Cour des comptes a mis l'accent sur des recours jugés excessifs à certains actes, à défaut d'une régulation suffisante. Tel est le cas notamment dans deux enquêtes réalisées à la demande de la commission des affaires sociales, portant sur la biologie[9] et l'imagerie médicales[10]. Sur l'imagerie, la Cour identifiait des marges d'efficience « significatives » dans le domaine de l'échographie, du fait d'une banalisation de l'acte (la moitié des actes étant réalisés par des non radiologues) n'ayant pas été suivie d'une banalisation de sa tarification : la croissance du volume d'actes entre 2007 et 2014 a été de près d'un million d'actes par an en moyenne). Pour l'ensemble de ce secteur, comme la Cour l'a réitéré dans son rapport de juin 2017 sur la situation et les perspectives des finances publiques, une « rationalisation des prescriptions fondée sur un critère de pertinence des actes » et une révision de leurs tarifs permettraient de réaliser une économie évaluée entre 0,2 et 0,5 milliard d'euros par an (sur 6 milliards de dépenses).

Les éléments d'explication à cette croissance non maîtrisée des demandes d'examens mis en avant par la Cour recoupent assez largement les facteurs identifiés par l'OCDE dans de nombreux pays et les analyses portées dans le rapport du Sénat sur la pertinence de soins[11] :

- le cloisonnement du système de santé qui amène à des redondances par duplication des examens d'imagerie pour les mêmes patients ;
- l'insuffisance des systèmes de partage et de transmission des données numérisées (...) ;
- les attentes fortes des patients, susceptibles d'exercer une forme de pression consumériste (...) ;
- l'effet potentiellement inflationniste de la rémunération à l'acte (...) ;

[8] Couffinhal, A. (2017). Tackling Wasteful Spending on Health. Paris OCDE
[9] Le Menn, J. (2013). Biologie médicale : réussir la réforme, maîtriser les coûts : rapport d'information n° 785 (2012-2013), fait au nom de la commission des affaires sociales sur l'enquête de la Cour des comptes.
[10] Chasseing, DE. (2016). L'imagerie médicale en France », rapport d'information n° 602 (2015-2016), fait au nom de la commission des affaires sociales sur l'enquête de la Cour des comptes.
[11] Vanlerenberghe, J. M. (2017). Rapport d'information sur la pertinence des soins. Sénat

- l'exercice d'une médecine dite « défensive », par extension du principe de précaution, qui peut conduire à prescrire des examens complémentaires peu utiles, voire inutiles, destinés, en cas de problème, à prouver l'absence de négligence ;
- les progrès de l'imagerie et le développement des nouvelles techniques qui rendent plus complexe le choix des examens à réaliser.

Un autre facteur a été souligné par la Cour des comptes : le rapport précité sur la biologie médicale, et une autre étude portant sur les dépenses de soins infirmiers et de masso-kinésithérapie en exercice libéral[5(*)] mettent en avant une corrélation entre la densité de professionnels de santé et la consommation de soins, sans que cela soit lié à des données objectives comme une part plus importante de personnes âgées. Dans cette dernière étude, la Cour note ainsi : « l'inégale distribution des auxiliaires médicaux sur le territoire a aussi pour corollaire une modification des pratiques professionnelles qui soulève la question de la pertinence des actes. »

QUELQUES DOCUMENTS DE REFERENCES

Études françaises

(2015). "Pertinence des soins et variations des pratiques médicales. Dossier." Actualite Et Dossier En Sante Publique(92): 9-58.
http://www.hcsp.fr/Explore.cgi/Adsp?clef=149

[BDSP. Notice produite par EHESP 78R0xIAp. Diffusion soumise à autorisation]. La pertinence (en prévention, diagnostique, thérapeutique, réadaptation) contribue fortement au respect du premier principe de l'exercice médical : primum non nocere. La sous-utilisation des soins, définie comme la non-réalisation d'actes médicalement justifiés, est en grande partie la cause des dommages pour les patients associés aux soins. Les retards et absence de diagnostic et de traitement concernent une proportion élevée des prises en charge de patients porteurs de maladie chronique. Le chiffre de 50% est souvent 1. "D'abord ne pas nuire" avancé dans les pays développés. Cette sous-utilisation est la conséquence d'erreurs par omission qui sont à peu près aussi fréquentes que les erreurs par commission. Les conséquences en termes de perte de chance et de dommage pour les patients n'ont pas été estimées à large échelle. La surutilisation des soins, définie comme la réalisation d'actes non médicalement justifiés, peut également créer des dommages aux patients, soit directement par les complications des tests diagnostiques ou des traitements, soit indirectement en générant des résultats positifs (vrais positifs ou faux-positifs) nécessitant la poursuite d'explorations, voire des diagnostics en excès, conduisant à terme à des erreurs et des événements indésirables associés aux soins. De surcroît, l'annonce de résultats faussement positifs peut avoir des conséquences psychologiques importantes pour les patients. Enfin, sont inclues dans cette liste les prises en charge agressives au regard des effets attendus, dans les maladies graves comme en fin de vie, qui détériorent la qualité de vie des patients, ou plus simplement qui ne tiennent pas compte des préférences de patients.

Cnam (2017). Rapport sur les charges et produits de l'assurance maladie pour 2018 : Améliorer la qualité du système de santé et maîtriser les dépenses : propositions de l'Assurance Maladie pour 2018. Paris Cnamts: 229 , tabl.
https://www.ameli.fr/fileadmin/user_upload/documents/cnamts_rapport_charges_produits_2018.pdf

Ce rapport annuel de la Caisse nationale d'assurance-maladie propose un ensemble de recommandations pour maîtriser les dépenses de santé, soit 1,94 milliard d'€ d'économies pour 2018, soit la moitié des 4 milliards attendus par le gouvernement. Quelque 750 millions d'€ sont visés grâce à une meilleure prescription des médicaments ou à la promotion des génériques, en mettant l'accent sur les biosimilaires. La Cnam souhaite ensuite économiser 510 millions sur la "pertinence et (le) bon usage des soins", dont 160 millions pour la limitation des dépenses de transports, 100 millions en matière d'indemnités journalières (arrêts maladie). Le virage ambulatoire, qui vise à réduire les hospitalisations, et "l'adéquation de la prise en charge en établissement", doit ensuite permettre de

réduire les dépenses de 470 millions d'€. Enfin, "la lutte contre la fraude et les abus en ville et à l'hôpital" doit permettre d'économiser 210 millions. Ces mesures "n'incluent pas les actions sur les prix des produits de santé, dont les médicaments, liées aux négociations conduites dans le cadre du comité économique des produits de santé (CEPS)", précise l'Assurance-maladie, ni certaines actions de la sphère hospitalière (achats, limitation de la masse salariale, etc). .. L'Assurance-maladie suggère de créer un fonds dédié à l'innovation "organisationnelle", qui financerait des expérimentations à grande échelle. Il prendrait, par exemple, en charge la rémunération des professionnels impliqués dans de nouveaux circuits de soins en attendant leur intégration au circuit de prise en charge conventionnel. Les expériences seraient ainsi évaluées, avec des publications scientifiques à la clef. Parmi les projets éligibles, la Cnam cite le maintien à domicile grâce aux objets connectés, la mise en réseau des acteurs sanitaires et sociaux, de nouveaux modes d'organisation des soins de ville, Elle souhaite également instaurer dès 2018, dans 3 ou 4 régions et pour deux ou trois ans, un paiement forfaitaire en chirurgie, incluant le coût des éventuelles réhospitalisations. Ce nouveau mode de financement dit "à l'épisode de soins", repose sur une forme de garantie médicale, assortie d'un service après-vente. Ce serait la première fois en France que la non-qualité - liée par exemple à des infections contractées sur le site opératoire - serait pénalisée via la tarification de l'activité. Ce projet devrait figurer dans le projet de budget 2018 de la Sécurité sociale.

Cour des Comptes(2017). L'avenir de l'Assurance maladie. Assurer l'efficience des dépenses, responsabiliser les acteurs. Paris Cour des Comptes**:** 287 , tabl., cartes.
https://www.ccomptes.fr/sites/default/files/2017-11/20171129-rapport-avenir-assurance-maladie_0.pdf

Le système d'assurance maladie créé en 1945 permet à la France d'afficher de bons résultats en termes d'espérance de vie. Pour autant, la prévalence de pratiques à risque, un taux de mortalité infantile élevé et des inégalités croissantes d'accès aux soins nuancent ces résultats, obtenus en outre au prix de déficits récurrents. La France se caractérise aussi par une dépense de santé élevée en proportion du PIB et par la part importante des assurances complémentaires dans son financement. Face à l'augmentation structurelle des dépenses, alors que les outils actuels de régulation ont atteint leurs limites, la qualité et l'égalité d'accès aux soins ne pourront être maintenues ou renforcées qu'en réformant l'organisation et la gestion du système de santé. il ressort que, pour améliorer en continu la qualité des soins, garantir leur accès pour toute la population et sur tout le territoire et faire face à des défis renouvelés qui amplifient les tendances lourdes à l'augmentation des dépenses, des efforts de grande ampleur sont indispensables sur le long terme en vue d'accroître leur efficience, c'est-à-dire en travaillant simultanément sur l'amélioration des prestations et la réduction de leurs coûts (I). Pour parvenir à des résultats suffisants, et face à la trop fréquente mise en échec des politiques de maîtrise de la dépense, la création ou la restauration, dans un cadre clair et renouvelé, d'instruments efficaces pour organiser l'action de l'assurance maladie, est nécessaire (II). Ces outils doivent être utilisés pour mettre fin aux situations acquises et sources d'inefficience de tous ordres que des mécanismes d'allocation des ressources insuffisants ont laissé se consolider (III). Un tel mouvement, engageant des réformes sur de très nombreux aspects du système de soins et de l'assurance maladie, est à concevoir comme un processus continu, car le progrès scientifique, le vieillissement, les nouvelles formes de prise en charge, l'évolution de la situation économique et financière de notre pays, le soumettent sans relâche à de nouvelles contraintes. Il n'a de chances d'aboutir que si la régulation et le pilotage de l'ensemble, aujourd'hui faibles et éclatés, retrouvent efficacité et cohérence en redéfinissant les responsabilités des différents acteurs et en se structurant autour d'objectifs de santé publique et de qualité des soins (IV).

Cour des Comptes (2017). Sécurité sociale : Rapport 2017 sur l'application des lois de financement de la sécurité sociale. Paris Cour des Comptes**:** 729, tabl.
https://www.ccomptes.fr/sites/default/files/2017-09/20170920-rapport-securite-sociale-2017_1.pdf

Ce rapport de la Cour des comptes sur l'application des lois de financement de la sécurité sociale s'inscrit dans le cadre de sa mission constitutionnelle d'assistance au Parlement et au Gouvernement. Dans cette édition 2017, la Cour des comptes estime que le déficit de la Sécurité sociale a reculé l'an dernier au prix, en partie, d'artifices comptables. La Cour recommande ainsi au gouvernement à ne

pas relâcher l'effort et à aller encore plus loin. Concernant l'Assurance-maladie, qui reste l'homme malade de la Sécu avec un déficit stable en 2016, à 5,5 milliards d'euros, hors produit exceptionnel de CSG, la Cour dénonce également de nombreux biais qui affectent la sincérité des comptes, dont de fausses économies, des transferts opaques entre branches, des prélèvements trompeurs sur les réserves. Le rapport plaide ainsi pour le développement de la chirurgie ambulatoire et de la télémédecine. Il préconise également un meilleur contrôle des dépassements d'honoraires des spécialistes libéraux.

Fulford, K. W. M., et al. (2017). La clinique fondée sur les valeurs : de la science aux personnes, Paris : Doin

Cet ouvrage présente une approche novatrice en médecine et dans toutes les disciplines soignantes. La clinique fondée sur les valeurs est née du constat d'une insatisfaction fréquente des patients et du malaise des praticiens dans leur exercice quotidien, de nombreux conflits survenant lors de soins devenus très techniques. Le cadre proposé dans cet ouvrage permet de répondre concrètement à ces problèmes, tout en restant compatible avec la rigueur scientifique nécessaire à la pratique des soins aujourd'hui. Chaque chapitre, rédigé de façon très vivante, s'organise autour d'un « récit de cas » accessible sans pré-requis spécialisé. De la médecine générale à la psychiatrie en passant par la chirurgie ou les soins palliatifs, il s'y révèle une pratique possible des soins au plus proche de la singularité de chaque malade, exercée en s'appuyant sur les ressources de la personne soignée, de ses proches, et de tous les membres des équipes soignantes, aujourd'hui multidisciplinaires.

Goujard, A. (2018). France: improving the efficiency of the health-care system. OECD Economics Department Working Papers ; 1455**:** 51 , tab., graph., fig.
http://d.repec.org/n?u=RePEc:oec:ecoaaa:1455-en&r=age

France's health-care system offers high-quality care. Average health outcomes are good, public satisfaction with the health-care system is high, and average household out-of-pocket expenditures are low. As in other OECD countries, technology is expanding possibilities for life extension and quality, and spending is rising steadily, while an ageing population requires substantially more and different services. The main challenges are to promote prevention and cost-efficient behaviour by care providers, tackle the high spending on pharmaceuticals, strengthen the role of health insurers as purchasing agents and secure cost containment. Good-quality information and appropriate financing schemes would ensure stronger efficiency incentives. Disparities of coverage across social groups and health services suggest paying greater attention to co-ordination between statutory and complementary insurance provision. Ongoing reforms to improve prevention and co-ordination among care providers are steps in the right direction. However, progress in the development of capitation-based payment schemes, which can reduce the incentives to increase the number of medical acts and encourage health professionals to spend more time with their patients, and performance-based payment schemes in primary care need to be stepped up to respond to the increasing prevalence of chronic diseases and curb supplier-induced demand and social disparities in access to care

Haute Autorité de Santé (2014). Efficacité des méthodes de mise en œuvre des recommandations médicales. Saint-Denis HAS**:** 48 , tabl.
https://www.has-sante.fr/portail/jcms/c_430282/fr/efficacite-des-methodes-de-mise-en-oeuvre-des-recommandations-medicales

Les recommandations professionnelles en santé ont pour objectif d'aider à améliorer la qualité des soins en définissant les bonnes pratiques au moment de leur publication. L'élaboration rigoureuse et la diffusion des recommandations professionnelles ne suffisent pas à ce que les professionnels de santé les suivent régulièrement, même s'ils en ont connaissance. Plusieurs méthodes de mise en œuvre existent. À partir des données expérimentales disponibles dans la littérature, ce rapport décrit ces différentes méthodes et hiérarchise leur efficacité. L'objectif est d'informer les promoteurs de recommandations professionnelles afin qu'ils s'engagent, au-delà de la rigueur d'élaboration et de la diffusion des recommandations produites, dans une démarche active et efficace de mise en œuvre.

Haute Autorité de Santé (2007). Méthodes quantitatives pour évaluer les interventions visant à améliorer les pratiques. Saint Denis Haute Autorité de santé**:** 55, ann.
http://www.has-sante.fr/portail/upload/docs/application/pdf/eval_interventions_ameliorer_pratiques_guide.pdf

Ce guide méthodologique vise à présenter les différentes caractéristiques méthodologiques d'une étude d'intervention destinée à améliorer la qualité des soins, et les différentes étapes de sa réalisation. Il vise à soutenir le développement actuel de la recherche sur les systèmes de santé, soutenue notamment par les appels à projets de recherche de la Has, de la Cnamts, de la DHOS (appel à projet PrEQHos). Il est une aide aux décideurs et professionnels de santé appelés à expertiser les projets de recherche portant sur une évaluation d'intervention. Ce guide constitue également un document de référence pour la lecture critique utile aux professionnels de terrain. Il fait cependant référence à des concepts, méthodes et outils complexes qui ne sont pas développés, et qui peuvent nécessiter l'aide de méthodologistes.

Haut Conseil pour l'Avenir de l'Assurance maladie (2016). Avis sur les innovations et système de santé. Paris HCAAM**:** 20.
http://www.securite-sociale.fr/IMG/pdf/avis_hcaam_innovations_et_systeme_de_sante_-_13_juillet_2016.pdf

Cet avis dresse, tout d'abord, un bilan de l'état des débats concernant l'innovation en santé sur trois plans : les progrès des sciences et des techniques, les innovations organisationnelles et la transformation numérique. Il s'attache ensuite aux principes de l'action publique en situation d'innovation, en dessinant les contours du système d'innovation, en s'attachant à l'économie industrielle du secteur des biens de santé, en considérant la soutenabilité financière du système, la place des usagers et la conduite des politiques de formation. Il dégage enfin les enjeux opérationnels pour l'action publique, autour de plusieurs axes : le développement d'une approche stratégique au niveau national, la mise en place d'un cadre favorable aux initiatives innovantes, les capacités d'anticipation et d'évaluation, les nouveaux contours de la planification territoriale et les enjeux d'organisation financière et de tarification.

Haut Conseil pour l'Avenir de l'Assurance maladie (2016). Avis sur les innovations et système de santé. Document 15 : Rémunération à l'épisode de soins. Paris HCAAM**:** 9.
http://www.securite-sociale.fr/IMG/pdf/document_15_-_remuneration_a_l_episode_de_soins.pdf

Le ministère de la Santé a choisi de démarrer des expérimentations de financement au parcours de soins pour 3 types de populations (lois de financement de la sécurité sociale pour 2014 et 2015) : - Les personnes atteintes d'insuffisance rénale chronique ; Les personnes atteintes d'affections cancéreuses traitées par radiothérapie externe et les enfants et adolescents atteints d'obésité sévère. Ce document examine successivement le principe général et les objectifs d'un financement au parcours, les avantages et les risques attendus, les préalables requis pour la mise en place du paiement à l'épisode. Il plaide pour l'ouverture des expérimentations dans des domaines où les avantages attendus paraissent particulièrement importants.

Cash, R. et Kervasdoue, J. d. (2018). La coûteuse inégalités des soins : soigner mieux, soigner moins cher. Paris Economica**:** 172, tab., graph., fig.

Si les soins médicaux en France font encore partie des meilleurs du monde, ils ne sont plus les premiers. En revanche, ils sont trop souvent onéreux, inégalitaires et inefficaces. En effet, les traitements pour une même maladie varient d'un praticien à l'autre, d'un hôpital à l'autre, voire d'un service à l'autre au sein du même établissement ce qui a de lourdes conséquences médicales et économiques. Comment se fait-il qu'avec le même corpus de connaissances, le même système de paiement des professionnels de santé et des hôpitaux, l'on constate une telle hétérogénéité ? Non seulement il existe une inégalité de l'accès aux soins mais il y a aussi, et surtout, une inégalité des soins : excellents ici, plus discutables là. Peut-on alors, en même temps, réduire cette tragique

inégalité et soigner mieux pour moins cher ? Oui, comme le révèlent les 20 exemples de cet ouvrage. Qu'il s'agisse de médicaments, d'actes chirurgicaux ou d'examens diagnostiques on constate, selon les lieux de prise en charge, des surprescriptions, des sousprescriptions et des prescriptions inadaptées au cas des patients. À partir de ces études de cas, les auteurs montrent comment interagissent à des degrés divers des forces économiques mais aussi sociologiques, éthiques, ethnologiques et politiques. Leurs influences délétères sont les signes d'un système qui n'est pas géré et qui, trop souvent, se perd dans la recherche de remèdes généraux à des questions spécifiques. Oui, on peut faire mieux pour moins cher et les économies potentielles se chiffrent en milliards d'euros.

Rolland, C. et Sicot, F. (2012). "Les recommandations de bonne pratique en santé. Du savoir médical au pouvoir néo-managérial." Gouvernement et action publique **3**(3): 53-75.
https://www.cairn.info/revue-gouvernement-et-action-publique-2012-3-page-53.htm

Les recommandations de bonne pratique sont exemplaires de la gouvernementalité néo-libérale dans le secteur de la santé, telle qu'à l'œuvre dans la doctrine du New Public Management. Basées en principe sur le savoir issu de la médecine des preuves, elles bénéficient de l'aura d'une légitimité scientifique. En France, elles sont produites et diffusées par des agences étatiques qui œuvrent avec l'Assurance maladie pour réguler l'information médicale et encadrer les pratiques, au nom de la maîtrise des dépenses de santé, de la qualité des soins dispensés et d'objectifs de santé publique. Afin d'atteindre ces visées sans remettre en cause frontalement l'autonomie de la profession médicale, les promoteurs des bonnes pratiques multiplient les outils, notamment conventionnels, de leur intégration.

Mornex, R. (2013). "Améliorer la pertinence des stratégies médicales." Bulletin De L'academie Nationale De Medecine **197**(4-5): 1033-1049.
http://www.academie-medecine.fr/detailPublication.cfm?idRub=26&idLigne=2452

La pertinence des stratégies médicales est une caractéristique essentielle du bon exercice de la médecine. Or ce rapport constate que trop d'échographies, d'examens biologiques, de bilans de santé, d'ordonnances de médicaments, de recours à l'imagerie lourde, voire à des interventions chirurgicales, sont réalisés de façon abusive et sans discernement. Pour lutter contre ses dérives, il propose des pistes d'amélioration.

Thierry, J. M. et Rambaud, C. (2016). Trop soigner rend malade. Paris : Albin-Michel
http://www.albin-michel.fr/ouvrages/trop-soigner-rend-malade-9782226324962

Comment expliquer qu'en dépit des progrès de la médecine, de l'incitation à réduire graisses et sucres dans l'alimentation et à pratiquer une activité physique, le nombre de diabètes de type 2 ait été multiplié par trois en vingt ans ? que sept millions de Français prennent tous les jours des statines pour réduire leur taux de cholestérol ? qu'après 35 ans, un Français sur trois soit considéré comme hypertendu ? Il a suffi de baisser les seuils de dépistage pour que tout facteur de risque soit traité comme une « maladie ». Idem pour le cancer du sein ou de la prostate, l'obésité... Or examens et traitements inutiles ont des effets secondaires et des complications, entraînant des dépenses qui seraient plus utiles pour soigner les vrais malades et financer la recherche.Comment expliquer qu'en dépit des progrès de la médecine, de l'incitation à réduire graisses et sucres dans l'alimentation et à pratiquer une activité physique, le nombre de diabètes de type 2 ait été multiplié par trois en vingt ans ? que sept millions de Français prennent tous les jours des statines pour réduire leur taux de cholestérol ? qu'après 35 ans, un Français sur trois soit considéré comme hypertendu ? Il a suffi de baisser les seuils de dépistage pour que tout facteur de risque soit traité comme une « maladie ». Idem pour le cancer du sein ou de la prostate, l'obésité... Or examens et traitements inutiles ont des effets secondaires et des complications, entraînant des dépenses qui seraient plus utiles pour soigner les vrais malades et financer la recherche.

Vanlerenberghe, J. M. (2017). Rapport d'information sur la pertinence des soins. Paris Sénat**:** 62.
http://www.senat.fr/rap/r16-668/r16-668.html

Alors que les budgets sont sous tension, les systèmes de santé génèrent, en France comme dans la plupart des pays développés, une part de « gaspillage », notamment sous la forme de soins inutiles ou redondants, d'interventions évitables ou à faible valeur ajoutée. Cela pourrait représenter, d'après l'OCDE, près d'un cinquième de la dépense de santé. Basé sur une série d'auditions réalisées auprès de différents acteurs du système de santé français, ce rapport émet des recommandations pour améliorer la pertinence des soins en France. Il comprend aussI un rappel sur les concepts ainsi qu'une description de la politique de maîtrise médicalisée en France.

Études étrangères

(2016). "Choisir avec soins : mode ou pertinence ? La réforme Obama de la santé va-t-elle contribuer à diminuer la surmédicalisation ?" Medecine : De La Medecine Factuelle a Nos Pratiques **12**(4): 182-185.

Les États-Unis sont à l'aube d'une réforme de leur « système de santé ». Cette réforme apporte avec elle des changements de pratique médicale, initiée par les sociétés savantes, les assureurs privés à but non lucratif, et les associations de consommateurs : la campagne « Choosing Wisely ». Le Canada a repris cette recherche d'un soin avisé. La décision partagée pourrait enrichir cette réflexion. Cependant, devant une demande des patients qui leur semble injustifiée, le temps nécessaire à sa mise en pratique fait souvent baisser les bras aux médecins, surtout s'il s'agit de dire non, et sans réponse alternative à apporter à la plainte. Associer à l'information cohérente issue des professionnels eux-mêmes des compétences en communication et en psychothérapie pour répondre aux patients anxieux et une reconnaissance du temps passé pourrait être source d'économie et de qualité en santé.

Belloni, A. et et al. (2015). "Pertinence des soins : perspectives et éclairage international." Actualite Et Dossier En Sante Publique(92): 38-47.
http://www.hcsp.fr/Explore.cgi/Adsp?clef=149

[BDSP. Notice produite par EHESP qjAER0x8. Diffusion soumise à autorisation]. Les taux de recours aux soins varient largement d'un pays à l'autre. En 2014, l'OCDE a publié pour la première fois des analyses sur les variations géographiques observées entre pays, mais aussi entre régions. Aux États-Unis, la campagne "Choosing Wisely", dont l'objectif est la juste prescription, est menée par et avec les professionnels et les patients. En France, un atlas des variations des pratiques informera les usagers qui pourront ainsi être acteurs de leur prise en charge.

Corallo, A. N., et al. (2014). "A systematic review of medical practice variation in OECD countries." Health Policy **114**(1): 5-14.
http://dx.doi.org/10.1016/j.healthpol.2013.08.002

Major variations in medical practice have been documented internationally. Variations raise questions about the quality, equity, and efficiency of resource allocation and use, and have important implications for health care and health policy.

Couffinhal, A. (2016). Tackling Wasteful Spending on Health. Paris OCDE**:** 304 , tab., fig.
www.oecd.org/health/health-systems/Primary-Care-Review-of-Denmark-OECD-report-December-2016.pdf

Following a brief pause after the economic crisis, health expenditure is rising again in most OECD countries. Yet, a considerable part of this health expenditure makes little or no contribution to improving people's health. In some cases, it even results in worse health outcomes. Countries could potentially spend significantly less on health care with no impact on health system performance, or on health outcomes. This report systematically reviews strategies put in place by countries to limit ineffective spending and waste. On the clinical front, preventable errors and low-value care are discussed. The operational waste discussion reviews strategies to obtain lower prices for medical goods and to better target the use of expensive inputs. Finally, the report reviews countries experiences in containing administrative costs and integrity violations in health (résumé de l'éditeur).

Dartmouth Institute (2018). Dartmouth Atlas of Health Care / Understanding of the Efficiency and Effectiveness of the Health Care System. Dartmouth : Dartmouth Institute.
http://www.dartmouthatlas.org/

> For more than 20 years, the Dartmouth Atlas Project has documented glaring variations in how medical resources are distributed and used in the United States. The project uses Medicare data to provide information and analysis about national, regional, and local markets, as well as hospitals and their affiliated physicians. This research has helped policymakers, the media, health care analysts and others improve their understanding of our health care system and forms the foundation for many of the ongoing efforts to improve health and health systems across America.

Fitch, K., et al. (2018). The RAND/UCLA Appropriateness Method User's Manual., Santa Monica : The Rand Corporation
https://www.rand.org/pubs/monograph_reports/MR1269.html

> Health systems should function in such a way that the amount of inappropriate care is minimized, while at the same time stinting as little as possible on appropriate and necessary care. The ability to determine and identify which care is overused and which is underused is essential to this functioning. To this end, the "RAND/UCLA Appropriateness Method" was developed in the 1980s. It has been further developed and refined in North America and, increasingly, in Europe. The rationale behind the method is that randomized clinical trials — the "gold standard" for evidence-based medicine — are generally either not available or cannot provide evidence at a level of detail sufficient to apply to the wide range of patients seen in everyday clinical practice. Although robust scientific evidence about the benefits of many procedures is lacking, physicians must nonetheless make decisions every day about when to use them. Consequently, a method was developed that combined the best available scientific evidence with the collective judgment of experts to yield a statement regarding the appropriateness of performing a procedure at the level of patient-specific symptoms, medical history, and test results. This manual presents step-by-step guidelines for conceptualising, designing, and carrying out a study of the appropriateness of medical or surgical procedures (for either diagnosis or treatment) using the RAND/UCLA Appropriateness Method. The manual distills the experience of many researchers in North America and Europe and presents current (as of the year 2000) thinking on the subject. Although the manual is self-contained and complete, the authors do not recommend that those unfamiliar with the RAND/UCLA Appropriateness Method independently conduct an appropriateness study; instead, they suggest "seeing one" before "doing one." To this end, contact information is provided to assist potential users of the method.

Ham, C. (2013). "Doctors must lead efforts to reduce waste and variation in practice." Bmj **346**: f3668.

Maynard, A. (2013). "Health care rationing: doing it better in public and private health care systems." J Health Polit Policy Law **38**(6): 1103-1127.

> All public and private health care systems ration patient access to care. The private sector rations access to consumers who are willing and able to pay. The poor and disadvantaged have limited access to care and inadequate income protection. In public health systems, care is provided on the basis of "need," that is, the comparative cost-effectiveness of competing treatments. This results in patients being deprived of care if treatments are clinically effective but not cost-effective. Rationing health care is ubiquitous. In both types of systems physicians have discretion to deviate from these rationing principles. This has created inefficient variations in clinical practice. These are difficult to resolve because of the lack of transparency of costs and patient outcomes and perverse incentives. The failure to remove universal inefficiency in a period of economic austerity sharpens awareness of rationing. Hopes of greater efficiency are largely faith based. Competing ideologues from the left and the right continue to offer evidence for free solutions to long-established problems. Inefficiency is unethical, as it deprives potential patients of care from which they could benefit. Reducing inefficiency is essential

but difficult. The universal challenge is to decide who shall live when all will die in a world of scarce resources.

Ocde (2014). Geographic Variations in Health Care: What Do We Know and What Can Be Done to Improve Health System Performance? Paris OCDE**:** 415 , fig., tabl.
http://dx.doi.org/10.1787/9789264216594-en

Geographic variations in health care use across and within countries have been widely documented, for a limited number of countries including the United States, Canada, the United Kingdom and Nordic countries. While some of these variations reflect differences in patient needs and/or preferences, others do not. Instead, they are due to variations in medical practice styles, the ability of providers to generate demand beyond what is clinically necessary, or to unequal access to health care services. These unwarranted variations raise concerns about the equity and the efficiency of health systems. This report presents new information on geographic variations in health care utilisation within and across 13 OECD countries: Australia, Belgium, Canada, the Czech Republic, Finland, France, Germany, Israel, Italy, Portugal, Spain, Switzerland and the United Kingdom (England). The analysis focusses on a selected set of high-volume and high-cost health care activities. Data are reported for the most recent year (often 2011) and sometimes for several years, allowing some analysis of trends. Health care utilisation is recorded at the patient's place of residence. Hence, the level of use in a given area cannot be explained by patients receiving treatment in other geographic areas. Utilisation rates have been standardised by age and sex to remove the effect of differences in population structures. The report considers possible causes of these variations and explores health policies expected to reduce unwarranted variations. (résumé de l'éditeur).

Radley, D. C. et Schoen, C. (2012). "Geographic variation in access to care - The relationship with quality." New England Journal of Medicine **367**(1): 3-6.
http://www.nejm.org/doi/pdf/10.1056/NEJMp1204516

Schang, L., et al. (2014). "From data to decisions? Exploring how healthcare payers respond to the NHS Atlas of Variation in Healthcare in England." Health Policy **114**(1): 79-87.

PURPOSE: Although information on variations in health service performance is now more widely available, relatively little is known about how healthcare payers use this information to improve resource allocation. We explore to what extent and how Primary Care Trusts (PCTs) in England have used the NHS Atlas of Variation in Healthcare, which has highlighted small area variation in rates of expenditure, activity and outcome. METHODS: Data collection involved an email survey among PCT Chief Executives and a telephone follow-up to reach non-respondents (total response: 53 of 151 of PCTs, 35%). 45 senior to mid-level staff were interviewed to probe themes emerging from the survey. The data were analysed using a matrix-based Framework approach. FINDINGS: Just under half of the respondents (25 of 53 PCTs) reported not using the Atlas, either because they had not been aware of it, lacked staff capacity to analyse it, or did not perceive it as applicable to local decision-making. Among the 28 users, the Atlas served as a prompt to understand variations and as a visual tool to facilitate communication with clinicians. Achieving clarity on which variations are unwarranted and agreeing on responsibilities for action appeared to be important factors in moving beyond initial information gathering towards decisions about resource allocation and behaviour change. CONCLUSIONS: Many payers were unable to use information on small area variations in expenditure, activity and outcome. To change this what is additionally required are appropriate tools to understand causes of unexplained variation, in particular unwarranted variation, and enable remedial actions to be prioritised in terms of their contribution to population health.

Wennberg, J. E. (2011). "Time to tackle unwarranted variations in practice." Bmj **342**.

LES TRAVAUX DE L'IRDES SUR LA VARIABILITE ET L'EFFICIENCE DES PRATIQUES MEDICALES

Bonastre, J., et al. (2013). "Activité, productivité et qualité des soins des hôpitaux avant et après la T2A." Questions D'economie De La Sante (Irdes)(186): 8.
http://www.irdes.fr/Publications/Qes2013/Qes186.pdf

Introduite en 2004-2005, la tarification à l'activité (T2A) permet de financer l'activité de court séjour des hôpitaux publics et privés afin d'améliorer l'efficience des établissements de santé et du secteur hospitalier. Pour autant, le suivi de l'impact de la T2A sur l'évolution de l'activité, de la productivité hospitalière et de la qualité des soins restait partiel à ce jour. Cette étude fournit de nouvelles données et analyses quantitatives permettant de répondre à différentes questions : la mise en place de la T2A a-t-elle permis d'accroître la productivité ? La structure de la production a-t-elle été modifiée ? Comment la qualité des soins a-t-elle évolué ?

Bonastre, J., et al. (2017). "L'accès aux soins en cancérologie : évolution de l'offre et recours aux soins entre 2005 et 2012." Questions D'economie De La Sante (Irdes)(221): 8.
http://www.irdes.fr/recherche/questions-d-economie-de-la-sante/221-l-acces-aux-soins-en-cancerologie-evolution-de-l-offre-et-recours-aux-soins-entre-2005-et-2012.pdf

Avec près de 355 000 nouveaux cas par an, la prise en charge des cancers représente un défi tant en termes médical qu'économique. Au cours des dix dernières années, l'offre de soins en cancérologie a connu une importante restructuration, d'une part sous l'effet de la Tarification à l'activité (T2A) comme mode de financement des hôpitaux, d'autre part à la suite de la mise en place de seuils d'activité minimale, sans que l'on ne connaisse aujourd'hui les répercussions en termes de redistribution des activités de cancérologie sur le territoire, d'accès géographique et de qualité des soins. L'évolution de l'offre de soins hospitaliers en cancérologie entre 2005 et 2012 est décrite ici pour les structures pratiquant la chirurgie des cancers et la chimiothérapie. Les effets de la recomposition de l'offre en cancérologie sont examinés à partir de l'évolution des distances d'accès et des taux de recours départementaux.

Bricard, D. et Or, Z. (2018). Does an Early Primary Care Follow-up after Discharge Reduce Readmissions for Heart Failure Patients? Document de travail Irdes ; 73. Paris Irdes: 24.
http://www.irdes.fr/english/working-papers/073-does-an-early-primary-care-follow-up-after-discharge-reduce-readmissions-for-heart-failure-patients.pdf

Better monitoring of patients in primary care setting is often considered to be a solution for reducing avoidable hospitalisations and readmissions. In this paper we test the hypothesis that the risk of readmission is associated with the timing and intensity of primary care follow-up, with a focus on consultations with a generalist (GP) after discharge by patients hospitalized for heart failure in France. We propose a discrete-time model which takes into account that primary care treatments have a lagged and cumulative effect on readmission risk measured on a weekly basis, using an instrumental variable strategy (IV). The results from IV regressions suggest that a consultation with a GP in the first weeks after discharge can reduce the readmission risk by almost 50%, and that patients with higher ambulatory care utilisation have smaller odds of readmission. Furthermore, geographical disparities in primary care affect directly primary care utilization and hence indirectly the readmission risk. These results suggest that interventions which strengthen communication between hospitals and generalists are elemental for reducing readmissions and improving system-wide cost efficiency. In order to encourage better care transition and to improve patient outcomes after discharge, financial incentives for hospitals should be aligned with the objective of avoiding repeated hospitalisations. However, the current hospital funding system in France, based on patient volumes, does not provide any incentive for investments to improve patient follow-up after discharge.

Guillaume, S. et Or, Z. (2016). "La satisfaction des personnes âgées en termes de prise en charge médicale et de coordination des soins : une approche qualitative exploratoire." Questions D'economie De La Sante (Irdes)(214): 1-6.
http://www.irdes.fr/recherche/questions-d-economie-de-la-sante/214-la-satisfaction-des-personnes-agees-en-termes-de-prise-en-charge-medicale-et-de-coordination-des-soins.pdf

Cette enquête qualitative exploratoire vise à identifier les dimensions de la satisfaction des personnes âgées concernant leur prise en charge médicale et la coordination de leurs soins. Réalisée au printemps 2015 à partir d'entretiens semi-directifs, elle porte sur un échantillon de 18 personnes âgées de 72 à 90 ans, vivant à domicile ou en institution, ainsi que sur 4 aidants de patients atteints de pertes de facultés cognitives. Toutes les personnes interrogées, quel que soit leur type d'hébergement, y compris les aidants, s'accordent à dire que la dimension la plus importante dans la prise en charge concerne la qualité de la relation entretenue avec les professionnels de santé. Il semble y avoir une marge de manœuvre importante pour améliorer cette qualité relationnelle et la satisfaction des personnes avec des gestes simples. Les personnes enquêtées évoquent l'importance d'être bien informées sur leur prise en charge, d'avoir la possibilité de s'exprimer et l'importance des échanges ainsi que de la coordination entre les différents professionnels de santé impliqués dans leurs soins.

Hakkinen, U., et al. (2014). "Quality, cost, and their trade-off in treating AMI and stroke patients in European hospitals." Health Policy **117**(1): 15-27.
http://www.healthpolicyjrnl.com/article/S0168-8510(14)00130-4/abstract

OBJECTIVES : This study compared the cost and in-hospital mortality of hospital care for two major diseases, acute myocardial infarction (AMI) and stroke, by pooling patient-level data from five European countries (Finland, France, Germany, Spain, and Sweden). We examined whether a cost-quality trade-off existed in these countries by comparing hospital-level costs and survival rates, and whether hospitals which performed well in terms of cost or quality in treating one patient group (AMI) performed well also in treating the other patient group (stroke). METHODS : A fixed-effect probit regression model for survival and the linear model for log costs were used to calculate indicators for hospital quality and cost, which were plotted against each other. FINDINGS : Both with AMI and stroke there were remarkable differences between hospitals and countries in (both crude and adjusted) rates of patients discharged alive. Swedish and French hospitals had lower mortality than hospitals in Germany, Finland and Spain in the care of AMI patients. However, a longer length of stay in Spanish and German hospitals may bias the results in the two countries. The Finnish hospitals seemed to have lower mortality than the other countries' hospitals in the care of stroke patients. There was no correlation at either the national or hospital level in the quality of treatment of these two diseases. We did not find a clear cost-quality trade-off. The only notable exception was Sweden, where the costs for AMI patients were higher in hospitals with the highest quality of care. CONCLUSIONS : Countries should identify the best performing hospitals both in terms of cost and quality in order to learn from hospitals that demonstrate better practice. It is equally important to better understand the reasons behind the observed differences between hospitals in costs and quality.

Le Bail, d. et Or, Z. (2016). Atlas des variations de pratiques médicales. Recours à dix interventions chirurgicales - Edition 2016, Paris : Irdes
http://www.irdes.fr/recherche/ouvrages/002-atlas-des-variations-de-pratiques-medicales-recours-a-dix-interventions-chirurgicales.pdf

Premier Atlas français des variations de pratiques médicales, cet ouvrage, élaboré grâce à une collaboration entre la DGOS, l'Irdes et les membres du groupe technique national Pertinence des soins, notamment l'ATIH, la Cnamts et la HAS, propose un panorama de dix interventions chirurgicales parmi 33 thématiques déclarées prioritaires par les pouvoirs publics en termes de pertinence et de qualité des soins, d'équité d'accès à l'offre de soins sur le territoire et d'efficience dans l'allocation de ressources humaines et financières. Ces interventions chirurgicales ont été sélectionnées car elles sont identifiées dans la littérature internationale comme sensibles à l'offre de soins et parce que leurs prises en charge varient selon les patients. Cet Atlas permet d'illustrer les écarts de pratiques chirurgicales existant entre les départements et d'interroger leurs causes afin de réduire celles qui ne correspondent pas aux besoins. Il s'adresse tant aux professionnels de santé qu'aux usagers du système de soins, aux institutions de santé et aux chercheurs : les premiers pour les inciter à comparer et questionner leurs pratiques, les deuxièmes pour leur apporter des informations transparentes, les

derniers pour les encourager à alimenter la réflexion par la production de données objectives afin de mieux comprendre les déterminants et les conséquences des variations observées.

Lin, E., et al. (2015). Medical practice variations in mental health and addictions care. Medical Practice Variations., Berlin : Springer Verlag**:** 1-41.
http://link.springer.com/referencework/10.1007/978-1-4899-7573-7

This chapter provides an overview of the practice variations in care delivery for mental health and addictive disorders and some of the system-level funding and structural factors that contribute to such variation. Practice variations are described for five populations, along with their expected clinical picture and service needs : Children and adolescents, The elderly, Severe mental illness, Mild/moderate illness, Substance use disorders. These variations occur in a system-level climate which has been transformed over the past decades because of a fundamental change in how appropriate care is defined. Specifically, Western countries have been shifting from institutional to more community-based care – a process labeled "deinstitutionalization." National differences in how services are funded and organized in light of deinstitutionalization are described. Pending gold-standard outcome indicators such descriptions allow more in-depth examination of what the potential drivers for system change are and how different funding and structure configurations might be compared and evaluated.

Or, Z., et al. (2015). "Pour un atlas des variations des pratiques en France." Actualite Et Dossier En Sante Publique(92): 43-45.
http://www.hcsp.fr/Explore.cgi/Adsp?clef=149

L'information sur les droits des usagers de la santé constitue une priorité pour réduire l'asymétrie d'information entre soignants et soignés et permettre aux usagers de pouvoir contribuer aux décisions de santé et aux patients d'être réellement acteurs de leur prise en charge en choisissant au mieux leur parcours de soins. Cette priorité est entrée dans le Code de santé publique depuis plus de 13 ans avec le vote de la loi du 4 mars 2002 relative aux droits des malades et à la qualité du système de santé (introd.).

Or, Z., et al. (2017). "Variations des pratiques chirurgicales dans la prise en charge des cancers du sein en France." Questions D'economie De La Sante (Irdes)(226): 1-8.
www.irdes.fr/recherche/questions-d-economie-de-la-sante/226-variations-des-pratiques-chirurgicales-dans-la-prise-en-charge-des-cancers-du-sein-en-france.pdf

En 2015, le cancer du sein est le premier cancer féminin en termes d'incidence (54 000 nouveaux cas) et de mortalité (12 000 décès) [Inca, 2015]. La prise en charge chirurgicale des cancers du sein s'est améliorée à la suite d'évolutions diagnostiques et thérapeutiques, mais également d'une recomposition de l'offre de soins en cancérologie. Le traitement conservateur (tumorectomie) est devenu le traitement de référence avec un taux de recours dépassant 70 % dans une grande majorité d'établissements en 2012. Entre 2005 et 2012, la technique du ganglion sentinelle s'est diffusée dans la plupart des établissements, et le nombre de patientes en ayant bénéficié a triplé sur la période. En revanche, la reconstruction mammaire immédiate après une mastectomie totale reste peu fréquente, bien que le recours à cette technique soit en augmentation. Les taux de recours à ces pratiques varient entre les établissements et entre les départements. Ces variations peuvent être en partie le reflet de l'état de santé et des préférences des patientes. Mais elles illustrent également des différences dans la disponibilité et l'organisation des services et des plateaux techniques, ainsi que des différences de pratiques entre établissements. Toutes choses égales par ailleurs, la probabilité de bénéficier de la technique du ganglion sentinelle ou d'une reconstruction mammaire immédiate est plus élevée dans les Centres de lutte contre le cancer (CLCC), dans les Centres hospitaliers régionaux (CHR) et dans les établissements ayant un volume d'activité élevé.

Or, Z. et Penneau, A. (2017). Analyse des déterminants territoriaux du recours aux urgences non suivi d'une hospitalisation. Document de travail Irdes ; 72. Paris Irdes**:** 20.

http://www.irdes.fr/recherche/documents-de-travail/072-analyse-des-determinants-territoriaux-du-recours-aux-urgences-non-suivi-d-une-hospitalisation.pdf

Les services d'urgence sont essentiels au système de santé afin de traiter rapidement les situations d'urgences médicales. Ils sont cependant souvent utilisés pour des prises en charge non urgentes pouvant être réalisées dans le secteur ambulatoire. La rapide augmentation du volume de passages aux urgences, particulièrement chez les sujets âgés, est une source de pression pour les hôpitaux et le système de soins. Cette étude a pour objectif d'identifier les déterminants territoriaux du recours aux urgences non suivi d'hospitalisation des personnes âgées de 65 ans et plus.

Or, Z. et Verboux, D. (2014). France : Geographic variations in health care. Geographic Variations in Health Care: What Do We Know and What Can Be Done to Improve Health System Performance?, Paris : OCDE**:** 221-243.
http://www.keepeek.com/Digital-Asset-Management/oecd/social-issues-migration-health/geographic-variations-in-health-care/france-geographic-variations-in-health-care_9789264216594-10-en

In France, awareness about practice variations has been growing in recent years due to the harsh economic context and changes in regional governance. This chapter provides information on variations in the use of eight specific hospital procedures and activities across departments for 2005 and 2011. It then provides an overview of the major policy instruments used in France for tackling variations in medical practice.

Or, Z. et Verboux, D. (2014). La pertinence des pratiques d'hospitalisation : une analyse des écarts départementaux de prostatectomies. Document de travail Irdes ; 59. Paris Irdes**:** 20.
http://www.irdes.fr/recherche/documents-de-travail/059-la-pertinence-des-pratiques-d-hospitalisation-une-analyse-des-ecarts-departementaux-de-prostatectomies.pdf

Cet article analyse les variations territoriales de pratiques de prostatectomies en France. Nous recourons à une modélisation multiniveaux permettant de distinguer la variabilité liée à deux niveaux géographiques : le département et la région. Nos résultats montrent que les taux de prostatectomies standardisés (pour 100 000 hommes) varient de manière significative entre les départements. Les écarts interdépartementaux sont expliqués notamment par la densité d'urologues libéraux dans le département ainsi que par l'offre de soins hospitaliers (disponibilité des lits de chirurgie et de personnels soignants), au niveau régional, une fois contrôlé par le revenu et les taux de mortalité par départements (résumé d'auteur).

Or, Z. et Verboux, D. (2016). "La pertinence des pratiques d'hospitalisation : une analyse des écarts départementaux de prostatectomies." Revue Economique **67**(2): 337-354.
http://www.cairn.info/article.php?ID_ARTICLE=RECO_PR2_0062&WT.mc_id=RECO_672

Cet article analyse les variations territoriales de pratiques de prostatectomies en France. Nous recourons à une modélisation multiniveaux permettant de distinguer la variabilité liée à deux niveaux géographiques : le département et la région. Nos résultats montrent que les taux de prostatectomies standardisés (pour 100 000 hommes) varient de manière significative entre les départements. Les écarts interdépartementaux sont expliqués notamment par la densité d'urologues libéraux dans le département ainsi que par l'offre de soins hospitaliers (disponibilité des lits de chirurgie et de personnels soignants), au niveau régional, une fois contrôlé par le revenu et les taux de mortalité par départements (résumé d'auteur).

Rococo, E., et al. (2016). "Variation in rates of breast cancer surgery: A national analysis based on French Hospital Episode Statistics." European Journal of Surgical Oncology (Ejso) **42**(1): 51-58.
http://www.ejso.com/article/S0748-7983(15)00795-7/abstract

Aims: Minimum volume thresholds were introduced in France in 2008 to improve the quality of cancer care. We investigated whether/how the quality of treatment decisions in breast cancer surgery had

evolved before and after this policy was implemented. Methods: We used Hospital Episode Statistics for all women having undergone breast conserving surgery (BCS) or mastectomy in France in 2005 and 2012. Three surgical procedures considered as better treatment options were analyzed: BCS, immediate breast reconstruction (IBR) and sentinel lymph node biopsy (SLNB). We studied the mean rates and variation according to the hospital profile and volume.

Weeks, W. B., et al. (2016). "Without explicit targets, does France meet minimum volume thresholds for hip and knee replacement and bariatric surgeries ?" International Journal of Health Policy and Management **5**(10): 613-614.

Persistent findings of a relationship between higher volumes of surgical care and better outcomes1 have caused 3 large US healthcare systems to refer surgical cases when they do not meet minimum volume thresholds for bariatric surgery (where the minimum threshold is 40 surgeries per year) and total hip or total knee replacement surgeries (where it is 50 surgeries per year) (Extrait).

Interventions mises en oeuvre pour développer la pertinence de soins : « No magic bullets »

LES OUTILS D'AMELIORATION DE LA PERTINENCE DE SOINS ORIENTES VERS LES PROFESSIONNELS DE SANTE

Référentiels de bonne pratique

Efficacité des recommandations de la pratique clinique (Clinical practice guidelines)

Une première étude de l'HAS (Anaes) réalisée en 2000 sur l'efficacité des méthodes de mise en œuvre des recommandations médicales[12] portait sur les interventions dites professionnelles et excluait les interventions sur l'organisation, la régulation et les modes de financement des soins. Les conclusions du rapport étaient les suivantes : les stratégies de diffusion simple de l'information et de la formation médicale continue traditionnelle étaient considérées comme inefficaces. Les interventions faisant intervenir des leaders d'opinion étaient jugées comme ayant un impact non clairement démontré ; la FMC interactive et l'audit/retour d'information (audit feedback) avaient un impact démontré mais un effet limité ; la visite à domicile (educational outreach visit, academic detailing) et les rappels (reminders) un effet démontré et important. Quatre points étaient également soulignés : la plupart des travaux montraient une disparition rapide de l'impact des interventions à l'arrêt de celles-ci : l'efficacité des méthodes de type retour d'information ou rappel n'était pas lié à un effet éducationnel ; l'association de plusieurs méthodes de mise en œuvre était conseillée par de nombreux auteurs ; seuls des rappels informatiques permettaient d'envisager la mise en œuvre simultanée de nombreuses recommandations. L'étude actualisée en 2014[13]arrivait à des résultats presqu'identiques et concluait que la plupart des interventions professionnelles ne conduisaient qu'à une amélioration faible ou modérée des pratiques des professionnels de santé et que peu de travaux analysaient l'impact des interventions sur les résultats des soins. Dans le même temps, des études du groupe Cochrane EPOC (J.M. Grimshaw[14], 2004 et G. Flodgren, 2016[15]) aboutissaient à des conclusions similaires.

Médecine fondée sur les preuves

La médecine basée sur des faits probants indique que tout médecin devrait fonder ses décisions sur des données scientifiques indemnes de biais, adaptées à la situation clinique du patient et tenir compte de ses préférences et valeurs après information loyale[16]. En médecine générale, il est impossible d'être au fait de l'actualité de toutes les données scientifiques. Compte tenu de cette réalité intangible, les données de la science théoriquement pertinentes sont accessibles

[12] Anaes (2000)
[13] HAS (2014)
[14] Grimshaw, J. M., et al. (2004). "Effectiveness and efficiency of guideline dissemination and implementation strategies." Health Technol Assess **8**(6.
[15] Flodgren, G., et al. (2016). "Tools developed and disseminated by guideline producers to promote the uptake of their guidelines." Cochrane Database Syst Rev(8).

[16] Sackett D.L. et al. (1996). Evidence based medicine : what it is and what it isn't. BMJ (312) : 71-72.

dans les recommandations de pratique médicale. Mais la question est de savoir si les données des recommandations sont cliniquement pertinentes pour les patients et si elles répondent à un bon niveau de preuve. Une étude américaine récente basée sur l'analyse descriptive de plus de 3 000 recommandations démontre que moins de 20 % des guidelines destinées aux médecins généralistes remplissent ces critères[17][18].

Revues de littérature

Flodgren, G., et al. (2016). "External inspection of compliance with standards for improved healthcare outcomes." Cochrane Database Syst Rev **12**: Cd008992.

> BACKGROUND: Inspection systems are used in healthcare to promote quality improvements (i.e. to achieve changes in organisational structures or processes, healthcare provider behaviour and patient outcomes). These systems are based on the assumption that externally promoted adherence to evidence-based standards (through inspection/assessment) will result in higher quality of healthcare. However, the benefits of external inspection in terms of organisational-, provider- and patient-level outcomes are not clear. This is the first update of the original Cochrane review, published in 2011. OBJECTIVES: To evaluate the effectiveness of external inspection of compliance with standards in improving healthcare organisation behaviour, healthcare professional behaviour and patient outcomes. SEARCH METHODS: We searched the following electronic databases for studies up to 1 June 2015: the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, Database of Abstracts of Reviews of Effectiveness, HMIC, ClinicalTrials.gov and the World Health Organization International Clinical Trials Registry Platform. There was no language restriction and we included studies regardless of publication status. We also searched the reference lists of included studies and contacted authors of relevant papers, accreditation bodies and the International Organization for Standardization (ISO), regarding any further published or unpublished work. We also searched an online database of systematic reviews (PDQ-evidence.org). SELECTION CRITERIA: We included randomised controlled trials (RCTs), non-randomised trials (NRCTs), interrupted time series (ITSs) and controlled before-after studies (CBAs) evaluating the effect of external inspection against external standards on healthcare organisation change, healthcare professional behaviour or patient outcomes in hospitals, primary healthcare organisations and other community-based healthcare organisations. DATA COLLECTION AND ANALYSIS: Two review authors independently applied eligibility criteria, extracted data and assessed the risk of bias of each included study. Since meta-analysis was not possible, we produced a narrative results summary. We used the GRADE tool to assess the certainty of the evidence. MAIN RESULTS: We did not identify any new eligible studies in this update. One cluster RCT involving 20 South African public hospitals and one ITS involving all acute hospital trusts in England, met the inclusion criteria. A trust is a National Health Service hospital which has opted to withdraw from local authority control and be managed by a trust instead.The cluster RCT reported mixed effects of external inspection on compliance with COHSASA (Council for Health Services Accreditation for South Africa) accreditation standards and eight indicators of hospital quality. Improved total compliance score with COHSASA accreditation standards was reported for 21/28 service elements: mean intervention effect was 30% (95% confidence interval (CI) 23% to 37%) (P < 0.001). The score increased from 48% to 78% in intervention hospitals, while remaining the same in control hospitals (43%). The median intervention effect for the indicators of hospital quality of care was 2.4% (range -1.9% to +11.8%).The ITS study evaluated compliance with policies to address healthcare-acquired infections and reported a mean reduction in MRSA (methicillin-resistant Staphylococcus aureus) infection rates of 100 cases per quarter (95% CI -221.0 to 21.5, P = 0.096) at three months' follow-up and an increase of 70 cases per quarter (95% CI -250.5 to 391.0; P = 0.632) at 24 months' follow-up. Regression analysis showed similar MRSA rates before and after the external inspection (difference in slope 24.27, 95% CI -10.4 to 58.9; P = 0.147).Neither included study reported data on unanticipated/adverse consequences or economic outcomes. The cluster RCT reported mainly

[17] Ebell, M.H et al. (2018). How good is the evidence to support primary care practice? Evidence bases Medicine (22) : 88-92.
[18] Félibré S. (2018/03/23). Du bien-fondé des recommandations. Le Généraliste (2828).

outcomes related to healthcare organisation change, and no patient reported outcomes other than patient satisfaction.The certainty of the included evidence from both studies was very low. It is uncertain whether external inspection accreditation programmes lead to improved compliance with accreditation standards. It is also uncertain if external inspection infection programmes lead to improved compliance with standards, and if this in turn influences healthcare-acquired MRSA infection rates. AUTHORS' CONCLUSIONS: The review highlights the paucity of high-quality controlled evaluations of the effectiveness and the cost-effectiveness of external inspection systems. If policy makers wish to understand the effectiveness of this type of intervention better, there needs to be further studies across a range of settings and contexts and studies reporting outcomes important to patients.

Flodgren, G., et al. (2016). "Tools developed and disseminated by guideline producers to promote the uptake of their guidelines." Cochrane Database Syst Rev(8): Cd010669.
http://www.cochrane.org/fr/CD010669/lefficacite-des-outils-developpes-et-distribues-par-les-auteurs-de-recommandations-de-bonne-pratique

BACKGROUND: The uptake of clinical practice guidelines (CPGs) is inconsistent, despite their potential to improve the quality of health care and patient outcomes. Some guideline producers have addressed this problem by developing tools to encourage faster adoption of new guidelines. This review focuses on the effectiveness of tools developed and disseminated by guideline producers to improve the uptake of their CPGs. OBJECTIVES: To evaluate the effectiveness of implementation tools developed and disseminated by guideline producers, which accompany or follow the publication of a CPG, to promote uptake. A secondary objective is to determine which approaches to guideline implementation are most effective. SEARCH METHODS: We searched the Cochrane Effective Practice and Organisation of Care (EPOC) Group Specialised Register, Cochrane Central Register of Controlled Trials (CENTRAL); NHS Economic Evaluation Database, HTA Database; MEDLINE and MEDLINE In-Process and other non-indexed citations; Embase; PsycINFO; CINAHL; Dissertations and Theses, ProQuest; Index to Theses; Science Citation Index Expanded, ISI Web of Knowledge; Conference Proceedings Citation Index - Science, ISI Web of Knowledge; Health Management Information Consortium (HMIC), and NHS Evidence up to February 2016. We also searched trials registers, reference lists of included studies and relevant websites. SELECTION CRITERIA: We included randomised controlled trials (RCTs) and cluster-RCTs, controlled before-and-after studies (CBAs) and interrupted time series (ITS) studies evaluating the effects of guideline implementation tools developed by recognised guideline producers to improve the uptake of their own guidelines. The guideline could target any clinical area. DATA COLLECTION AND ANALYSIS: Two review authors independently extracted data and assessed the risk of bias of each included study using the Cochrane 'Risk of bias' criteria. We graded our confidence in the evidence using the approach recommended by the GRADE working group. The clinical conditions targeted and the implementation tools used were too heterogenous to combine data for meta-analysis. We report the median absolute risk difference (ARD) and interquartile range (IQR) for the main outcome of adherence to guidelines. MAIN RESULTS: We included four cluster-RCTs that were conducted in the Netherlands, France, the USA and Canada. These studies evaluated the effects of tools developed by national guideline producers to implement their CPGs. The implementation tools evaluated targeted healthcare professionals; none targeted healthcare organisations or patients.One study used two short educational workshops tailored to barriers. In three studies the intervention consisted of the provision of paper-based educational materials, order forms or reminders, or both. The clinical condition, type of healthcare professional, and behaviour targeted by the CPG varied across studies.Two of the four included studies reported data on healthcare professionals' adherence to guidelines. A guideline tool developed by the producers of a guideline probably leads to increased adherence to the guidelines; median ARD (IQR) was 0.135 (0.115 and 0.159 for the two studies respectively) at an average four-week follow-up (moderate certainty evidence), which indicates a median 13.5% greater adherence to guidelines in the intervention group. Providing healthcare professionals with a tool to improve implementation of a guideline may lead to little or no difference in costs to the health service. AUTHORS' CONCLUSIONS: Implementation tools developed by recognised guideline producers probably lead to improved healthcare professionals' adherence to guidelines in the management of non-specific low back pain

and ordering thyroid-function tests. There are limited data on the relative costs of implementing these interventions.There are no studies evaluating the effectiveness of interventions targeting the organisation of care (e.g. benchmarking tools, costing templates, etc.), or for mass media interventions. We could not draw any conclusions about our second objective, the comparative effectiveness of implementation tools, due to the small number of studies, the heterogeneity between interventions, and the clinical conditions that were targeted.

Grimshaw, J. M., et al. (2004). "Effectiveness and efficiency of guideline dissemination and implementation strategies." Health Technol Assess **8**(6): iii-iv, 1-72.

OBJECTIVES: To undertake a systematic review of the effectiveness and costs of different guideline development, dissemination and implementation strategies. To estimate the resource implications of these strategies. To develop a framework for deciding when it is efficient to develop and introduce clinical guidelines. DATA SOURCES: MEDLINE, Healthstar, Cochrane Controlled Trial Register, EMBASE, SIGLE and the specialised register of the Cochrane Effective Practice and Organisation of Care (EPOC) group. REVIEW METHODS: Single estimates of dichotomous process variables were derived for each study comparison based upon the primary end-point or the median measure across several reported end-points. Separate analyses were undertaken for comparisons of different types of intervention. The study also explored whether the effects of multifaceted interventions increased with the number of intervention components. Studies reporting economic data were also critically appraised. A survey to estimate the feasibility and likely resource requirements of guideline dissemination and implementation strategies in UK settings was carried out with key informants from primary and secondary care. RESULTS: In total, 235 studies reporting 309 comparisons met the inclusion criteria; of these 73% of comparisons evaluated multifaceted interventions, although the maximum number of replications of a specific multifaceted intervention was 11 comparisons. Overall, the majority of comparisons reporting dichotomous process data observed improvements in care; however, there was considerable variation in the observed effects both within and across interventions. Commonly evaluated single interventions were reminders, dissemination of educational materials, and audit and feedback. There were 23 comparisons of multifaceted interventions involving educational outreach. The majority of interventions observed modest to moderate improvements in care. No relationship was found between the number of component interventions and the effects of multifaceted interventions. Only 29.4% of comparisons reported any economic data. The majority of studies only reported costs of treatment; only 25 studies reported data on the costs of guideline development or guideline dissemination and implementation. The majority of studies used process measures for their primary end-point, despite the fact that only three guidelines were explicitly evidence based (and may not have been efficient). Respondents to the key informant survey rarely identified existing budgets to support guideline dissemination and implementation strategies. In general, the respondents thought that only dissemination of educational materials and short (lunchtime) educational meetings were generally feasible within current resources. CONCLUSIONS: There is an imperfect evidence base to support decisions about which guideline dissemination and implementation strategies are likely to be efficient under different circumstances. Decision makers need to use considerable judgement about how best to use the limited resources they have for clinical governance and related activities to maximise population benefits. They need to consider the potential clinical areas for clinical effectiveness activities, the likely benefits and costs required to introduce guidelines and the likely benefits and costs as a result of any changes in provider behaviour. Further research is required to: develop and validate a coherent theoretical framework of health professional and organisational behaviour and behaviour change to inform better the choice of interventions in research and service settings, and to estimate the efficiency of dissemination and implementation strategies in the presence of different barriers and effect modifiers.

HAS (2014). Efficacité des méthodes de mise en œuvre des recommandations médicales. Saint-Denis HAS**:** 48 , tabl.
https://www.has-sante.fr/portail/jcms/c_430282/fr/efficacite-des-methodes-de-mise-en-oeuvre-des-recommandations-medicales

Les recommandations professionnelles en santé ont pour objectif d'aider à améliorer la qualité des soins en définissant les bonnes pratiques au moment de leur publication. L'élaboration rigoureuse et la

diffusion des recommandations professionnelles ne suffisent pas à ce que les professionnels de santé les suivent régulièrement, même s'ils en ont connaissance. Plusieurs méthodes de mise en œuvre existent. À partir des données expérimentales disponibles dans la littérature, ce rapport décrit ces différentes méthodes et hiérarchise leur efficacité. L'objectif est d'informer les promoteurs de recommandations professionnelles afin qu'ils s'engagent, au-delà de la rigueur d'élaboration et de la diffusion des recommandations produites, dans une démarche active et efficace de mise en œuvre. *Version antérieure du rapport en 2000*

Moralejo, D., et al. (2018). "Improving adherence to Standard Precautions for the control of health care-associated infections." Cochrane Database Syst Rev **2**: Cd010768.

BACKGROUND: 'Standard Precautions' refers to a system of actions, such as using personal protective equipment or adhering to safe handling of needles, that healthcare workers take to reduce the spread of germs in healthcare settings such as hospitals and nursing homes. OBJECTIVES: To assess the effectiveness of interventions that target healthcare workers to improve adherence to Standard Precautions in patient care. SEARCH METHODS: We searched CENTRAL, MEDLINE, Embase, CINAHL, LILACS, two other databases, and two trials registers. We applied no language restrictions. The date of the most recent search was 14 February 2017. SELECTION CRITERIA: We included randomised trials of individuals, cluster-randomised trials, non-randomised trials, controlled before-after studies, and interrupted time-series studies that evaluated any intervention to improve adherence to Standard Precautions by any healthcare worker with responsibility for patient care in any hospital, long-term care or community setting, or artificial setting, such as a classroom or a learning laboratory. DATA COLLECTION AND ANALYSIS: Two review authors independently screened search results, extracted data from eligible trials, and assessed risk of bias for each included study, using standard methodological procedures expected by Cochrane. Because of substantial heterogeneity among interventions and outcome measures, meta-analysis was not warranted. We used the GRADE approach to assess certainty of evidence and have presented results narratively in 'Summary of findings' tables. MAIN RESULTS: We included eight studies with a total of 673 participants; three studies were conducted in Asia, two in Europe, two in North America, and one in Australia. Five studies were randomised trials, two were cluster-randomised trials, and one was a non-randomised trial. Three studies compared different educational approaches versus no education, one study compared education with visualisation of respiratory particle dispersion versus education alone, two studies compared education with additional infection control support versus no intervention, one study compared peer evaluation versus no intervention, and one study evaluated use of a checklist and coloured cues. We considered all studies to be at high risk of bias with different risks. All eight studies used different measures to assess healthcare workers' adherence to Standard Precautions. Three studies also assessed healthcare workers' knowledge, and one measured rates of colonisation with methicillin-resistant Staphylococcus aureus (MRSA) among residents and staff of long-term care facilities. Because of heterogeneity in interventions and outcome measures, we did not conduct a meta-analysis.Education may slightly improve both healthcare workers' adherence to Standard Precautions (three studies; four centres) and their level of knowledge (two studies; three centres; low certainty of evidence for both outcomes).Education with visualisation of respiratory particle dispersion probably improves healthcare workers' use of facial protection but probably leads to little or no difference in knowledge (one study; 20 nurses; moderate certainty of evidence for both outcomes).Education with additional infection control support may slightly improve healthcare workers' adherence to Standard Precautions (two studies; 44 long-term care facilities; low certainty of evidence) but probably leads to little or no difference in rates of health care-associated colonisation with MRSA (one study; 32 long-term care facilities; moderate certainty of evidence).Peer evaluation probably improves healthcare workers' adherence to Standard Precautions (one study; one hospital; moderate certainty of evidence).Checklists and coloured cues probably improve healthcare workers' adherence to Standard Precautions (one study; one hospital; moderate certainty of evidence). AUTHORS' CONCLUSIONS: Considerable variation in interventions and in outcome measures used, along with high risk of bias and variability in the certainty of evidence, makes it difficult to draw conclusions about effectiveness of the interventions. This review underlines the need to conduct more robust studies evaluating similar types of interventions and using similar outcome measures.

Autres études

Alloni, R., et al. (2016). "Compliance with the Surgical Safety Checklist Results of an Audit in a Teaching Hospital in Italy." Ann Ital Chir **87**: 401-405.

AIM: We carried out an audit to verify compliance to Surgical Safety Checklist (SSC), as we have become aware that compliance across different teams and by individual surgeons has not been optimal. MATERIAL OF STUDY: 100 SSC records from October-December 2014 and 100 from March-June 2015 were inspected to verify correct . 44 surgeons and 34 scrub nurses were asked to complete a questionnaire to know surgeons' compliance to the different stages of the Checklist and the compliance of each surgical team. 100% of scrub nurse and 73.7% of surgeons completed the questionnaire. RESULTS: All Checklist records were correctly filled out but we could verify that while nurses have a strong commitment to the SSC, the Checklist's implementation is not being actively supported by all surgical team members. DISCUSSION: Many surgeons showed limited awareness of not collaborating during SSC procedure and admitted delegating the responsibility for answering questions to other members of their team. A number of them fell into contradiction answering to various parts of the questionnaire. Consistent with the literature, at our hospital there is a gap between quality of Checklist paper records and correct use of this safety tool. CONCLUSIONS: Thanks to the data we have collected we will improve the way the SSC is used and promote change in the behavior of surgeons. Eighteen surgeons (40.9%) expressed willingness to be involved in a work group to revise the SSC and we hope that their commitment to safety and quality will increase. KEY WORDS: Surgical Safety Checklist, Surgeons commitment.

Atlas, S. J. (2017). "Management of Low Back Pain: Getting From Evidence-Based Recommendations to High-Value Care." Ann Intern Med **166**(7): 533-534.

Bell, A. D., et al. (2017). "Implementing a Systematic Approach to Reduce Cesarean Birth Rates in Nulliparous Women." Obstet Gynecol **130**(5): 1082-1089.

OBJECTIVE: To implement a systematic approach to safely reduce nulliparous cesarean birth rates. METHODS: This is a quality improvement project at two rural community hospitals and one urban community hospital in North Carolina. These facilities implemented a systematic approach to reduce nulliparous cesarean birth rates, aligning with recommendations developed by the Council on Patient Safety in Women's Health Care: Patient Safety Bundle on the Safe Reduction of Primary Cesarean Births. Health care providers and nurses received education on contemporary labor management guidelines developed by the American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine Obstetric Care Consensus regarding safe prevention of primary cesarean deliveries and nurses were instructed on labor support techniques. The preguideline implementation period was January 1, 2015, to June 30, 2015. The postguideline implementation period was July 1, 2016, to December 31, 2016. The primary outcome measured was the nulliparous, term, singleton, vertex cesarean birth rate. Secondary outcomes included maternal and neonatal outcomes. Standard statistical analysis was used and a P value of <.05 was considered significant. RESULTS: There were 434 women identified in the preguideline period and 401 women in the postguideline period. The nulliparous, term, singleton, vertex cesarean birth rate decreased from 27.9% to 19.7% [odds ratio (OR) 0.63, CI 0.46-0.88]. There were improvements in health care provider compliance with following the labor management guidelines from 86.2% to 91.5% (OR 1.73, 95% CI 1.11-2.70), the use of maternal position changes from 78.7% to 87.5% (OR 1.86, 95% CI 1.29-2.68), and use of the peanut birthing ball from 16.8% to 45.2% (OR 3.83, 95% CI 2.84-5.16) as provisions for labor support. DISCUSSION: Implementing a systematic approach for care of nulliparous women is associated with a decrease in term, singleton, vertex cesarean birth rates.

Brewster, A. L., et al. (2016). "What Works in Readmissions Reduction: How Hospitals Improve Performance." Med Care **54**(6): 600-607.

http://journals.lww.com/lww-medicalcare/Fulltext/2016/06000/What_Works_in_Readmissions_Reduction__How.8.aspx

Background: Hospitals across the United States are pursuing strategies to reduce avoidable readmissions but the evidence on how best to accomplish this goal is mixed, with no specific clinical practice shown to reduce readmissions consistently. Changes to hospital organizational practices, a key component of context, also may be critical to improving performance on readmissions, but this has not been studied. Objective: The aim of this study was to understand how high-performing hospitals improved risk-stratified readmission rates, and whether their changes to clinical practices and organizational practices differed from low-performing hospitals. Design: This was a qualitative study of 10 hospitals in which readmission rates had decreased (n=7) or increased (n=3). Participants: A total of 82 hospital staff drawn from hospitals that had participated in the State Action on Avoidable Readmissions quality improvement initiative. Results: High-performing hospitals were distinguished by several organizational practices that facilitated readmissions reduction, that is, collective habits of action or interpretation shared by organization members. First, high-performing hospitals reported focused efforts to improve collaboration across hospital departments. Second, they helped postacute providers improve care by sharing the hospital's clinical and quality improvement expertise and data. Third, high performers enthusiastically engaged in trial and error learning to reduce readmissions. Fourth, they emphasized that readmissions represented bad outcomes for patients, de-emphasizing the role of financial penalties. Both high-performing and low-performing hospitals had implemented most clinical practice changes commonly recommended to reduce readmissions. Conclusions: Our findings highlight several organizational practices that hospitals may be able to use to enhance the effectiveness of their readmissions reduction efforts.

Brusamento, S., et al. (2012). "Assessing the effectiveness of strategies to implement clinical guidelines for the management of chronic diseases at primary care level in EU Member States: a systematic review." Health Policy **107**(2-3): 168-183.

PURPOSE AND SETTING: This review aimed to evaluate the effectiveness of strategies to implement clinical guidelines for chronic disease management in primary care in EU Member States. METHODS: We conducted a systematic review of interventional studies assessing the implementation of clinical guidelines. We searched five databases (EMBASE, MEDLINE, CENTRAL, Eppi-Centre and Clinicaltrials.gov) following a strict Cochrane methodology. We included studies focusing on the management of chronic diseases in adults in primary care. RESULTS: A total of 21 studies were found. The implementation strategy was fully effective in only four (19%), partially effective in eight (38%), and not effective in nine (43%). The probability that an intervention would be effective was only slightly higher with multifaceted strategies, compared to single interventions. However, effect size varied across studies; therefore it was not possible to determine the most successful strategy. Only eight studies evaluated the impact on patients' health and only two of those showed significant improvement, while in five there was an improvement in the process of care which did not translate into an improvement in health outcomes. Only four studies reported any data on the cost of the implementation but none undertook a cost-effectiveness analysis. Only one study presented data on the barriers to the implementation of guidelines, noting a lack of awareness and agreement about clinical guidelines. CONCLUSION: Our results reveal that there are only a few rigorous studies which assess the effectiveness of a strategy to implement clinical guidelines in Europe. Moreover, the results are not consistent in showing which strategy is the most appropriate to facilitate their implementation. Therefore, further research is needed to develop more rigorous studies to evaluate health outcomes associated with the implementation of clinical guidelines; to assess the cost-effectiveness of implementing clinical guidelines; and to investigate the perspective of service users and health service staff.

Buehler, S. S., et al. (2016). "Effectiveness of Practices To Increase Timeliness of Providing Targeted Therapy for Inpatients with Bloodstream Infections: a Laboratory Medicine Best Practices Systematic Review and Meta-analysis." Clin Microbiol Rev **29**(1): 59-103.

BACKGROUND: Bloodstream infection (BSI) is a major cause of morbidity and mortality throughout the world. Rapid identification of bloodstream pathogens is a laboratory practice that supports strategies for rapid transition to direct targeted therapy by providing for timely and effective patient care. In fact, the more rapidly that appropriate antimicrobials are prescribed, the lower the mortality for patients with sepsis. Rapid identification methods may have multiple positive impacts on patient outcomes, including reductions in mortality, morbidity, hospital lengths of stay, and antibiotic use. In addition, the strategy can reduce the cost of care for patients with BSIs. OBJECTIVES: The purpose of this review is to evaluate the evidence for the effectiveness of three rapid diagnostic practices in decreasing the time to targeted therapy for hospitalized patients with BSIs. The review was performed by applying the Centers for Disease Control and Prevention's (CDC's) Laboratory Medicine Best Practices Initiative (LMBP) systematic review methods for quality improvement (QI) practices and translating the results into evidence-based guidance (R. H. Christenson et al., Clin Chem 57:816-825, 2011, http://dx.doi.org/10.1373/clinchem.2010.157131). SEARCH STRATEGY: A comprehensive literature search was conducted to identify studies with measurable outcomes. A search of three electronic bibliographic databases (PubMed, Embase, and CINAHL), databases containing "gray" literature (unpublished academic, government, or industry evidence not governed by commercial publishing) (CIHI, NIHR, SIGN, and other databases), and the Cochrane database for English-language articles published between 1990 and 2011 was conducted in July 2011. DATES OF SEARCH: The dates of our search were from 1990 to July 2011. SELECTION CRITERIA: Animal studies and non-English publications were excluded. The search contained the following medical subject headings: bacteremia; bloodstream infection; time factors; health care costs; length of stay; morbidity; mortality; antimicrobial therapy; rapid molecular techniques, polymerase chain reaction (PCR); in situ hybridization, fluorescence; treatment outcome; drug therapy; patient care team; pharmacy service, hospital; hospital information systems; Gram stain; pharmacy service; and spectrometry, mass, matrix-assisted laser desorption-ionization. Phenotypic as well as the following key words were searched: targeted therapy; rapid identification; rapid; Gram positive; Gram negative; reduce(ed); cost(s); pneumoslide; PBP2; tube coagulase; matrix-assisted laser desorption/ionization time of flight; MALDI TOF; blood culture; EMR; electronic reporting; call to provider; collaboration; pharmacy; laboratory; bacteria; yeast; ICU; and others. In addition to the electronic search being performed, a request for unpublished quality improvement data was made to the clinical laboratory community. MAIN RESULTS: Rapid molecular testing with direct communication significantly improves timeliness compared to standard testing. Rapid phenotypic techniques with direct communication likely improve the timeliness of targeted therapy. Studies show a significant and homogeneous reduction in mortality associated with rapid molecular testing combined with direct communication. AUTHORS' CONCLUSIONS: No recommendation is made for or against the use of the three assessed practices of this review due to insufficient evidence. The overall strength of evidence is suggestive; the data suggest that each of these three practices has the potential to improve the time required to initiate targeted therapy and possibly improve other patient outcomes, such as mortality. The meta-analysis results suggest that the implementation of any of the three practices may be more effective at increasing timeliness to targeted therapy than routine microbiology techniques for identification of the microorganisms causing BSIs. Based on the included studies, results for all three practices appear applicable across multiple microorganisms, including methicillin-resistant Staphylococcus aureus (MRSA), methicillin-sensitive S. aureus (MSSA), Candida species, and Enterococcus species.

Cadogan, S. L., et al. (2015). "The effectiveness of interventions to improve laboratory requesting patterns among primary care physicians: a systematic review." Implement Sci **10**: 167.

BACKGROUND: Laboratory testing is an integral part of day-to-day primary care practice, with approximately 30 % of patient encounters resulting in a request. However, research suggests that a large proportion of requests does not benefit patient care and is avoidable. The aim of this systematic review was to comprehensively search the literature for studies evaluating the effectiveness of interventions to improve primary care physician use of laboratory tests. METHODS: A search of PubMed, Cochrane Library, Embase and Scopus (from inception to 09/02/14) was conducted. The following study designs were considered: systematic reviews, randomised controlled trials (RCTs), controlled clinical trials (CCTs), controlled before and after studies (CBAs) and interrupted time series

analysis (ITSs). Studies were quality appraised using a modified version of the Effective Practice and Organisation of Care (EPOC) checklist. The population of interest was primary care physicians. Interventions were considered if they aimed to improve laboratory testing in primary care. The outcome of interest was a volume of laboratory tests. RESULTS: In total, 6,166 titles and abstracts were reviewed, followed by 87 full texts. Of these, 11 papers were eligible for inclusion in the systematic review. This included four RCTs, six CBAs and one ITS study. The types of interventions examined included education, feedback, guidelines, education with feedback, feedback with guidelines and changing order forms. The quality of included studies varied with seven studies deemed to have a low risk of bias, three with unclear risk of bias and one with high risk of bias. All but one study found significant reductions in the volume of tests following the intervention, with effect sizes ranging from 1.2 to 60 %. Due to heterogeneity, meta-analysis was not performed. CONCLUSIONS: Interventions such as educational strategies, feedback and changing test order forms may improve the efficient use of laboratory tests in primary care; however, the level of evidence is quite low and the quality is poor. The reproducibility of findings from different laboratories is also difficult to ascertain from the literature. Some standardisation of both interventions and outcome measures is required to enable formal meta-analysis.

Carlson, S. M. S. (2017). "The Readiness to Change for Bariatric Surgery Assessment Tool: Validity, Factor Structure, and Reliability." Res Theory Nurs Pract **31**(4): 393-401.

BACKGROUND AND PURPOSE: Currently, there is no guideline or standard of practice for performing the psychiatric/psychological evaluation that is a requirement for approval for bariatric surgery. The Readiness to Change for Bariatric Surgery Assessment Tool (RCB-SAT) establishes a means for psychiatric evaluators to objectively assess the patient's cognition, beliefs, and motivation around the bariatric diet and lifestyle changes. Development of a clinical decision-making tool for assessing readiness to change in bariatric patients will be useful regarding The Strategic Plan for NIH Obesity Research. The strategic plan outlines 6 overarching themes, with the last 3 centering around creation of such a clinical decision-making tool to assess a bariatric patient's readiness to change: evaluate promising strategies for obesity prevention and treatment in realworld settings and diverse populations, harness technology and tools to advance obesity research and improve health care delivery, and facilitate integration of research results into community programs and medical practice (National Institutes of Health, 2011). METHODS: The pilot tool was administered to 153 potential bariatric patients, with 61 patients completing the survey a second time. Face and content validity of the items were established through an expert review process. RESULTS: Principle axis factoring by means of varimax rotation with Kaiser normalization identified 15 items loading on 3 factors associated with Prochaska and DiClemente's transtheoretical model of health behavior change: precontemplation, contemplation, and action (DiClemente & Prochaska, 1998). Test-retest reliability was also established for the tool. IMPLICATIONS FOR PRACTICE: The proposed RCB-SAT demonstrates potential for assessing a patient's readiness to change regarding the bariatric diet and lifestyle.

Dacal Rivas, A., et al. (2011). "[Effect of the implementation of a program to improve referrals by primary care on appropriateness and wait times in endoscopic examinations]." Gastroenterol Hepatol **34**(4): 254-261.

INTRODUCTION: Within a program to improve referrals by primary care (PC) in Ourense (Spain), we implemented practice guidelines on dyspepsia and rectal bleeding. Our aim was to evaluate the reasons for referral to endoscopy, the appropriateness of these referrals, and wait times. MATERIAL AND METHODS: We performed a retrospective cohort study in the Ourense health area between February 2009 and January 2010. The endoscopies performed with the indications of dyspepsia and rectal bleeding requested directly from PC were compared with those referred initially to specialist care (SC). The reasons for the referral, the priority of the endoscopy, compliance with the protocol, endoscopic finding and the wait time from referral were gathered. RESULTS: During the period analyzed, 158 upper gastrointestinal endoscopies (SC: 121; PC: 37) and 243 colonoscopies (SC: 193; PC: 50) were performed with the indications of dyspepsia and rectal bleeding. Among endoscopies, 34.5% and 77.7% were requested with high priority from PC and SC, respectively ($p<0.001$). The criteria for referral were met in 86.5% of upper gastrointestinal endoscopies and in 82% of

colonoscopies requested from PC. No differences were found in endoscopic findings. The median wait time from referral was lower in upper gastrointestinal endoscopy (PC: 105+/-5.5 days, SC: 174+/-17.8 days; p: 0.003) and colonoscopies (PC: 101+/-11.8 days, SC: 187+/-9.6 days; p<0.001) referred from PC. CONCLUSIONS: The use of the program for improved referrals by PC reduces wait times. The examinations requested complied with the indications.

Dalleur, O., et al. (2014). "Views of general practitioners on the use of STOPP&START in primary care: a qualitative study." Acta Clin Belg **69**(4): 251-261.

BACKGROUND AND OBJECTIVE: STOPP (Screening Tool of Older Person's Prescriptions) and START (Screening Tool to Alert Doctors to Right Treatment) criteria aim at detecting potentially inappropriate prescribing in older people. The objective was to explore general practitioners' (GPs) perceptions regarding the use of the STOPP&START tool in their practice. DESIGN: We conducted three focus groups which were conveniently sampled. Vignettes with clinical cases were provided for discussion as well as a full version of the STOPP&START tool. Knowledge, strengths and weaknesses of the tool and its implementation were discussed. Two researchers independently performed content analysis, classifying quotes and creating new categories for emerging themes. RESULTS: Discussions highlighted incentives (e.g. systematic procedure for medication review) and barriers (e.g. time-consuming application) influencing the use of STOPP&START in primary care. Usefulness, comprehensiveness, and relevance of the tool were also questioned. Another important category emerging from the content analysis was the projected use of the tool. The GPs imagined key elements for the implementation in daily practice: computerized clinical decision support system, education, and multidisciplinary collaborations, especially at care transitions and in nursing homes. CONCLUSION: Despite variables views on the usefulness, comprehensiveness, and relevance of STOPP&START, GPs suggest the implementation of this tool in primary care within computerized clinical decision support systems, through education, and used as part of multidisciplinary collaborations.

Damiani, G., et al. (2010). "The effectiveness of computerized clinical guidelines in the process of care: a systematic review." BMC Health Serv Res **10**: 2.

BACKGROUND: Clinical practice guidelines have been developed aiming to improve the quality of care. The implementation of the computerized clinical guidelines (CCG) has been supported by the development of computerized clinical decision support systems.This systematic review assesses the impact of CCG on the process of care compared with non-computerized clinical guidelines. METHODS: Specific features of CCG were studied through an extensive search of scientific literature, querying electronic databases: Pubmed/Medline, Embase and Cochrane Controlled Trials Register. A multivariable logistic regression was carried out to evaluate the association of CCG's features with positive effect on the process of care. RESULTS: Forty-five articles were selected. The logistic model showed that Automatic provision of recommendation in electronic version as part of clinician workflow (Odds Ratio [OR]= 17.5; 95% confidence interval [CI]: 1.6-193.7) and Publication Year (OR = 6.7; 95%CI: 1.3-34.3) were statistically significant predictors. CONCLUSIONS: From the research that has been carried out, we can conclude that after implementation of CCG significant improvements in process of care are shown. Our findings also suggest clinicians, managers and other health care decision makers which features of CCG might improve the structure of computerized system.

Dhippayom, T., et al. (2014). "How diabetes risk assessment tools are implemented in practice: a systematic review." Diabetes Res Clin Pract **104**(3): 329-342.

This review aimed to explore the extent of the use of diabetes risk assessment tools and to determine influential variables associated with the implementation of these tools. CINAHL, Google Scholar, ISI Citation Indexes, PubMed, and Scopus were searched from inception to January 2013. Studies that reported the use of diabetes risk assessment tools to identify individuals at risk of diabetes were included. Of the 1719 articles identified, 24 were included. Follow-up of high risk individuals for diagnosis of diabetes was conducted in 5 studies. Barriers to the uptake of diabetes risk assessment tools by healthcare practitioners included (1) attitudes toward the tools; (2) impracticality of using the

tools and (3) lack of reimbursement and regulatory support. Individuals were reluctant to undertake self-assessment of diabetes risk due to (1) lack of perceived severity of type 2 diabetes; (2) impracticality of the tools; and (3) concerns related to finding out the results. The current use of non-invasive diabetes risk assessment scores as screening tools appears to be limited. Practical follow up systems as well as strategies to address other barriers to the implementation of diabetes risk assessment tools are essential and need to be developed.

Dulko, D. (2007). "Audit and feedback as a clinical practice guideline implementation strategy: a model for acute care nurse practitioners." Worldviews Evid Based Nurs **4**(4): 200-209.

BACKGROUND: The transfer of research evidence into practice and changing provider behavior is challenging, even when the advantages are strong. Despite the availability of supportive care clinical practice guidelines (CPG), consistent integration of these principles into practice has not been achieved. The failure of dissemination strategies has been identified as a key barrier to successful implementation. A potentially effective approach to facilitating the transfer of research evidence into practice is audit and feedback. Audit and feedback is a summary of provider performance over a specified period of time, with or without recommendations to improve practice. RATIONALE: Cancer pain is an optimal symptom to examine when studying the effect of an audit and feedback intervention. It is a common condition with important consequences, established CPG are available, measurable outcomes are defined, and there is potential for improvement in current practice. Acute care nurse practitioners (NPs) are often responsible for overseeing and directly managing symptoms such as pain and are well positioned to implement CPG and study the effects of adherence to guidelines on patients' pain outcomes. METHODOLOGY: A systematic review of published articles, MEDLINE, the Cumulative Index to Nursing and Allied Health Literature, and the Cochrane Library computerized databases was performed to evaluate the state of the science on audit and feedback as a professional practice change strategy. A behavior change model is proposed for its application to advanced practice nursing. IMPLICATIONS FOR PRACTICE: Recognized in medicine as a valuable intervention to improve healthcare quality, audit and feedback is a strategy that has not been widely studied in nursing. Although cancer pain cannot always be entirely eliminated, appropriate use of available therapies can effectively relieve pain in a majority of patients. This article is a review of the literature on audit and feedback as a professional practice change strategy and indicates a model for operationalizing the intervention.

Ebell, M. H., et al. (2017). "How good is the evidence to support primary care practice?" Evid Based Med **22**(3): 88-92.

Our goal was to determine the extent to which recommendations for primary care practice are informed by high-quality research-based evidence, and the extent to which they are based on evidence of improved health outcomes (patient-oriented evidence). As a substrate for study, we used Essential Evidence, an online, evidence-based, medical reference for generalists. Each of the 721 chapters makes overall recommendations for practice that are graded A, B or C using the Strength of Recommendations Taxonomy (SORT). SORT A represents consistent and good quality patient-oriented evidence; SORT B is inconsistent or limited quality patient-oriented evidence and SORT C is expert opinion, usual practice or recommendations relying on surrogate or intermediate outcomes. Pairs of researchers abstracted the evidence ratings for each chapter in tandem, with discrepancies resolved by the lead author. Of 3251 overall recommendations, 18% were graded 'A', 34% were 'B' and 49% were 'C'. Clinical categories with the most 'A' recommendations were pregnancy and childbirth, cardiovascular, and psychiatric; those with the least were haematological, musculoskeletal and rheumatological, and poisoning and toxicity. 'A' level recommendations were most common for therapy and least common for diagnosis. Only 51% of recommendations are based on studies reporting patient-oriented outcomes, such as morbidity, mortality, quality of life or symptom reduction. In conclusion, approximately half of the recommendations for primary care practice are based on patient-oriented evidence, but only 18% are based on patient-oriented evidence from consistent, high-quality studies.

Ebell, M. H., et al. (2004). "Strength of recommendation taxonomy (SORT): a patient-centered approach to grading evidence in the medical literature." Am Fam Physician **69**(3): 548-556.

A large number of taxonomies are used to rate the quality of an individual study and the strength of a recommendation based on a body of evidence. We have developed a new grading scale that will be used by several family medicine and primary care journals (required or optional), with the goal of allowing readers to learn one taxonomy that will apply to many sources of evidence. Our scale is called the Strength of Recommendation Taxonomy. It addresses the quality, quantity, and consistency of evidence and allows authors to rate individual studies or bodies of evidence. The taxonomy is built around the information mastery framework, which emphasizes the use of patient-oriented outcomes that measure changes in morbidity or mortality. An A-level recommendation is based on consistent and good-quality patient-oriented evidence; a B-level recommendation is based on inconsistent or limited-quality patient-oriented evidence; and a C-level recommendation is based on consensus, usual practice, opinion, disease-oriented evidence, or case series for studies of diagnosis, treatment, prevention, or screening. Levels of evidence from 1 to 3 for individual studies also are defined. We hope that consistent use of this taxonomy will improve the ability of authors and readers to communicate about the translation of research into practice.

Ebell, M. H., et al. (2004). "Strength of recommendation taxonomy (SORT): a patient-centered approach to grading evidence in the medical literature." J Am Board Fam Pract **17**(1): 59-67.

A large number of taxonomies are used to rate the quality of an individual study and the strength of a recommendation based on a body of evidence. We have developed a new grading scale that will be used by several family medicine and primary care journals (required or optional), with the goal of allowing readers to learn one taxonomy that will apply to many sources of evidence. Our scale is called the Strength of Recommendation Taxonomy. It addresses the quality, quantity, and consistency of evidence and allows authors to rate individual studies or bodies of evidence. The taxonomy is built around the information mastery framework, which emphasizes the use of patient-oriented outcomes that measure changes in morbidity or mortality. An A-level recommendation is based on consistent and good quality patient-oriented evidence; a B-level recommendation is based on inconsistent or limited quality patient-oriented evidence; and a C-level recommendation is based on consensus, usual practice, opinion, disease-oriented evidence, or case series for studies of diagnosis, treatment, prevention, or screening. Levels of evidence from 1 to 3 for individual studies also are defined. We hope that consistent use of this taxonomy will improve the ability of authors and readers to communicate about the translation of research into practice.

Elshaug, A. G., et al. (2017). "Levers for addressing medical underuse and overuse: achieving high-value health care." Lancet **390**(10090): 191-202.

The preceding papers in this Series have outlined how underuse and overuse of health-care services occur within a complex system of health-care production, with a multiplicity of causes. Because poor care is ubiquitous and has considerable consequences for the health and wellbeing of billions of people around the world, remedying this problem is a morally and politically urgent task. Universal health coverage is a key step towards achieving the right care. Therefore, full consideration of potential levers of change must include an upstream perspective-ie, an understanding of the system-level factors that drive overuse and underuse, as well as the various incentives at work during a clinical encounter. One example of a system-level factor is the allocation of resources (eg, hospital beds and clinicians) to meet the needs of a local population to minimise underuse or overuse. Another example is priority setting using tools such as health technology assessment to guide the optimum diffusion of safe, effective, and cost-effective health-care services. In this Series paper we investigate a range of levers for eliminating medical underuse and overuse. Some levers could operate effectively (and be politically viable) across many different health and political systems (eg, increase patient activation with decision support) whereas other levers must be tailored to local contexts (eg, basing coverage decisions on a particular cost-effectiveness ratio). Ideally, policies must move beyond the purely incremental; that is, policies that merely tinker at the policy edges after underuse or overuse arises. In this regard, efforts to increase public awareness, mobilisation, and empowerment hold promise as universal methods to reset all other contexts and thereby enhance all other efforts to promote the right care.

Emond, Y. E., et al. (2015). "Improving the implementation of perioperative safety guidelines using a multifaceted intervention approach: protocol of the IMPROVE study, a stepped wedge cluster randomized trial." Implement Sci **10**: 3.

BACKGROUND: This study is initiated to evaluate the effects, costs, and feasibility at the hospital and patient level of an evidence-based strategy to improve the use of Dutch perioperative safety guidelines. Based on current knowledge, expert opinions and expertise of the project team, a multifaceted implementation strategy has been developed. METHODS/DESIGN: This is a stepped wedge cluster randomized trial including nine representative hospitals across The Netherlands. Hospitals are stratified into three groups according to hospital type and geographical location and randomized in terms of the period for receipt of the intervention. All adult surgical patients meeting the inclusion criteria are assessed for patient outcomes. The implementation strategy includes education, audit and feedback, organizational interventions (e.g., local embedding of the guidelines), team-directed interventions (e.g., multi-professional team training), reminders, as well as patient-mediated interventions (e.g., patient safety cards). To tailor the implementation activities, we developed a questionnaire to identify barriers for effective guideline adherence, based on (a) a theoretical framework for classifying barriers and facilitators, (b) an instrument for measuring determinants of innovations, and (c) 19 semi-structured interviews with perioperative key professionals. Primary outcome is guideline adherence measured at the hospital (i.e., cluster) and patient levels by a set of perioperative Patient Safety Indicators (PSIs), which was developed parallel to the perioperative guidelines. Secondary outcomes at the patient level are in-hospital complications, postoperative wound infections and mortality, length of hospital stay, and unscheduled transfer to the intensive care unit, non-elective readmission to the hospital and unplanned reoperation, all within 30 days after the initial surgery. Also, patient safety culture and team climate will be studied as potential determinants. Finally, a process evaluation is conducted to identify the compliance with the implementation strategy, as well as an economic evaluation to assess the costs. Data sources are registered clinical data and surveys. There is no form of blinding. DISCUSSION: The perioperative setting is an unexplored area with respect to implementation issues. This study is expected to yield important new evidence about the effects of a multifaceted approach on guideline adherence in the perioperative care setting. TRIAL REGISTRATION: Dutch trial registry: NTR3568.

Evans, E., et al. (2011). "Reducing variation in general practitioner referral rates through clinical engagement and peer review of referrals: a service improvement project." Qual Prim Care **19**(4): 263-272.

BACKGROUND: General practitioner (GP) referral rates to hospital services vary widely, without clearly identified explanatory factors, introducing important quality and patient safety issues. Referrals are rising everywhere year on year; some of these may be more appropriately redirected to lower technology services. AIM: To use peer review with consultant engagement to influence GPs to improve the quality and effectiveness of their referrals. DESIGN: Service development project. SETTING: Ten out of 13 GP practices in Torfaen, Gwent; consultants from seven specialties in Gwent Healthcare NHS Trust; project designed and managed within Torfaen Local Health Board between 2008 and 2009. METHODS: GPs discussed the appropriateness of referrals in selected specialties, including referral information and compatibility with local guidelines, usually on a weekly basis and were provided with regular feedback of 'benchmarked' referral rates. Six-weekly 'cluster groups', involving GPs, hospital specialists and community health practitioners discussed referral pathways and appropriate management in community based services. RESULTS: Overall there was a reduction in variation in individual GP referral rates (from 2.6-7.7 to 3.0-6.5 per 1000 patients per quarter) and a related reduction in overall referral rate (from 5.5 to 4.3 per 1000 patients per quarter). Both reductions appeared sustainable whilst the intervention continued, and referral rates rose in keeping with local trends once the intervention finished. CONCLUSION: This intervention appeared acceptable to GPs because of its emphasis on reviewing appropriateness and quality of referrals and was effective and sustainable while the investment in resources continued. Consultant involvement in discussions appeared important. The intervention's cost-effectiveness requires evaluation for consideration of future referral management strategies.

Farias, M., et al. (2013). "Standardized Clinical Assessment And Management Plans (SCAMPs) provide a better alternative to clinical practice guidelines." Health Aff (Millwood) **32**(5): 911-920.

> Variability in medical practice in the United States leads to higher costs without achieving better patient outcomes. Clinical practice guidelines, which are intended to reduce variation and improve care, have several drawbacks that limit the extent of buy-in by clinicians. In contrast, standardized clinical assessment and management plans (SCAMPs) offer a clinician-designed approach to promoting care standardization that accommodates patients' individual differences, respects providers' clinical acumen, and keeps pace with the rapid growth of medical knowledge. Since early 2009 more than 12,000 patients have been enrolled in forty-nine SCAMPs in nine states and Washington, D.C. In one example, a SCAMP was credited with increasing clinicians' rate of compliance with a recommended specialist referral for children from 19.6 percent to 75 percent. In another example, SCAMPs were associated with an 11-51 percent decrease in total medical expenses for six conditions when compared with a historical cohort. Innovative tools such as SCAMPs should be carefully examined by policy makers searching for methods to promote the delivery of high-quality, cost-effective care.

Flamarique-Pascual, A., et al. (2017). "Utility intervention programs in the evolutional control of patients with heart failure." Gac Med Mex **153**(5): 590-597.

> Acute heart failure (HF) is a prevalent disease with important socio-economic repercussions. Due to the aging of population, these values will increase in the coming years, so it may be useful to the implementation of intervention programs in these patients to decrease morbidity and mortality. A quasi-experimental prospective study (n = 262) of patients admitted at the Internal Medicine Department of the Hospital Clinico Universitario Lozano Blesa, in Zaragoza, Spain, diagnosed of HF between November 2013 and October 2014 (both dates inclusive) (n = 108) followed up for 1 year was performed. Within this group, a subgroup with an intensive intervention (n = 30) was performed. The data were compared with a historical cohort of patients admitted to the same department during the same time in the previous year (from November 2012 to October 2013) (n = 154). Statistically significant differences between groups attending to the therapeutical adherence to clinical guidelines ($p < 0.011$) were observed. Considering the intensive intervention subgroup, statistically significant differences were observed in the rate of exitus ($p < 0.032$) and survival (log rank <0.030) compared to the control group. The close monitoring of patients with HF improves adherence, reduces mortality and improves survival. This May result in a decline in the use of health resources, which entails significant socio-economic benefits.

Gagliardi, A. R., et al. (2016). "Identifying Factors Influencing Pancreatic Cancer Management to Inform Quality Improvement Efforts and Future Research: A Scoping Systematic Review." Pancreas **45**(2): 161-166.

> Pancreatic cancer (PC) patients appear to receive suboptimal care. We conducted a systematic review to identify factors that influence PC management which are amenable to quality improvement. MEDLINE, EMBASE, and the references of eligible studies were searched from 1996 to July 2014. Two authors independently selected and reviewed eligible studies. Identified factors were mapped onto a framework of determinants of care delivery and outcomes. Methodological quality of studies was assessed using Downs and Black criteria. Most of the 33 eligible studies were population-based observational studies conducted in the United States. Patient (age, socioeconomic status, race) and institutional (case volume, academic status) factors influence care delivery and outcomes (complications, mortality, readmission, survival). Two studies implemented interventions to improve quality of care (centralization to high-volume hospitals, multidisciplinary care). One study examined system determinants (referral wait times). No studies examined the influence of guideline or provider characteristics. The overall lack of health services research in PC is striking. Factors and interventions identified here can be used to plan PC quality improvement programs. Further research is needed to explore the influence of guideline and provider factors on PC management and evaluate the impact of quality improvement interventions.

Garcia-Compean, D., et al. (2016). "Lack of compliance with consensus recommendations on the diagnosis of eosinophilic esophagitis (EoE) in published prevalence studies. A clinical and systematic review." J Dig Dis **17**(10): 660-669.

OBJECTIVE: According to consensus recommendations, the presence of esophageal symptoms, >15 eosinophils/high-power field and unresponsiveness to proton pump inhibitors are required for a diagnosis of eosinophilic esophagitis (EoE). Nevertheless, inconsistency in using these guidelines has been reported in recent publications. The objective of this study was to assess compliance with EoE diagnostic guidelines in published studies on EoE prevalence and to evaluate other clinical and methodological parameters. METHODS: A systematic review was conducted in articles published between 2008 and 2015 on the prevalence of EoE in unselected adults. Studies using EoE diagnostic definitions were judged to be compliant if they included all three components of the definition, partially compliant if they included two and non-compliant if they included one or none. Esophageal biopsy protocol differences and descriptions of patients' characteristics were determined. RESULTS: Among the 20 studies included, eight were performed in a hospital setting and 12 in the general population. Only 40.0% of studies were compliant, 35.0% were partially compliant and 25.0% were non-compliant with the EoE diagnostic definition guidelines. In 60.0% of the studies a proton pump inhibitor trial was not administered. Only 30.0% adhered to the recommendations in the esophageal biopsy protocol. A lack of description of the history of atopia and endoscopic characteristics was observed in many studies. CONCLUSIONS: Partial or non-compliance with the EoE diagnostic definition was observed in most of the published prevalence studies after the publication of the first consensus. The results of these studies might be interpreted taking into account this context.

Gertman, P. M. et Restuccia, J. D. (1981). "The appropriateness evaluation protocol: a technique for assessing unnecessary days of hospital care." Med Care **19**(8): 855-871.

A major national health policy objective is to improve the efficiency of hospital utilization. To evaluate programmatic interventions with this objective, such as the Professional Standards Review Organization program, measures of appropriate use are a fundamental need. This report represents the results of two developmental trials of a new technique, labeled the Appropriateness Evaluation Protocol (AEP), for assessing potentially unnecessary hospital days of care. Twenty-seven objective criteria items related to medical services, nursing/life support services and patient condition factors were incorporated in the protocol. If any one of the criteria was met, the day was deemed "appropriate," and if none was met, the day was deemed "inappropriate" at an acute hospital level of care. A reviewer could override the objective criteria in either direction in reaching a final judgment. Three reviewers, two nurses and one physician each reviewed 200 charts at a teaching hospital. After correcting for a small number of abstracting errors, overall agreement rates between pairs of reviewers ranged from 92 to 94 per cent, levels significant p less than 0.0001. Of all cases judged inappropriate by at least one of the reviewers, specific agreement rates for the reviewer pairs on which days were inappropriate ranged from 73 to 79 per cent. These overall agreement rates and specific agreement rates on days of care judged as inappropriate are higher than those of any previously reported assessment methods. A parallel study of the appropriateness of admissions in these same cases, using purely subjective reviewer judgments, found overall agreement rates averaging 90 per cent, but rates of specific agreement on inappropriate admissions were less than 40 per cent between pairs of reviewers. Along with comparisons to other, more subjective, assessment techniques, this finding suggests that objective criteria are a vital element in developing methodologically sound techniques for assessing appropriate hospital use.

Haggman-Laitila, A., et al. (2017). "A systematic review of the outcomes of educational interventions relevant to nurses with simultaneous strategies for guideline implementation." J Clin Nurs **26**(3-4): 320-340.

AIMS AND OBJECTIVES: To systematically review the literature on the outcomes of educational interventions relevant to nurses with regard to guideline implementation. BACKGROUND: Previous reviews on interventions to implement guidelines have focused on particular clinical problems, but only one included nursing studies. DESIGN: A systematic review based on the procedure of the Centre

for Reviews and Dissemination. METHODS: We searched for papers published from 1 January 2008 to 26 February 2015 using the Cochrane, CINAHL and PubMed MEDLINE databases and paper references were searched manually. Quality appraisal was conducted with tools developed by Thomas et al.(Worldviews on Evidence-based Nursing, 1, 2004, 176) and National Heart, Lung, and Blood Institute. Data were analysed with qualitative content analysis and narrative synthesis. RESULTS: The data included 13 studies based on a quasi-experimental study design of 13 different educational interventions, described according to their development and realisation, learning content and teaching and learning methods. Seven interventions were supported by simultaneous strategies, 12 studies reported statistically significant outcomes for the interventions on at least one measurement area and six studies reported improvements in the quality of patient care. Interventions with multi-dimensional content, teaching and learning methods produced several good outcomes. CONCLUSION: Guidelines were implemented in a heterogeneous way and the interventions were delivered once and mainly on a local basis. In the future, we need to test these interventions in different nursing contexts, measure the outcomes on patient care and carry out randomised controlled trials on their effectiveness. It is important to standardise interventions, as this will allow them to be replicated and compared. RELEVANCE TO CLINICAL PRACTICE: Educational interventions to implement guidelines could be beneficial in enhancing nurses' evidence-based decision-making and care practice. The combination of teaching and learning methods proved useful, and educational interventions should be supported with simultaneous strategies. There remains a lack of strong evidence on the subject.

Hanley, O., et al. (2017). "Radiologists' Recommendations for Additional Imaging on Inpatient CT Studies: Do Referring Physicians Follow Them?" South Med J **110**(12): 770-774.

OBJECTIVES: Studies have found that recommendations for additional imaging (RAI) accompany up to 31% of index computed tomography (CT) scans. In this study we assessed the frequency with which recommendations are accepted by the referring physician and the impact of AI on case management. METHODS: We performed a cross-sectional study of all index CT scans of the chest, abdomen, and pelvis performed on adult inpatients during a 1-month period at a tertiary medical center. Each radiology report was examined for mention of RAI. We used a standardized abstraction tool to review medical records for the indication for the RAI (related to original diagnosis vs incidental finding), the clinician's rationale for pursuing or discarding the RAI, and the impact of the AI on the inpatient treatment plan. RESULTS: Among the 430 scans reviewed, most (57.7%) were of the abdomen/pelvis. RAI was recommended in 67 cases (odds ratio [OR] 15.6%; 95% confidence interval [CI] 12.4-19.3) and AI was completed in 24 of 67 cases (35.8%). Factors associated with a recommendation for AI were the presence of an incidental finding (OR 3.5, 95% CI 1.7-6.8) and verbal communication of the result to the ordering provider (OR 2.09, 95% CI 1.23-3.5). When performed, AI altered the treatment plan 75% (18/24) of the time. Among the 43 cases in which AI was not performed, 34.1% were deferred to outpatient, 13.6% underwent alternative clinical intervention, and 13.6% were judged unnecessary by the primary team. No rationale was documented in the chart for the remaining 38.6%. CONCLUSIONS: Despite concerns about autoreferral by radiologists for AI studies, we found a lower rate than in many prior studies, which may reflect a change in clinical practice. One-third of these recommendations were implemented and verbal communication was strongly associated with the likelihood of second image ordering. In the majority of the cases, the AI affected patient management. Based on these findings, radiologists should consider calling the ordering provider to increase the likelihood that the primary team will follow their recommendations.

Ingemansson, M., et al. (2014). "Practice guidelines in the context of primary care, learning and usability in the physicians' decision-making process--a qualitative study." BMC Fam Pract **15**: 141.

BACKGROUND: Decision-making is central for general practitioners (GP). Practice guidelines are important tools in this process but implementation of them in the complex context of primary care is a challenge. The purpose of this study was to explore how GPs approach, learn from and use practice guidelines in their day-to-day decision-making process in primary care. METHOD: A qualitative approach using focus-group interviews was chosen in order to provide in-depth information. The participants were 22 GPs with a median of seven years of experience in primary care, representing

seven primary healthcare centres in Stockholm, Sweden in 2011. The interviews focused on how the GPs use guidelines in their decision-making, factors that influence their decision how to approach these guidelines, and how they could encourage the learning process in routine practice.Data were analysed by qualitative content analysis. Meaning units were condensed and grouped in categories. After interpreting the content in the categories, themes were created. RESULTS: Three themes were conceptualized. The first theme emphasized to use guidelines by interactive contextualized dialogues. The categories underpinning this theme: 1. Feedback by peer-learning 2. Feedback by collaboration, mutual learning, and equality between specialties, identified important ways to achieve this learning dialogue. Confidence was central in the second theme, learning that establishes confidence to provide high quality care. Three aspects of confidence were identified in the categories of this theme: 1. Confidence by confirmation, 2. Confidence by reliability and 3. Confidence by evaluation of own results. In the third theme, learning by use of relevant evidence in the decision-making process, we identified two categories: 1. Design and lay-out visualizing the evidence 2. Accessibility adapted to the clinical decision-making process as prerequisites for using the practice guidelines. CONCLUSIONS: Decision-making in primary care is a dual process that involves use of intuitive and analytic thinking in a balanced way in order to provide high quality care. Key aspects of effective learning in this clinical decision-making process were: contextualized dialogue, which was based on the GPs' own experiences, feedback on own results and easy access to short guidelines perceived as trustworthy.

Jensen, C. E., et al. (2016). "Systematic review of the cost-effectiveness of implementing guidelines on low back pain management in primary care: is transferability to other countries possible?" BMJ Open **6**(6): e011042.

OBJECTIVE: The primary aim is to identify, summarise and quality assess the available literature on the cost-effectiveness of implementing low back pain guidelines in primary care. The secondary aim is to assess the transferability of the results to determine whether the identified studies can be included in a comparison with a Danish implementation study to establish which strategy procures most value for money. DESIGN: Systematic review. DATA SOURCES: The search was conducted in Embase, PubMed, Cochrane Library, NHS Economic Evaluation Database, Scopus, CINAHL and EconLit. No restrictions were made concerning language, year of publication or publication type. The bibliographies of the included studies were searched for any studies not captured in the literature search. ELIGIBILITY CRITERIA FOR SELECTING STUDIES: To be included, a study must be: (1) based on a randomised controlled trial comparing implementation strategies, (2) the guideline must concern treatment of low back pain in primary care and (3) the economic evaluation should contain primary data on cost and cost-effectiveness. RESULTS: The title and abstract were assessed for 308 studies; of these, three studies were found eligible for inclusion. The Consensus Health Economic Criteria (CHEC) list showed that the 3 studies were of moderate methodological quality while application of Welte's model showed that cost results from two studies could, with adjustments, be transferred to a Danish setting. It was questionable whether the associated effects could be transferred. CONCLUSIONS: Despite the resemblance of the implementation strategies, the 3 studies report conflicting results on cost-effectiveness. This review showed that transferring the results from the identified studies is not straightforward and underlines the importance of transparent reporting. Future research should focus on transferability of effects, for example, development of a supplement to Welte's model.

Karnon, J., et al. (2016). "Variation in Clinical Practice: A Priority Setting Approach to the Staged Funding of Quality Improvement." Appl Health Econ Health Policy **14**(1): 21-27.

Variation in adherence to clinical guidelines, and in the organisation and delivery of health care significantly impact patient outcomes and health service costs. Despite mounting evidence of variation in clinical practice, the funds allocated to improve the quality of existing services remain small, relative to the resources allocated to new technologies. Quality improvement is a complex intervention, with a lack of focus on outcomes, and greater uncertainty around its effects. These factors have contributed to a relatively narrow, mainstream view of quality improvement as focussing on safety, with efforts to improve adherence to best practice limited to high profile clinical areas. This paper presents an analysis of linked, routinely collected data to identify variation in patient outcomes and processes of care across hospitals for patients presenting with low-risk chest pain. Such analyses provide a low cost,

broadly applicable approach to identifying potentially important areas of variation in clinical practice, to inform the prioritisation of more detailed analyses to validate, and further investigate the causes of variation.

Kohler, L. N., et al. (2016). "Adherence to Diet and Physical Activity Cancer Prevention Guidelines and Cancer Outcomes: A Systematic Review." Cancer Epidemiol Biomarkers Prev **25**(7): 1018-1028.

Many studies have reported that adherence to health promotion guidelines for diet, physical activity, and maintenance of healthy body weight may decrease cancer incidence and mortality. A systematic review was performed to examine associations between adherence to established cancer prevention guidelines for diet and physical activity and overall cancer incidence and mortality. PubMed, Google Scholar, and Cochrane Reviews databases were searched following the current recommendations of Preferred Reporting Items for Systematic Reviews and Meta-analysis Approach (PRISMA). Twelve studies met inclusion criteria for this review. High versus low adherence to established nutrition and physical activity cancer prevention guidelines was consistently and significantly associated with decreases of 10% to 61% in overall cancer incidence and mortality. Consistent significant reductions were also shown for breast cancer incidence (19%-60%), endometrial cancer incidence (23%-60%), and colorectal cancer incidence in both men and women (27%-52%). Findings for lung cancer incidence were equivocal, and no significant relationships were found between adherence and ovarian or prostate cancers. Adhering to cancer prevention guidelines for diet and physical activity is consistently associated with lower risks of overall cancer incidence and mortality, including for some site-specific cancers. Cancer Epidemiol Biomarkers Prev; 25(7); 1018-28. (c)2016 AACR.

Kraus, E. M., et al. (2017). "Antibiotic prescribing for acute lower respiratory tract infections (LRTI) - guideline adherence in the German primary care setting: An analysis of routine data." PLoS One **12**(3): e0174584.

OBJECTIVES: Antibiotic overprescribing in primary care has major impacts on the development of antibiotic resistance. The objective of this study is to provide insight in antibiotics prescriptions for patients suffering from cough, acute bronchitis or community acquired pneumonia in primary care. METHODS: Data from 2009 to 2013 of electronic health records of 12,880 patients in Germany were obtained from a research database. The prescription of antibiotics for acute lower respiratory tract infections was compared to the national S3 guideline cough from the German Society of General Practitioners and Family Medicine. RESULTS: Antibiotics were prescribed in 41% of consultations. General practitioners' decision of whether or not to prescribe an antibiotic was congruent with the guideline in 52% of consultations and the antibiotic choice congruence was 51% of antibiotic prescriptions. Hence, a congruent prescribing decision and a prescription of recommendation was found in only 25% of antibiotic prescriptions. Split by diagnosis we found that around three quarters of antibiotics prescribed for cough (73%) and acute bronchitis (78%) were not congruent to the guidelines. In contrast to that around one quarter of antibiotics prescribed for community acquired pneumonia (28%) were not congruent to the guidelines. CONCLUSIONS: Our results show that there is a big gap between guideline recommendation and actual prescribing, in the decision to prescribe and the choice of antibiotic agent. This gap could be closed by periodic quality circles on antibiotic prescribing for GPs.

Kuhne, F., et al. (2015). "Conceptual decomposition of complex health care interventions for evidence synthesis: a literature review." J Eval Clin Pract **21**(5): 817-823.

RATIONALE, AIMS AND OBJECTIVES: The clarity of pivotal concepts is an important prerequisite for the development, evaluation and exchange of scientific ideas. The term 'complex intervention' is increasingly used in the health care literature, although it often remains unclear what is actually meant by this concept. Therefore, our aim was to analyse the literature regarding definitions of the terms 'complex intervention' and 'components' of such interventions. METHOD: To identify the methodological publications, systematic and snowballing techniques were combined for the literature search. Relevant units of meaning were extracted from 68 included publications. Afterwards, we deduced categories and related frequencies by inductive and quantitative content analysis techniques.

RESULTS: Several types of complexity were distinguished in the literature. Most authors viewed complex interventions as multicomponent interventions that are characterized by interactions between the components themselves, with the context or as systemic interventions. Components of complex interventions were described in the publications as having the potential to causally influence outcomes, thus being essential for achieving an effect. Other definitions and inconsistencies among the definitions are highlighted and discussed. CONCLUSIONS: From our synthesis, we derived definitions of the central health care-related concepts 'complex intervention' and 'components' of an intervention. Although we found numerous diverse definitions, they could be reduced to a defined number of core characteristics. These characteristics may facilitate communication regarding complex interventions and enable the deduction of methodological approaches for evidence synthesis.

Lamontagne, A. J., et al. (2013). "Facilitators and solutions for practicing optimal guided asthma self-management: the physician perspective." Can Respir J **20**(4): 285-293.

OBJECTIVE: To identify key solutions that facilitate the prescription of long-term asthma controller and provision of written self-management plans by physicians. METHODS: One hour individualized semistructured interviews were conducted with physicians. Interviews were transcribed verbatim and analyzed independently by two trained qualitative researchers. A taxonomy of facilitators (contemplated solutions) and experienced solutions was achieved by consensus within the research team. RESULTS: Forty-two physicians (family physicians, pediatricians, emergency physicians, pulmonologists and allergists) were interviewed. The 867 facilitators and solutions, grouped in 10 categories, addressed three physician needs: support physicians in delivering optimal care (guideline dissemination, workplace culture, physician training and experience, physician attitudes toward optimal practice, tools and resources supporting physicians' decision making); assist patients with following recommendations (patient characteristics, experiences and attitudes; physician behaviour; and tools and resources supporting patient self-management); and offer efficient services (reorganization of care; interprofessional patient management). Suggestions pertaining to the latter two categories were most frequently cited to optimize asthma management and use of self-management plans (e.g., access to self-management plans; education by allied health care professionals). The most cited suggestions to support prescribing long-term controller pertained to physician behaviour (e.g., involvement in patient education, personalization of prescriptions, feedback to patients of the benefits of long-term controller). The distribution of facilitators and solutions varied across specialties. CONCLUSIONS: Physicians proposed multiple facilitators and solutions to support optimal practice, leading to the development of a novel taxonomy. Key suggestions varied across physician specialties and behaviours sought, emphasizing the need to carefully select the most promising knowledge translation interventions.

Las Hayas, C., et al. (2010). "Can an appropriateness evaluation tool be used to prioritize patients on a waiting list for cataract extraction?" Health Policy **95**(2-3): 194-203.

OBJECTIVES: To determine whether a system originally developed to ascertain the appropriateness of cataract intervention may also be used to prioritize patients on cataract extraction waiting lists. METHODS: The IRYSS-appropriateness of indication for cataract surgery tool and the IRYSS-Cataract Priority Score were applied to a sample of 5448 patients consecutively placed on waiting lists for cataract surgery. Clinical data were gathered by ophthalmologists, and patients self-completed the Visual Function Index-14. The general linear model (GLM) was used to assign scores to the categories of the appropriateness and priority criteria. The relationship between both systems was evaluated by correlating scores. To assess the validity of the new appropriateness and priority scores, correlations with visual acuity (VA) and visual function were calculated. RESULTS: The GLM method generated highly similar scores for both appropriateness and prioritization systems. The correlation between scores was very strong (r=0.96). The appropriateness scoring system correlated 0.29 with VA and 0.21 with gain in visual function. The priority system correlated -0.54 with VA and -0.28 with preintervention visual function. CONCLUSIONS: The new appropriateness scoring system strongly correlates with the priority scoring system. This easy-to-use appropriateness rating could serve as a tool for simultaneously assessing the appropriateness of cataract surgery and assigning priority.

Liu, H. P., et al. (2013). "A medication assessment tool to evaluate adherence to medication guideline in asthmatic children." Int J Clin Pharm **35**(2): 289-295.

OBJECTIVE: Asthma is one of the commonest causes of morbidity and mortality in childhood. The goals of the present study were to design a valid medication assessment tool for evaluating the quality of medication use according to recommendations of updated asthma guidelines for children aged from 5 to 12 years, and to quantify adherence to guideline recommendations. SETTING: Two primary care settings in Scotland, UK. METHODS: Recommendations related to the long-term management of asthmatic children in the British Thoracic Society/Scottish Intercollegiate Guidelines Network and Global Initiative for Asthma guidelines were identified and corresponding criteria were created. These criteria were incorporated to generate an assessment tool named MAT ASTHMA-PAED. Two phases of field-testing were undertaken and the tool was also subject to examination by a focus group of specialist practitioners. Thereafter, MAT ASTHMA-PAED was modified accordingly. MAIN OUTCOME MEASURE: Applicability and adherence to each criterion and overall adherence to the MAT ASTHMA-PAED. RESULTS: The MAT ASTHMA-PAED field-testing was undertaken in two primary care practices in Scotland, United Kingdom and 77 asthmatic children were recruited. Results of the pilot study field-testing showed a high overall adherence of 70.0 % (95 % CI: 58.7-81.3 %) to the guidelines. Low adherence (<50 %) was seen for 4 criteria, whereas 8 criteria were considered high-adherence criteria (>70 %). The final MAT ASTHMA-PAED comprised of 25 criteria was produced based on the results of field testing and the opinions from the focus group. CONCLUSION: Although high utility of MAT ASTHMA-PAED criteria was found, there were gaps in the implementation of certain recommendations, particularly in relation to demonstrated satisfactory technique of inhaler. Moreover, further studies assessing the use of oral steroids and exercise-induced asthma, and wider implementation of MAT ASTHMA-PAED are required.

Lugtenberg, M., et al. (2014). "General practitioners' preferences for interventions to improve guideline adherence." J Eval Clin Pract **20**(6): 820-826.

RATIONALE, AIMS AND OBJECTIVES: Interventions aimed at improving guideline adherence should take into account the specific features of the target users; however, it is unclear how general practitioners (GPs) evaluate the different types of interventions. The aim of this paper was to identify GPs' preferences for interventions to improve guideline adherence in practice and whether these differ across key guideline recommendations. METHOD: An electronic survey was conducted among 703 GPs working in the south-western part of the Netherlands. Each survey focused on two of four guidelines: cerebrovascular accident, eye inflammation, thyroid disorders and urinary tract infection. GPs were asked to rate potential interventions in terms of their usefulness in improving guideline adherence in general and for specific key guideline recommendations. RESULTS: 264 GPs (38%) completed the questionnaire. In general, GPs preferred interactive small group meetings (84% rated this as much or very much encouraging), audit and feedback (53%), organizational interventions (50%) and the use of local opinion leaders (50%) as methods for improving guideline adherence. Financial interventions (24%), distribution of educational materials (22%) and big group educational meetings (21%) were of least interest. Some interventions were preferred by GPs irrespective of the specific key recommendations (e.g. audit and feedback), while ratings for other interventions differed across key recommendations (reminders/computer support). CONCLUSIONS: To implement guidelines, interventions need to be identified that are acceptable and appealing to the target group. GPs seem to have general and recommendation-specific preferences regarding interventions, these should be taken into account when developing plans for guideline implementation to encourage the uptake of guidelines in practice.

Mannocci, A., et al. (2015). "A multicenter study on the appropriateness of hospitalization in obstetric wards: application of Obstetric Appropriateness Evaluation Protocol (Obstetric AEP)." J Matern Fetal Neonatal Med **28**(13): 1542-1548.

The cross-sectional study has been based on the implementation of the Obstetric Appropriateness Evaluation Protocol (OAEP) in seven hospitals to determine inappropriate hospital admissions and days of stay. The outcomes were: inappropriateness of admission and "percentage of inappropriateness" for one hospitalization. A total number of 2196 clinical records were reviewed. The mean percentage of inappropriateness for hospitalization was 22%. The percentage of inappropriateness for the first 10 d of hospitalization peaked in correspondence of the fourth (42%). The logistic regression model on inappropriated admission reported that emergency admission was a protective factor (OR = 0.4) and to be hospitalized in wards with >/=30 beds risk factor (OR = 5.12). The second linear model on "percentage of inappropriateness" showed that inappropriated admission and wards with >/=30 beds increased the percentage ($p < 0.001$); whereas the admission in Teaching Hospitals was inversely associated ($p < 0.001$). The present study suggests that the percentage of inappropriate admission depends especially on the inappropriate admission and the large number of beds in obstetric wards. This probably indicates that management of big hospitals, which is very complex, needs improving the processes of support and coordination of health professionals. The OAEP tool seems to be an useful instrument for the decision-makers to monitor and manage the obstetric wards.

Markovitz, A. A., et al. (2017). "Effects of Guideline and Formulary Changes on Statin Prescribing in the Veterans Affairs." Health Serv Res **52**(6): 1996-2017.

OBJECTIVE: To compare the effects of two sequential policy changes-the addition of a high-potency statin to the Department of Veterans Affairs (VA) formulary and the release of the American College of Cardiology/American Heart Association (ACC/AHA) cholesterol guidelines-on VA provider prescribing. DATA SOURCES/STUDY SETTING: Retrospective analysis of 1,100,682 VA patients, 2011-2016. STUDY DESIGN: Interrupted time-series analysis of changes in prescribing of moderate-to-high-intensity statins among high-risk patients and across high-risk subgroups. We also assessed changes in prescribing of atorvastatin and other statin drugs. We estimated marginal effects (ME) of formulary and guideline changes by comparing predicted and observed statin use. DATA COLLECTION/EXTRACTION METHODS: Data from VA Corporate Data Warehouse. PRINCIPAL FINDINGS: The use of moderate-to-high-intensity statins increased by 2 percentage points following the formulary change (ME, 2.4, 95% confidence interval [CI], 2.2 to 2.6) and less than 1 percentage point following the guideline change (ME, 0.8, 95% CI, 0.6 to 0.9). The formulary change led to approximately a 12 percentage-point increase in the use of moderate-to-high-intensity atorvastatin (ME, 11.5, 95% CI, 11.3 to 11.6). The relatively greater provider response to the formulary change occurred across all patient subgroups. CONCLUSIONS: Addition of a high-potency statin to formulary affected provider prescribing more than the ACC/AHA guidelines.

Mewes, J. C., et al. (2017). "Value of Implementation of Strategies to Increase the Adherence of Health Professionals and Cancer Survivors to Guideline-Based Physical Exercise." Value Health **20**(10): 1336-1344.

BACKGROUND: To increase the adherence of health professionals and cancer survivors to evidence-based physical exercise, effective implementation strategies (ISTs) are required. OBJECTIVES: To examine to what extent these ISTs provide value for money and which IST has the highest expected value. METHODS: The net benefit framework of health economic evaluations is used to conduct a value-of-implementation analysis of nine ISTs. Seven are directed to health professionals and two to cancer survivors. The analysis consists of four steps: 1) analyzing the expected value of perfect implementation (EVPIM); 2) assessing the estimated costs of the various ISTs; 3) comparing the ISTs' costs with the EVPIM; and 4) assessing the total net benefit (TNB) of the ISTs. These steps are followed to identify which strategy has the greatest value. RESULTS: The EVPIM for physical exercise in the Netherlands is euro293 million. The total costs for the ISTs range from euro34,000 for printed educational materials for professionals to euro120 million for financial incentives for patients, and thus all are cost-effective. The TNB of the ISTs that are directed to professionals ranges from euro5.7 million for printed educational materials to euro30.9 million for reminder systems. Of the strategies that are directed to patients, only the motivational program had a positive net benefit of euro100.4 million. CONCLUSIONS: All the ISTs for cancer survivors, except for financial incentives, had a positive

TNB. The largest improvements in adherence were created by a motivational program for patients, followed by a reminder system for professionals.

Muche-Borowski, C., et al. (2015). "[Implementation of clinical practice guidelines: how can we close the evidence-practice gap?]." Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz **58**(1): 32-37.

Guidelines are intended as instruments of knowledge transfer to support decision-making by physicians, other health professionals and patients in clinical practice and thereby contribute to quality improvements in healthcare. To date they are an indispensable tool for healthcare. Their benefit for patients can only be seen in application, i.e. the implementation of guideline recommendations. For successful implementation, implementability and practicability play a crucial role and these characteristics can be influenced and should be promoted by the guideline development group. In addition, a force field analysis to identify barriers against and facilitators for the implementation of specific guideline recommendations from the perspective of physicians and patients is recommended to guide the development of an individual implementation strategy and the selection of appropriate interventions. However, implementation cannot be achieved by the guideline development group alone and a universal implementation strategy does not exist. Therefore, a process using theory, analysis, experience and shared responsibility of stakeholders in healthcare is recommended, with the aim to achieve sustainable behavioral change and improve the quality of care by guideline-oriented behavior.

Nandiwada, D. R., et al. (2017). "High-Value Consults: A Curriculum to Promote Point-of-Care, Evidence-Based Recommendations." J Grad Med Educ **9**(5): 640-644.

BACKGROUND : In an era when value-based care is paramount, teaching trainees to explicitly communicate the evidence behind recommendations fosters high-value care (HVC) in the consultation process. OBJECTIVE : To implement an HVC consult curriculum highlighting the need for clear consult questions, evidence-based recommendations to improve consult teaching, clinical decision-making, and the educational value of consults. METHODS : A pilot curriculum was implemented for residents on cardiology consult electives utilizing faculty and fellows as evidence-based medicine (EBM) coaches. The curriculum included an online module, an EBM teaching point template, EBM presentations on rounds, and "coach" feedback on notes. RESULTS : A total of 15 residents and 4 fellows on cardiology consults participated, and 87% (13 of 15) of residents on consults felt the curriculum was educationally valuable. A total of 80% (72 of 90) of residents on general medicine rotations responded to the survey, and 25 of 72 residents (35%) had a consult with the EBM template. General medicine teams felt the EBM teaching points affected clinical decision-making (48%, 12 of 25) and favored dissemination of the curriculum (90%, 72 of 80). Checklist-guided chart review showed a 22% improvement in evidence-based summaries behind recommendations (7 of 36 precurriculum to 70 of 146 charts postcurriculum, P = .015). CONCLUSIONS : The HVC consult curriculum during a cardiology elective was perceived by residents to influence clinical decision-making and evidence-based recommendations, and was found to be educationally valuable on both parties in the consult process.

Oakley, B., et al. (2017). "Does achieving the best practice tariff improve outcomes in hip fracture patients? An observational cohort study." BMJ Open **7**(2): e014190.

OBJECTIVES: To determine if the introduction of the best practice tariff (BPT) has improved survival of the elderly hip fracture population, or if achieving BPT results in improved survival for an individual. SETTING: A single university-affiliated teaching hospital. PARTICIPANTS: 2541 patients aged over 60 admitted with a neck of femur fracture between 2008 and 2010 and from 2012 to 2014 were included, to create two cohorts of patients, before and after the introduction of BPT. The post-BPT cohort was divided into two groups, those who achieved the criteria and those who did not. PRIMARY AND SECONDARY OUTCOME MEASURES: Primary outcomes of interest were differences in mortality across cohorts. Secondary analysis was performed to identify associations between individual BPT criteria and mortality. RESULTS: The introduction of BPT did not significantly alter overall 30-mortality in the

hip fracture population (8.3% pre-BPT vs 10.0% post-BPT; p=0.128). Neither was there a significant reduction in length of stay (15 days (IQR 9-21) pre-BPT vs 14 days (IQR 11-22); p=0.236). However, the introduction of BPT was associated with a reduction in the time from admission to theatre (median 44 hours pre-BPT (IQR 24-44) vs 23 hours post-BPT (IQR 17-30); p<0.005). 30-day mortality in those who achieved BPT was significantly lower (6.0% vs 21.0% in those who did not achieve-BPT; p<0.005). There was a survival benefit at 1 year for those who achieved BPT (28.6% vs 42.0% did not achieve-BPT; p<0.005). Multivariate logistic regression revealed that of the BPT criteria, AMT monitoring and expedited surgery were the only BPT criteria that significantly influenced survival. CONCLUSIONS: The introduction of the BPT has not led to a demonstrable improvement in outcomes at organisational level, though other factors may have confounded any benefits. However, patients where BPT criteria are met appear to have improved outcomes.

O'Donnell, T. F. X., et al. (2017). "Adherence to lipid management guidelines is associated with lower mortality and major adverse limb events in patients undergoing revascularization for chronic limb-threatening ischemia." J Vasc Surg **66**(2): 572-578.

OBJECTIVE: The 2013 American College of Cardiology/American Heart Association lipid management guidelines recommend high-intensity statins for all patients </=75 years old with chronic limb-threatening ischemia (CLTI) and moderate-intensity statins for CLTI patients >75 years old without contraindications or on dialysis, but these recommendations are based primarily on coronary and stroke data. We aimed to validate these guidelines in patients with CLTI and to assess current adherence to these recommendations. METHODS: We identified all patients with CLTI who underwent first-time revascularization (endovascular or surgical) at Beth Israel Deaconess Medical Center from 2005 to 2014. Patients were classified as taking high-intensity, moderate-intensity, low-intensity, or no statin postoperatively. Outcomes included death and major adverse limb event (MALE). Propensity scores were calculated for the probability of receiving guideline-recommended intensity of statin therapy to account for nonrandom assignment of treatments. Cox regression models were constructed and adjusted for the propensity scores and further adjusted for strong potential confounders. RESULTS: After excluding patients on hemodialysis (n = 252), we identified 1019 limbs from 931 patients with a median follow-up of 380 days. Patients discharged on the recommended statin intensity had higher rates of preoperative statin use, coronary artery disease, chronic kidney disease, stroke, atrial fibrillation, congestive heart failure, and coronary artery bypass grafting; they had lower smoking rates and were less likely to be ambulatory preoperatively. Overall, only 35% were taking the recommended statin dosage: 55% of those >75 years old and 20% of those </=75 years old. In multivariable analysis including propensity scores where appropriate, discharge on any statin was associated with lower mortality (hazard ratio [HR], 0.71; 95% confidence interval [CI], 0.60-0.90; P < .01). Discharge on the recommended intensity of statin therapy was associated with lower mortality (HR, 0.73; 95% CI, 0.60-0.99; P < .05) and lower MALE rate (HR, 0.71; 95% CI, 0.51-0.97; P < .05). Patients >75 years old and </=75 years old accrued similar benefit. In patients >75 years old, moderate-intensity statin therapy was associated with lower rates of death and MALE compared with high-intensity therapy but did not reach statistical significance. CONCLUSIONS: Use of the recommended intensity of statin therapy in compliance with 2013 American College of Cardiology/American Heart Association lipid management guidelines is associated with significantly improved survival and lower MALE rate in patients undergoing revascularization for CLTI. Adherence to current guidelines is an appealing target for quality improvement.

Peleg, M., et al. (2017). "Assessment of a personalized and distributed patient guidance system." Int J Med Inform **101**: 108-130.

OBJECTIVES: The MobiGuide project aimed to establish a ubiquitous, user-friendly, patient-centered mobile decision-support system for patients and for their care providers, based on the continuous application of clinical guidelines and on semantically integrated electronic health records. Patients would be empowered by the system, which would enable them to lead their normal daily lives in their regular environment, while feeling safe, because their health state would be continuously monitored using mobile sensors and self-reporting of symptoms. When conditions occur that require medical

attention, patients would be notified as to what they need to do, based on evidence-based guidelines, while their medical team would be informed appropriately, in parallel. We wanted to assess the system's feasibility and potential effects on patients and care providers in two different clinical domains. MATERIALS AND METHODS: We describe MobiGuide's architecture, which embodies these objectives. Our novel methodologies include a ubiquitous architecture, encompassing a knowledge elicitation process for parallel coordinated workflows for patients and care providers; the customization of computer-interpretable guidelines (CIGs) by secondary contexts affecting remote management and distributed decision-making; a mechanism for episodic, on demand projection of the relevant portions of CIGs from a centralized, backend decision-support system (DSS), to a local, mobile DSS, which continuously delivers the actual recommendations to the patient; shared decision-making that embodies patient preferences; semantic data integration; and patient and care provider notification services. MobiGuide has been implemented and assessed in a preliminary fashion in two domains: atrial fibrillation (AF), and gestational diabetes Mellitus (GDM). Ten AF patients used the AF MobiGuide system in Italy and 19 GDM patients used the GDM MobiGuide system in Spain. The evaluation of the MobiGuide system focused on patient and care providers' compliance to CIG recommendations and their satisfaction and quality of life. RESULTS: Our evaluation has demonstrated the system's capability for supporting distributed decision-making and its use by patients and clinicians. The results show that compliance of GDM patients to the most important monitoring targets - blood glucose levels (performance of four measurements a day: 0.87+/-0.11; measurement according to the recommended frequency of every day or twice a week: 0.99+/-0.03), ketonuria (0.98+/-0.03), and blood pressure (0.82+/-0.24) - was high in most GDM patients, while compliance of AF patients to the most important targets was quite high, considering the required ECG measurements (0.65+/-0.28) and blood-pressure measurements (0.75+/-1.33). This outcome was viewed by the clinicians as a major potential benefit of the system, and the patients have demonstrated that they are capable of self-monitoring - something that they had not experienced before. In addition, the system caused the clinicians managing the AF patients to change their diagnosis and subsequent treatment for two of the ten AF patients, and caused the clinicians managing the GDM patients to start insulin therapy earlier in two of the 19 patients, based on system's recommendations. Based on the end-of-study questionnaires, the sense of safety that the system has provided to the patients was its greatest asset. Analysis of the patients' quality of life (QoL) questionnaires for the AF patients was inconclusive, because while most patients reported an improvement in their quality of life in the EuroQoL questionnaire, most AF patients reported a deterioration in the AFEQT questionnaire. DISCUSSION: Feasibility and some of the potential benefits of an evidence-based distributed patient-guidance system were demonstrated in both clinical domains. The potential application of MobiGuide to other medical domains is supported by its standards-based patient health record with multiple electronic medical record linking capabilities, generic data insertion methods, generic medical knowledge representation and application methods, and the ability to communicate with a wide range of sensors. Future larger scale evaluations can assess the impact of such a system on clinical outcomes. CONCLUSION: MobiGuide's feasibility was demonstrated by a working prototype for the AF and GDM domains, which is usable by patients and clinicians, achieving high compliance to self-measurement recommendations, while enhancing the satisfaction of patients and care providers.

Ralston, S. L., et al. (2017). "What Works to Reduce Unnecessary Care for Bronchiolitis? A Qualitative Analysis of a National Collaborative." Acad Pediatr **17**(2): 198-204.

OBJECTIVE: Unnecessary care is well established as a quality problem affecting acute viral bronchiolitis, one of the most common pediatric illnesses. Although there is an extensive quality improvement literature on the disease, published work primarily reflects the experience of freestanding children's hospitals. We sought to better understand the specific barriers and drivers for successful quality improvement in community and nonfreestanding children's facilities. METHODS: We undertook a mixed methods study to identify correlates of success in a bronchiolitis quality improvement collaborative of community hospitals and children's hospitals within adult hospitals. We assessed site demographic characteristics, compliance with project interventions, and team engagement for association with end of project performance. We then used performance quartiles on a composite assessment of project measures (use of bronchodilators and steroids) to design a

purposive sample of sites approached for qualitative interviews. RESULTS: Team engagement was the only factor quantitatively associated with better performance in the overall cohort. Fifteen sites, from the total cohort of 21, completed qualitative interviews. Qualitative themes around team engagement, including the presence of buy-in for successful sites and the inability to engage colleagues at unsuccessful sites, were important differentiating factors between top and bottom performance quartiles. Regardless of performance quartile, most programs cited intrainstitutional competition for limited resources to do quality improvement work as a specific barrier for pediatrics. The ability to overcome such barriers and specifically garner information technology (IT) resources also differentiated the top and bottom performance quartiles. CONCLUSIONS: Team engagement showed a consistent association with success across our quantitative and qualitative evaluations. Competition for limited resources in this cohort of nonfreestanding children's programs, particularly those in hospital IT, was a key qualitative theme.

Rokstad, I. S., et al. (2013). "Electronic optional guidelines as a tool to improve the process of referring patients to specialized care: an intervention study." Scand J Prim Health Care **31**(3): 166-171.

OBJECTIVE: The main objective of this paper is to investigate whether incorporating an electronic optional guideline tool (EOGT) in the standardized referral template used by general practitioners (GPs) when referring patients to specialized care can improve outpatient referral appropriateness. DESIGN: Intervention study with an intervention and a control group. SETTING: 210 GPs in the municipality of Bergen and the Department of Thoracic Medicine at Haukeland University Hospital. SUBJECTS: 2400 patients referred to the Department of Thoracic Medicine at Haukeland University Hospital. RESULTS: An electronic optional guideline tool (EOGT) was implemented on 93 of 210 GPs' computer systems. The referral quality and the time spent reviewing each referral were evaluated by the hospital specialists. The GPs did not know that their referrals were being evaluated. The specialists were blinded with regard to information concerning the intervention and the control group. The specialists reported significantly higher referral quality and considerably less time spent on evaluating referrals when using the EOGT, with an overall time reduction of 34%. Likewise, GPs also reported that the EOGT was easy to use, time-saving and led to an improved quality of their referrals. CONCLUSION: This study documents an improvement in the quality of the referrals. Since the GPs save time by using the EOGT, there is no reason to believe that they will discontinue using it. In fact, the tool may be even more beneficial for the GP. The authors believe that it is possible to implement the EOGT as a standard referral tool within various fields of medicine and are currently in the process of developing these tools.

Ross, J. S. (2015). "Promoting Evidence-Based High-Value Health Care." JAMA Intern Med **175**(9): 1564.

Sackett, D. L., et al. (1996). "Evidence based medicine: what it is and what it isn't." Bmj **312**(7023): 71-72.

Shahmoradi, L., et al. (2017). "Knowledge Management Implementation and the Tools Utilized in Healthcare for Evidence-Based Decision Making: A Systematic Review." Ethiop J Health Sci **27**(5): 541-558.

Background: Healthcare is a knowledge driven process and thus knowledge management and the tools to manage knowledge in healthcare sector are gaining attention. The aim of this systematic review is to investigate knowledge management implementation and knowledge management tools used in healthcare for informed decision making. Methods: Three databases, two journals websites and Google Scholar were used as sources for the review. The key terms used to search relevant articles include: "Healthcare and Knowledge Management"; "Knowledge Management Tools in Healthcare" and "Community of Practices in healthcare". Results: It was found that utilization of knowledge management in healthcare is encouraging. There exist numbers of opportunities for knowledge management implementation, though there are some barriers as well. Some of the opportunities that can transform healthcare are advances in health information and communication technology, clinical decision support systems, electronic health record systems, communities of practice and advanced care planning. Conclusion: Providing the right knowledge at the right time, i.e., at the point of decision making by implementing knowledge management in healthcare is paramount. To do so, it is very

important to use appropriate tools for knowledge management and user-friendly system because it can significantly improve the quality and safety of care provided for patients both at hospital and home settings.

Spitaels, D., et al. (2017). "Barriers for guideline adherence in knee osteoarthritis care: A qualitative study from the patients' perspective." J Eval Clin Pract **23**(1): 165-172.

RATIONALE, AIMS AND OBJECTIVES: Guidelines for patients with knee osteoarthritis (OA) are suboptimally implemented in clinical care. To improve guideline adherence, patients' perceived barriers and facilitators in current care were investigated. METHODS: Eleven patients with knee OA were extensively interviewed using a semistructured script based on quality indicators. Directed content analysis, within the framework of Grol and Wensing, was performed to describe barriers and facilitators in 6 domains: guideline, health care professional, patient, social environment, organization, and financial context. Data were analyzed using NVIVO 10 software. RESULTS: In total, 38 barriers, at all 6 domains, were identified. The most frequently mentioned barriers were in the domains of the patient and the health care professional, namely, patients' disagreement with guidelines recommendations, negative experience with drugs, patients' limited comprehension of the disease process, and poor communication by the health care professional. The patients' disagreement with recommendations is further explained by the following barriers: "insistence on medical imaging," "fear that physiotherapy aggravates pain," and "perception that knee OA is not a priority health issue". Patients also reported 20 facilitators, all of which are listed as opposing barriers. CONCLUSIONS: Patients indicate that both personal factors and factors related to health care professionals play an important role in nonadherence. An interview script, based on quality indicators, was a significant aid to structurally formulate barriers and facilitators in the perceived knee OA care. Future guideline implementation strategies should take the identified barriers and facilitators into account.

Steinberg, D. I. (2017). "Review: Strategies to improve provider adoption and implementation of clinical practice guidelines were assessed." Ann Intern Med **166**(10): Jc58.

Suman, A., et al. (2016). "Effectiveness of multifaceted implementation strategies for the implementation of back and neck pain guidelines in health care: a systematic review." Implement Sci **11**(1): 126.

BACKGROUND: For the optimal use of clinical guidelines in daily practice, mere distribution of guidelines and materials is not enough, and active implementation is needed. This review investigated the effectiveness of multifaceted implementation strategies compared to minimal, single, or no implementation strategy for the implementation of non-specific low back and/or neck pain guidelines in health care. METHODS: The following electronic databases were searched from inception to June 1, 2015: MEDLINE, Embase, PsycInfo, the Cochrane Library, and CINAHL. The search strategy was restricted to low back pain, neck pain, and implementation research. Studies were included if their design was a randomized controlled trial, reporting on patients (age >/=18 years) with non-specific low back pain or neck pain (with or without radiating pain). Trials were eligible if they reported patient outcomes, measures of healthcare professional behaviour, and/or outcomes on healthcare level. The primary outcome was professional behaviour. Guidelines that were evaluated in the studies had to be implemented in a healthcare setting. No language restrictions were applied, and studies had to be published full-text in peer-reviewed journals, thus excluding abstract only publications, conference abstracts, and dissertation articles. Two researchers independently screened titles and abstract, extracted data from included studies, and performed risk of bias assessments. RESULTS: After removal of duplicates, the search resulted in 4750 abstracts to be screened. Of 43 full-text articles assessed for eligibility, 12 were included in this review, reporting on 9 individual studies, and separate cost-effectiveness analyses of 3 included studies. Implementation strategies varied between studies. Meta-analyses did not reveal any differences in effect between multifaceted strategies and controls. CONCLUSION: This review showed that multifaceted strategies for the implementation of neck and/or back pain guidelines in health care do not significantly improve professional behaviour outcomes. No effects on patient outcomes or cost of care could be found. More research is necessary to determine

whether multifaceted implementation strategies are conducted as planned and whether these strategies are effective in changing professional behaviour and thereby clinical practice.

Teunissen, E., et al. (2017). "Implementing guidelines and training initiatives to improve cross-cultural communication in primary care consultations: a qualitative participatory European study." Int J Equity Health **16**(1): 32.

BACKGROUND: Cross-cultural communication in primary care is often difficult, leading to unsatisfactory, substandard care. Supportive evidence-based guidelines and training initiatives (G/TIs) exist to enhance cross cultural communication but their use in practice is sporadic. The objective of this paper is to elucidate how migrants and other stakeholders can adapt, introduce and evaluate such G/TIs in daily clinical practice. METHODS: We undertook linked qualitative case studies to implement G/TIs focused on enhancing cross cultural communication in primary care, in five European countries. We combined Normalisation Process Theory (NPT) as an analytical framework, with Participatory Learning and Action (PLA) as the research method to engage migrants, primary healthcare providers and other stakeholders. Across all five sites, 66 stakeholders participated in 62 PLA-style focus groups over a 19 month period, and took part in activities to adapt, introduce, and evaluate the G/TIs. Data, including transcripts of group meetings and researchers' fieldwork reports, were coded and thematically analysed by each team using NPT. RESULTS: In all settings, engaging migrants and other stakeholders was challenging but feasible. Stakeholders made significant adaptations to the G/TIs to fit their local context, for example, changing the focus of a G/TI from palliative care to mental health; or altering the target audience from General Practitioners (GPs) to the wider multidisciplinary team. They also progressed plans to deliver them in routine practice, for example liaising with GP practices regarding timing and location of training sessions and to evaluate their impact. All stakeholders reported benefits of the implemented G/TIs in daily practice. Training primary care teams (clinicians and administrators) resulted in a more tolerant attitude and more effective communication, with better focus on migrants' needs. Implementation of interpreter services was difficult mainly because of financial and other resource constraints. However, when used, migrants were more likely to trust the GP's diagnoses and GPs reported a clearer understanding of migrants' symptoms. CONCLUSIONS: Migrants, primary care providers and other key stakeholders can work effectively together to adapt and implement G/TIs to improve communication in cross-cultural consultations, and enhance understanding and trust between GPs and migrant patients.

Thaler, K., et al. (2015). "Inadequate use and regulation of interventions against publication bias decreases their effectiveness: a systematic review." J Clin Epidemiol **68**(7): 792-802.

OBJECTIVES: To determine the effectiveness of interventions designed to prevent or reduce publication and related biases. STUDY DESIGN AND SETTING: We searched multiple databases and performed manual searches using terms related to publication bias and known interventions against publication bias. We dually reviewed citations and assessed risk of bias. We synthesized results by intervention and outcomes measured and graded the quality of the evidence (QoE). RESULTS: We located 38 eligible studies. The use of prospective trial registries (PTR) has increased since 2005 (seven studies, moderate QoE); however, positive outcome-reporting bias is prevalent (14 studies, low QoE), and information in nonmandatory fields is vague (10 studies, low QoE). Disclosure of financial conflict of interest (CoI) is inadequate (five studies, low QoE). Blinding peer reviewers may reduce geographical bias (two studies, very low QoE), and open-access publishing does not discriminate against authors from low-income countries (two studies, very low QoE). CONCLUSION: The use of PTR and CoI disclosures is increasing; however, the adequacy of their use requires improvement. The effect of open-access publication and blinding of peer reviewers on publication bias is unclear, as is the effect of other interventions such as electronic publication and authors' rights to publish their results.

Tomasone, J. R., et al. (2015). "Effectiveness of guideline dissemination and implementation strategies on health care professionals' behaviour and patient outcomes in the cancer care context: a systematic review protocol." Syst Rev **4**: 113.

BACKGROUND: Health care professionals (HCPs) are able to make effective decisions regarding patient care through the use of systematically developed clinical practice guidelines (CPGs). These recommendations are especially important in a cancer health care context as patients are exposed to a multitude of interdisciplinary HCPs offering high-quality care throughout diagnosis, treatment, survivorship and palliative care. Although a large number of CPGs targeted towards cancer are widely disseminated, it is unknown whether implementation strategies targeting the use of these guidelines are effective in effecting HCP behaviour and patient outcomes in the cancer care context. The purpose of this systematic review will be to determine the effectiveness of different CPG dissemination and implementation interventions on HCPs' behaviour and patient outcomes in the cancer health care context. METHODS/DESIGN: Five electronic databases (CINAHL, the Cochrane Controlled Trials Register, MEDLINE via Ovid, EMBASE via Ovid and PsycINFO via Ovid) will be searched to include all studies examining the dissemination and/or implementation of CPGs in a cancer care setting targeting all HCPs. CPG implementation strategies will be included if the CPGs were systematically developed (e.g. literature review/evidence-informed, expert panel, evidence appraisal). The studies will be limited to randomized controlled trials, controlled clinical trials and quasi-experimental (interrupted time series, controlled before-and-after designs) studies. Two independent reviewers will assess articles for eligibility, data extraction and quality appraisal. DISCUSSION: The aim of this review is to inform cancer care health care professionals and policymakers about evidence-based implementation strategies that will allow for effective use of CPGs. SYSTEMATIC REVIEW REGISTRATION: PROSPERO CRD42015019331.

Van Spall, H. G., et al. (2016). "Effectiveness of implementation strategies in improving physician adherence to guideline recommendations in heart failure: a systematic review protocol." BMJ Open **6**(3): e009364.

INTRODUCTION: The uptake of Clinical Practice Guideline (CPG) recommendations that improve outcomes in heart failure (HF) remains suboptimal. We will conduct a systematic review to identify implementation strategies that improve physician adherence to class I recommendations, those with clear evidence that benefits outweigh the risks. We will use American, Canadian and European HF guidelines as our reference. METHODS AND ANALYSIS: We will conduct a literature search in the databases of MEDLINE, EMBASE, HEALTHSTAR, CINAHL, Cochrane Library, Campbell Collaboration, Joanna Briggs Institute Evidence Based Practice, Centre for Reviews and Dissemination and Evidence Based Practice Centres. We will include prospective studies evaluating implementation interventions aimed at improving uptake of class I CPG recommendations in HF. We will extract data in duplicate. We will classify interventions according to their level of application (ie, provider, organisation, systems level) and common underlying characteristics (eg, education, decision-support, financial incentives) using the Cochrane Effective Practice and Organisation of Care Taxonomy. We will assess the impact of the intervention on adherence to the CPGs. Outcomes will include proportion of eligible patients who were: prescribed a CPG-recommended pharmacological treatment; referred for device consideration; provided self-care education at discharge; and provided left ventricular function assessment. We will include clinical outcomes such as hospitalisations, readmissions and mortality, if data is available. We will identify the common elements of successful and failing interventions, and examine the context in which they were applied, using the Process Redesign contextual framework. We will synthesise the results narratively and, if appropriate, will pool results for meta-analysis. DISCUSSION AND DISSEMINATION: In this review, we will assess the impact of implementation strategies and contextual factors on physician adherence to HF CPGs. We will explore why some interventions may succeed in one setting and fail in another. We will disseminate our findings through briefing reports, publications and presentations. TRIAL REGISTRATION NUMBER: CRD42015017155.

Watkins, K., et al. (2015). "Effectiveness of implementation strategies for clinical guidelines to community pharmacy: a systematic review." Implement Sci **10**: 151.

BACKGROUND: The clinical role of community pharmacists is expanding, as is the use of clinical guidelines in this setting. However, it is unclear which strategies are successful in implementing clinical guidelines and what outcomes can be achieved. The aim of this systematic review is to synthesise the

literature on the implementation of clinical guidelines to community pharmacy. The objectives are to describe the implementation strategies used, describe the resulting outcomes and to assess the effectiveness of the strategies. METHODS: A systematic search was performed in six electronic databases (Medline, EMBASE, CINAHL, Web of Science, Informit, Cochrane Library) for relevant articles. Studies were included if they reported on clinical guidelines implementation strategies in the community pharmacy setting. Two researchers completed the full-search strategy, data abstraction and quality assessments, independently. A third researcher acted as a moderator. Quality assessments were completed with three validated tools. A narrative synthesis was performed to analyse results. RESULTS: A total of 1937 articles were retrieved and the titles and abstracts were screened. Full-text screening was completed for 36 articles resulting in 19 articles (reporting on 22 studies) included for review. Implementation strategies were categorised according to a modified version of the EPOC taxonomy. Educational interventions were the most commonly utilised strategy (n = 20), and computerised decision support systems demonstrated the greatest effect (n = 4). Most studies were multifaceted and used more than one implementation strategy (n = 18). Overall outcomes were moderately positive (n = 17) but focused on process (n = 22) rather than patient (n = 3) or economic outcomes (n = 3). Most studies (n = 20) were rated as being of low methodological quality and having low or very low quality of evidence for outcomes. CONCLUSIONS: Studies in this review did not generally have a well thought-out rationale for the choice of implementation strategy. Most utilised educational strategies, but the greatest effect on outcomes was demonstrated using computerised clinical decision support systems. Poor methodology, in the majority of the research, provided insufficient evidence to be conclusive about the best implementation strategies or the benefit of clinical guidelines in this setting. However, the generally positive outcomes across studies and strategies indicate that implementing clinical guidelines to community pharmacy might be beneficial. Improved methodological rigour in future research is required to strengthen the evidence for this hypothesis. PROTOCOL REGISTRATION: PROSPERO 2012: CRD42012003019 .

White, P. et Kenton, K. (2013). "Use of electronic medical record-based tools to improve compliance with cervical cancer screening guidelines: effect of an educational intervention on physicians' practice patterns." J Low Genit Tract Dis **17**(2): 175-181.

OBJECTIVE: This study aimed to determine whether electronic medical record (EMR)-based tools influence providers' compliance with guidelines for cervical cancer screening in adolescent (<21 y) patients. MATERIALS AND METHODS: Three EMR-based tools to educate providers on cervical cancer screening guidelines were implemented midyear in 2010. Charts of adolescents with Pap and/or human papillomavirus results from January to December 2010 were reviewed. Physicians' demographic data were collected. Appropriateness of the index Pap and follow-up were determined using American Society for Colposcopy and Cervical Pathology guidelines. RESULTS: A total of 380 Pap tests were completed on 374 adolescents. Fewer Pap tests were done after the EMR interventions (229 vs 151, p < .0005). The proportion of Pap tests ordered by primary care providers was significantly higher than obstetrician-gynecologists (Ob/Gyns) (70% vs 30%, p < .0005). The number of Pap tests done by Ob/Gyns decreased 60% after EMR interventions (from 82 to 33, p < .0005) and that done by primary care physicians decreased 20% (from 147 to 118, p = .08). Indicated Pap tests were more often ordered by Ob/Gyn than by primary care, especially after EMR changes (31.4% vs 7.6%, p < .0005). Reflex human papillomavirus testing (if atypical squamous cells of undetermined significance) was high (74%) and did not improve after the EMR changes (72% vs 76%). The rate of co-testing in adolescents decreased in the primary care department after the EMR changes (13% vs 6%, p = .049). CONCLUSIONS: Electronic medical record prompts improved compliance with cervical cytology guidelines for adolescents, suggesting that EMR may be an important tool to enhance compliance with changing recommendations.

Xu, Y. et Wells, P. S. (2016). "Getting (Along) With the Guidelines: Reconciling Patient Autonomy and Quality Improvement Through Shared Decision Making." Acad Med **91**(7): 925-929.

In past decades, stark differences in practice pattern, cost, and outcomes of care across regions with similar health demographics have prompted calls for reform. As health systems answer the growing

call for accountability in the form of quality indices, while responding to increased scrutiny on practice variation in the form of pay for performance (P4P), a rift is widening between the system and individual patients. Currently, three areas are inadequately considered by P4P structures based largely on physician adherence to guidelines: diversity of patient values and preferences; time and financial burden of therapy in the context of multimorbidity; and narrow focus on quantitative measures that distract clinicians from providing optimal care. As health care reform efforts place greater emphasis on value-for-money of care delivered, they provide an opportunity to consider the other "value"-the values of each patient and care delivery that aligns with them.The inherent balance of risks and benefits in every treatment, especially those involving chronic conditions, calls for engagement of patients in decision-making processes, recognizing the diversity of preferences at the individual level. Shared decision making (SDM) is an attractive option and should be an essential component of quality health care rather than its adjunct. Four interwoven steps toward the meaningful implementation of SDM in clinical practice-embedding SDM as a health care quality measure, "real-world" evaluation of SDM effectiveness, pursuit of an SDM-favorable health system, and patient-centered medical education-are proposed to bring focus back to the beneficiary of health care accountability, the patient.

Zhelev, Z., et al. (2016). "Effectiveness of interventions to reduce ordering of thyroid function tests: a systematic review." BMJ Open **6**(6): e010065.

OBJECTIVES: To evaluate the effectiveness of behaviour changing interventions targeting ordering of thyroid function tests. DESIGN: Systematic review. DATA SOURCES: MEDLINE, EMBASE and the Cochrane Database up to May 2015. ELIGIBILITY CRITERIA FOR SELECTING STUDIES: We included studies evaluating the effectiveness of behaviour change interventions aiming to reduce ordering of thyroid function tests. Randomised controlled trials (RCTs), non-randomised controlled studies and before and after studies were included. There were no language restrictions. STUDY APPRAISAL AND SYNTHESIS METHODS: 2 reviewers independently screened all records identified by the electronic searches and reviewed the full text of any deemed potentially relevant. Study details were extracted from the included papers and their methodological quality assessed independently using a validated tool. Disagreements were resolved through discussion and arbitration by a third reviewer. Meta-analysis was not used. RESULTS: 27 studies (28 papers) were included. They evaluated a range of interventions including guidelines/protocols, changes to funding policy, education, decision aids, reminders and audit/feedback; often intervention types were combined. The most common outcome measured was the rate of test ordering, but the effect on appropriateness, test ordering patterns and cost were also measured. 4 studies were RCTs. The majority of the studies were of poor or moderate methodological quality. The interventions were variable and poorly reported. Only 4 studies reported unsuccessful interventions but there was no clear pattern to link effect and intervention type or other characteristics. CONCLUSIONS: The results suggest that behaviour change interventions are effective particularly in reducing the volume of thyroid function tests. However, due to the poor methodological quality and reporting of the studies, the likely presence of publication bias and the questionable relevance of some interventions to current day practice, we are unable to draw strong conclusions or recommend the implementation of specific intervention types. Further research is thus justified. TRIAL REGISTRATION NUMBER: CRD42014006192.

Formation médicale

Revues de littérature

Archambault, P. M., et al. (2017). "Collaborative writing applications in healthcare: effects on professional practice and healthcare outcomes." Cochrane Database Syst Rev **5**: Cd011388.

BACKGROUND: Collaborative writing applications (CWAs), such as wikis and Google Documents, hold the potential to improve the use of evidence in both public health and healthcare. Although a growing body of literature indicates that CWAs could have positive effects on healthcare, such as improved

collaboration, behavioural change, learning, knowledge management, and adaptation of knowledge to local context, this has never been assessed systematically. Moreover, several questions regarding safety, reliability, and legal aspects exist. OBJECTIVES: The objectives of this review were to (1) assess the effects of the use of CWAs on process (including the behaviour of healthcare professionals) and patient outcomes, (2) critically appraise and summarise current evidence on the use of resources, costs, and cost-effectiveness associated with CWAs to improve professional practices and patient outcomes, and (3) explore the effects of different CWA features (e.g. open versus closed) and different implementation factors (e.g. the presence of a moderator) on process and patient outcomes. SEARCH METHODS: We searched CENTRAL, MEDLINE, Embase, and 11 other electronic databases. We searched the grey literature, two trial registries, CWA websites, individual journals, and conference proceedings. We also contacted authors and experts in the field. We did not apply date or language limits. We searched for published literature to August 2016, and grey literature to September 2015. SELECTION CRITERIA: We included randomised controlled trials (RCTs), non-randomised controlled trials (NRCTs), controlled before-and-after (CBA) studies, interrupted time series (ITS) studies, and repeated measures studies (RMS), in which CWAs were used as an intervention to improve the process of care, patient outcomes, or healthcare costs. DATA COLLECTION AND ANALYSIS: Teams of two review authors independently assessed the eligibility of studies. Disagreements were resolved by discussion, and when consensus was not reached, a third review author was consulted. MAIN RESULTS: We screened 11,993 studies identified from the electronic database searches and 346 studies from grey literature sources. We analysed the full text of 99 studies. None of the studies met the eligibility criteria; two potentially relevant studies are ongoing. AUTHORS' CONCLUSIONS: While there is a high number of published studies about CWAs, indicating that this is an active field of research, additional studies using rigorous experimental designs are needed to assess their impact and cost-effectiveness on process and patient outcomes.

Farmer, A. P., et al. (2004). "Printed Educational Materials : effects on professional practice and health care outcomes." Cochrane Library (the)(2): 10.

Forsetlund, L., et al. (2009). "Continuing education meetings and workshops: effects on professional practice and health care outcomes." Cochrane Database Syst Rev(2): Cd003030.

BACKGROUND: Educational meetings are widely used for continuing medical education. Previous reviews found that interactive workshops resulted in moderately large improvements in professional practice, whereas didactic sessions did not. OBJECTIVES: To assess the effects of educational meetings on professional practice and healthcare outcomes. SEARCH STRATEGY: We updated previous searches by searching the Cochrane Effective Practice and Organisation of Care Group Trials Register and pending file, from 1999 to March 2006. SELECTION CRITERIA: Randomised controlled trials of educational meetings that reported an objective measure of professional practice or healthcare outcomes. DATA COLLECTION AND ANALYSIS: Two authors independently extracted data and assessed study quality. Studies with a low or moderate risk of bias and that reported baseline data were included in the primary analysis. They were weighted according to the number of health professionals participating. For each comparison, we calculated the risk difference (RD) for dichotomous outcomes, adjusted for baseline compliance; and for continuous outcomes the percentage change relative to the control group average after the intervention, adjusted for baseline performance. Professional and patient outcomes were analysed separately. We considered 10 factors to explain heterogeneity of effect estimates using weighted meta-regression supplemented by visual analysis of bubble and box plots. MAIN RESULTS: In updating the review, 49 new studies were identified for inclusion. A total of 81 trials involving more than 11,000 health professionals are now included in the review. Based on 30 trials (36 comparisons), the median adjusted RD in compliance with desired practice was 6% (interquartile range 1.8 to 15.9) when any intervention in which educational meetings were a component was compared to no intervention. Educational meetings alone had similar effects (median adjusted RD 6%, interquartile range 2.9 to 15.3; based on 21 comparisons in 19 trials). For continuous outcomes the median adjusted percentage change relative to control was 10% (interquartile range 8 to 32%; 5 trials). For patient outcomes the median adjusted RD in achievement of treatment goals was 3.0 (interquartile range 0.1 to 4.0; 5 trials). Based on univariate meta-regression analyses of the 36

comparisons with dichotomous outcomes for professional practice, higher attendance at the educational meetings was associated with larger adjusted RDs (P < 0.01); mixed interactive and didactic education meetings (median adjusted RD 13.6) were more effective than either didactic meetings (RD 6.9) or interactive meetings (RD 3.0). Educational meetings did not appear to be effective for complex behaviours (adjusted RD -0.3) compared to less complex behaviours; they appeared to be less effective for less serious outcomes (RD 2.9) than for more serious outcomes. AUTHORS' CONCLUSIONS: Educational meetings alone or combined with other interventions, can improve professional practice and healthcare outcomes for the patients. The effect is most likely to be small and similar to other types of continuing medical education, such as audit and feedback, and educational outreach visits. Strategies to increase attendance at educational meetings, using mixed interactive and didactic formats, and focusing on outcomes that are likely to be perceived as serious may increase the effectiveness of educational meetings. Educational meetings alone are not likely to be effective for changing complex behaviours.

Freemantle, N., et al. (2007). "WITHDRAWN: Printed educational materials: effects on professional practice and health care outcomes." Cochrane Database Syst Rev(2): Cd000172.

BACKGROUND: It is often assumed that merely providing information in an accessible form will influence practice. Although such a strategy is still widely used in an attempt to change behaviour, there is a growing awareness that simply providing information may not lead to appropriate changes in the practice of health care professionals. OBJECTIVES: To assess the effects of printed educational materials in improving the behaviour of health care professionals and patient outcomes. SEARCH STRATEGY: We searched the Cochrane Effective Practice and Organisation of Care Group specialised register, reference lists of articles, and contacted content area experts. SELECTION CRITERIA: Randomised trials, interrupted time series analyses and non equivalent group designs with pre-post measures of interventions comparing 1. Printed educational materials versus a non-intervention control; and 2. Printed educational materials plus additional implementation strategies versus printed educational materials alone. The participants were any health care professionals provided with printed educational materials aimed at improving their practice and/or patient outcomes. DATA COLLECTION AND ANALYSIS: Two reviewers independently extracted data and assessed study quality. MAIN RESULTS: Eleven studies were included involving more than 1848 physicians. It proved impractical to examine the impact of interventions quantitatively because of poor reporting of results and inappropriate primary analyses. Nine studies examined comparison 1. Estimates of the benefit from printed educational materials ranged from -3% to 243.4% for provider outcomes, and from -16.1% to 175.6% for patient outcomes, although the practical importance of these changes is, at best, small. Six studies (seven comparisons) examined comparison 2. Benefits attributable to additional interventions ranged from -11.8% to 92.7% for professional behaviour, and -24.4% to 74.5% for patient outcomes. Two of the 14 estimates of professional behaviour, and two of the 11 estimates of patient outcomes were statistically significant. AUTHORS' CONCLUSIONS: The effects of printed educational materials compared with no active intervention appear small and of uncertain clinical significance. These conclusions should be viewed as tentative due to the poor reporting of results and inappropriate primary analyses. The additional impact of more active interventions produced mixed results. Audit and feedback and conferences/workshops did not appear to produce substantial changes in practice; the effects in the evaluations of educational outreach visits and opinion leaders were larger and likely to be of practical importance. None of the studies included full economic analyses, and thus it is unclear to what extent the effects of any of the interventions may be worth the costs involved.

Giguere, A., et al. (2012). "Printed educational materials: effects on professional practice and healthcare outcomes." Cochrane Database Syst Rev **10**: Cd004398.

BACKGROUND: Printed educational materials are widely used passive dissemination strategies to improve the quality of clinical practice and patient outcomes. Traditionally they are presented in paper formats such as monographs, publication in peer-reviewed journals and clinical guidelines. OBJECTIVES: To assess the effect of printed educational materials on the practice of healthcare

professionals and patient health outcomes.To explore the influence of some of the characteristics of the printed educational materials (e.g. source, content, format) on their effect on professional practice and patient outcomes. SEARCH METHODS: For this update, search strategies were rewritten and substantially changed from those published in the original review in order to refocus the search from published material to printed material and to expand terminology describing printed materials. Given the significant changes, all databases were searched from start date to June 2011. We searched: MEDLINE, EMBASE, the Cochrane Central Register of Controlled Trials (CENTRAL), HealthStar, CINAHL, ERIC, CAB Abstracts, Global Health, and the EPOC Register. SELECTION CRITERIA: We included randomised controlled trials (RCTs), quasi-randomised trials, controlled before and after studies (CBAs) and interrupted time series (ITS) analyses that evaluated the impact of printed educational materials (PEMs) on healthcare professionals' practice or patient outcomes, or both. We included three types of comparisons: (1) PEM versus no intervention, (2) PEM versus single intervention, (3) multifaceted intervention where PEM is included versus multifaceted intervention without PEM. There was no language restriction. Any objective measure of professional practice (e.g. number of tests ordered, prescriptions for a particular drug), or patient health outcomes (e.g. blood pressure) were included. DATA COLLECTION AND ANALYSIS: Two review authors undertook data extraction independently, and any disagreement was resolved by discussion among the review authors. For analyses, the included studies were grouped according to study design, type of outcome (professional practice or patient outcome, continuous or dichotomous) and type of comparison. For controlled trials, we reported the median effect size for each outcome within each study, the median effect size across outcomes for each study and the median of these effect sizes across studies. Where the data were available, we re-analysed the ITS studies and reported median differences in slope and in level for each outcome, across outcomes for each study, and then across studies. We categorised each PEM according to potential effects modifiers related to the source of the PEMs, the channel used for their delivery, their content, and their format. MAIN RESULTS: The review includes 45 studies: 14 RCTs and 31 ITS studies. Almost all the included studies (44/45) compared the effectiveness of PEM to no intervention. One single study compared paper-based PEM to the same document delivered on CD-ROM. Based on seven RCTs and 54 outcomes, the median absolute risk difference in categorical practice outcomes was 0.02 when PEMs were compared to no intervention (range from 0 to +0.11). Based on three RCTs and eight outcomes, the median improvement in standardised mean difference for continuous profession practice outcomes was 0.13 when PEMs were compared to no intervention (range from -0.16 to +0.36). Only two RCTs and two ITS studies reported patient outcomes. In addition, we re-analysed 54 outcomes from 25 ITS studies, using time series regression and observed statistically significant improvement in level or in slope in 27 outcomes. From the ITS studies, we calculated improvements in professional practice outcomes across studies after PEM dissemination (standardised median change in level = 1.69). From the data gathered, we could not comment on which PEM characteristic influenced their effectiveness. AUTHORS' CONCLUSIONS: The results of this review suggest that when used alone and compared to no intervention, PEMs may have a small beneficial effect on professional practice outcomes. There is insufficient information to reliably estimate the effect of PEMs on patient outcomes, and clinical significance of the observed effect sizes is not known. The effectiveness of PEMs compared to other interventions, or of PEMs as part of a multifaceted intervention, is uncertain.

Gruen, R., et al. (2006). "Specialist outreach clinics in primary care and rural hospital settings (Cochrane Review)." Community Eye Health **19**(58): 31.

Horsley, T., et al. (2011). "Teaching critical appraisal skills in healthcare settings." Cochrane Database Syst Rev(11): Cd001270.

BACKGROUND: Critical appraisal is the process of assessing and interpreting evidence by systematically considering its validity, results and relevance to an individual's work. Within the last decade critical appraisal has been added as a topic to many medical school and UK Royal College curricula, and several continuing professional development ventures have been funded to provide further training. This is an update of a Cochrane review first published in 2001. OBJECTIVES: To assess the effects of teaching critical appraisal skills to health professionals on the process of care, patient

outcomes and knowledge of health professionals. SEARCH METHODS. We updated the search (see Appendix 1 for search strategies by database) and used those search strategies to search the Cochrane Central Register of Controlled Trials (1997 to June 2011) and MEDLINE (from 1997 to June 2011). We also searched EMBASE, CINAHL and PsycINFO (up to January 2010). We searched LISA (up to January 2010), ERIC (up to January 2010), SIGLE (up to January 2010) and Web of Knowledge (up to January 2010). We also searched the Cochrane Database of Systematic Reviews (CDSR), Database of Abstracts of Reviews of Effects (DARE) and the Cochrane Effective Practice and Organisation of Care (EPOC) Group Specialised Register up to January 2010. SELECTION CRITERIA: Randomised trials, controlled clinical trials, controlled before and after studies and interrupted time series analyses that examined the effectiveness of educational interventions teaching critical appraisal to health professionals. The outcomes included process of care, patient mortality, morbidity, quality of life and satisfaction. We included studies reporting on health professional knowledge/awareness only when based upon objective, standardised, validated instruments. We did not consider studies involving students. DATA COLLECTION AND ANALYSIS: Two review authors independently extracted data and assessed risk of bias. We contacted authors of included studies to obtain missing data. MAIN RESULTS: In total, we reviewed a total of 11,057 titles and abstracts, of which 148 appeared potentially relevant to the review. We included three studies involving 272 people in this review. None of the included studies evaluated process of care or patient outcomes. Statistically significant improvements in participants' knowledge were reported in domains of critical appraisal (variable approaches across studies) in two of the three studies. We determined risk of bias to be 'unclear' and as such considered this to be 'plausible bias that raises some doubt about the results'. AUTHORS' CONCLUSIONS: Low-intensity critical appraisal teaching interventions in healthcare populations may result in modest gains. Improvements to research examining the effectiveness of interventions in healthcare populations are required; specifically rigorous randomised trials employing interventions using appropriate adult learning theories.

O'Brien, M. A., et al. (2007). "Educational outreach visits: effects on professional practice and health care outcomes." Cochrane Database Syst Rev(4): Cd000409.

BACKGROUND: Educational outreach visits (EOVs) have been identified as an intervention that may improve the practice of healthcare professionals. This type of face-to-face visit has been referred to as university-based educational detailing, academic detailing, and educational visiting. OBJECTIVES: To assess the effects of EOVs on health professional practice or patient outcomes. SEARCH STRATEGY: For this update, we searched the Cochrane EPOC register to March 2007. In the original review, we searched multiple bibliographic databases including MEDLINE and CINAHL. SELECTION CRITERIA: Randomised trials of EOVs that reported an objective measure of professional performance or healthcare outcomes. An EOV was defined as a personal visit by a trained person to healthcare professionals in their own settings. DATA COLLECTION AND ANALYSIS: Two reviewers independently extracted data and assessed study quality. We used bubble plots and box plots to visually inspect the data. We conducted both quantitative and qualitative analyses. We used meta-regression to examine potential sources of heterogeneity determined a priori. We hypothesised eight factors to explain variation across effect estimates. In our primary visual and statistical analyses, we included only studies with dichotomous outcomes, with baseline data and with low or moderate risk of bias, in which the intervention included an EOV and was compared to no intervention. MAIN RESULTS: We included 69 studies involving more than 15,000 health professionals. Twenty-eight studies (34 comparisons) contributed to the calculation of the median and interquartile range for the main comparison. The median adjusted risk difference (RD) in compliance with desired practice was 5.6% (interquartile range 3.0% to 9.0%). The adjusted RDs were highly consistent for prescribing (median 4.8%, interquartile range 3.0% to 6.5% for 17 comparisons), but varied for other types of professional performance (median 6.0%, interquartile range 3.6% to 16.0% for 17 comparisons). Meta-regression was limited by the large number of potential explanatory factors (eight) with only 31 comparisons, and did not provide any compelling explanations for the observed variation in adjusted RDs. There were 18 comparisons with continuous outcomes, with a median adjusted relative improvement of 21% (interquartile range 11% to 41%). There were eight trials (12 comparisons) in which the intervention included an EOV and was compared to another type of intervention, usually audit and feedback.

Interventions that included EOVs appeared to be slightly superior to audit and feedback. Only six studies evaluated different types of visits in head-to-head comparisons. When individual visits were compared to group visits (three trials), the results were mixed. AUTHORS' CONCLUSIONS: EOVs alone or when combined with other interventions have effects on prescribing that are relatively consistent and small, but potentially important. Their effects on other types of professional performance vary from small to modest improvements, and it is not possible from this review to explain that variation.

Reeves, S., et al. (2013). "Interprofessional education: effects on professional practice and healthcare outcomes (update)." Cochrane Database Syst Rev(3): Cd002213.

BACKGROUND: The delivery of effective, high-quality patient care is a complex activity. It demands health and social care professionals collaborate in an effective manner. Research continues to suggest that collaboration between these professionals can be problematic. Interprofessional education (IPE) offers a possible way to improve interprofessional collaboration and patient care. OBJECTIVES: To assess the effectiveness of IPE interventions compared to separate, profession-specific education interventions; and to assess the effectiveness of IPE interventions compared to no education intervention. SEARCH METHODS: For this update we searched the Cochrane Effective Practice and Organisation of Care Group specialised register, MEDLINE and CINAHL, for the years 2006 to 2011. We also handsearched the Journal of Interprofessional Care (2006 to 2011), reference lists of all included studies, the proceedings of leading IPE conferences, and websites of IPE organisations. SELECTION CRITERIA: Randomised controlled trials (RCTs), controlled before and after (CBA) studies and interrupted time series (ITS) studies of IPE interventions that reported objectively measured or self reported (validated instrument) patient/client or healthcare process outcomes. DATA COLLECTION AND ANALYSIS: At least two review authors independently assessed the eligibility of potentially relevant studies. For included studies, at least two review authors extracted data and assessed study quality. A meta-analysis of study outcomes was not possible due to heterogeneity in study designs and outcome measures. Consequently, the results are presented in a narrative format. MAIN RESULTS: This update located nine new studies, which were added to the six studies from our last update in 2008. This review now includes 15 studies (eight RCTs, five CBA and two ITS studies). All of these studies measured the effectiveness of IPE interventions compared to no educational intervention. Seven studies indicated that IPE produced positive outcomes in the following areas: diabetes care, emergency department culture and patient satisfaction; collaborative team behaviour and reduction of clinical error rates for emergency department teams; collaborative team behaviour in operating rooms; management of care delivered in cases of domestic violence; and mental health practitioner competencies related to the delivery of patient care. In addition, four of the studies reported mixed outcomes (positive and neutral) and four studies reported that the IPE interventions had no impact on either professional practice or patient care. AUTHORS' CONCLUSIONS: This updated review reports on 15 studies that met the inclusion criteria (nine studies from this update and six studies from the 2008 update). Although these studies reported some positive outcomes, due to the small number of studies and the heterogeneity of interventions and outcome measures, it is not possible to draw generalisable inferences about the key elements of IPE and its effectiveness. To improve the quality of evidence relating to IPE and patient outcomes or healthcare process outcomes, the following three gaps will need to be filled: first, studies that assess the effectiveness of IPE interventions compared to separate, profession-specific interventions; second, RCT, CBA or ITS studies with qualitative strands examining processes relating to the IPE and practice changes; third, cost-benefit analyses.

Autres études

Baldwin, J. D., et al. (2017). "Delivery and Measurement of High-Value Care in Standardized Patient Encounters." J Grad Med Educ **9**(5): 645-649.

BACKGROUND : Residencies have incorporated high-value care (HVC) training to contain health care expenditures. Assessment methods of HVC curricula are limited. OBJECTIVE : In our clinical skills laboratory, we evaluated the effectiveness of HVC curricula using standardized patients (SPs) to

determine if there is a correlation with performance in counseling, history and physical, HVC knowledge, and demographics. METHODS : Through ambulatory cases, SPs evaluated postgraduate year 2 (PGY-2) residents using checklists to determine if they obtained the chief complaint, medical and social history, focused physical examination, and conveyed information regarding patient management. Investigators scored knowledge-based questions on the need for imaging in low back pain, annual stress testing in coronary artery disease, and chest x-ray for gastroesophageal reflux disease. Univariate analysis was used to calculate percentage distribution of residents' ordering of inappropriate tests. RESULTS : All 56 PGY-2 residents participated in the study and completed at least 2 of 3 HVC cases. Analysis showed that 48% (27 of 56) ordered at least 1 inappropriate test. Residents who ordered unnecessary testing had similar performance in history and physical as well as knowledge of HVC. Inappropriate ordering was significantly associated with poorer performance in counseling (mean percentage counseling score of 68% versus 56% for those who ordered inappropriately, P < .001) and communication skills (mean percentage communication score of 74% versus 71% for those who ordered inappropriately, P < .003). There were no patterns for ordering by demographics. CONCLUSIONS : Our evaluation of residents during SP encounters found a correlation between the use of inappropriate testing and lower counseling and communication skills.

Caverly, T., et al. (2017). "Qualitative evaluation of a narrative reflection program to help medical trainees recognize and avoid overuse: "Am I doing what's right for the patient?"." Patient Educ Couns.

OBJECTIVE: The Do No Harm Project is a novel reflective writing program that encourages medical trainees to reflect on and write up clinical narratives about instances of avoidable medical overuse. Our goal is to describe this program and to explore the effect of the program on those participating. METHODS: Semi-structured interviews were conducted to explore how participating in the project influenced the thinking, attitudes, and behaviors of participating internal medicine residents. Interviews were conducted with 20 out of the 24 participants from the first 15 months of the program. RESULTS: The following themes emerged from our analysis: 1) learning through reflection (with three sub-themes: empathy for the patient perspective, a critical approach to one's own clinical practice, and awareness of the problem of overuse); 2) empowerment to discuss instances of overuse and act before it occurs; and 3) perceptions of enhanced evidence-based practice and shared decision-making. CONCLUSION: Trainees volunteering to complete a reflective writing exercise perceived improved ability to avoid overuse and improved self-efficacy to change clinical behaviors that do not align with optimal patient care. PRACTICE IMPLICATIONS: Reflective writing may help trainees recognize and avoid medical overuse.

Charles, M., et al. (2017). "Does Training and Support of General Practitioners in Intensive Treatment of People with Screen-Detected Diabetes Improve Medication, Morbidity and Mortality in People with Clinically-Diagnosed Diabetes? Investigation of a Spill-Over Effect in a Cluster RCT." PLoS One **12**(2): e0170697.

INTRODUCTION: Very few studies have examined the potential spill-over effect of a trial intervention in general practice. We investigated whether training and support of general practitioners in the intensive treatment of people with screen-detected diabetes improved rates of redeemed medication, morbidity and mortality in people with clinically-diagnosed diabetes. METHODS: This is a secondary, post-hoc, register-based analysis linked to a cluster randomised trial. In the ADDITION-Denmark trial, 175 general practices were cluster randomised (i) to routine care, or (ii) to receive training and support in intensive multifactorial treatment of individuals with screen-detected diabetes (2001 to 2009). Using national registers we identified all individuals who were diagnosed with clinically incident diabetes in the same practices over the same time period. (Patients participating in the ADDITION trial were excluded). We compared rates of redeemed medication, a cardiovascular composite endpoint, and all-cause mortality between the routine care and intensive treatment groups. RESULTS: In total, 4,107 individuals were diagnosed with clinically incident diabetes in ADDITION-Denmark practices between 2001 and 2009 (2,051 in the routine care group and 2,056 in the intensive treatment group). There were large and significant increases in the proportion of patients redeeming cardio-protective medication in both treatment groups during follow-up. After a median of seven years of follow-up, there was no difference in the incidence of a composite cardiovascular endpoint (HR 1.15, 95% CI 0.95

to 1.38) or all-cause mortality between the two groups (HR 1.08, 95% CI 0.94 to 1.23). DISCUSSION: There was no evidence of a spill-over effect from an intervention promoting intensive treatment of people with screen-detected diabetes to those with clinically-diagnosed diabetes. Overall, the proportion of patients redeeming cardio-protective medication during follow-up was similar in both groups. TRIAL REGISTRATION: ClinicalTrials.gov NCT00237549.

Corbi, G., et al. (2015). "Impact of an Innovative Educational Strategy on Medication Appropriate Use and Length of Stay in Elderly Patients." Medicine (Baltimore) **94**(24): e918.

UNLABELLED: To evaluate the impact of an educational strategy on potentially inappropriate medications (PIMs) and length of stay in hospitalized elderly patients. DESIGN: An open study, with two cross-sectional surveys interspersed with an educational program (PRE phase and POST phase), has been performed in order to compare the PIMs number before and after the introduction of an educational strategy. The study included 2 phases: PRE, in which patients were enrolled as control group; POST, in which an educational strategy on the PIMs use was introduced among physicians, and patients were enrolled as intervention group. SETTING: Italian residential rehabilitation Centre. Inclusion criteria were >/= 2 active chronic diseases and the current use of >/= 4 medications. The educational strategy consisted of a 3-day course on strategies to prevent PIMs and a computerized tool running on a Personal Digital Assistant (PDA) device to check for PIMs. OUTCOMES: The primary was the PIMs number, the secondary the length of stay. RESULTS: A total of 790 patients, 450 controls and 340 cases, were enrolled. According to the Beers criteria, 52.3% of the study population received >/= 1 PIMs, 18.73% >/= 2, and 2.4% >/= 4 PIMs. A significant reduction of PIMs (P = 0.020) and length of stay (P < 0.0001) were seen in the intervention group. At multivariate analysis, PIMs significantly correlated with age, drugs number, and the intervention, and the length of stay significantly correlated with disease count, comorbidities, and intervention. These data suggest that our educative instrument may be useful in reducing the PIMs number and length of hospitalization in elderly with a high number of drugs and comorbidities.

Gupta, R., et al. (2017). "Disseminating Innovations in Teaching Value-Based Care Through an Online Learning Network." J Grad Med Educ **9**(4): 509-513.

BACKGROUND : A national imperative to provide value-based care requires new strategies to teach clinicians about high-value care. OBJECTIVE : We developed a virtual online learning network aimed at disseminating emerging strategies in teaching value-based care. METHODS : The online Teaching Value in Health Care Learning Network includes monthly webinars that feature selected innovators, online discussion forums, and a repository for sharing tools. The learning network comprises clinician-educators and health system leaders across North America. We conducted a cross-sectional online survey of all webinar presenters and the active members of the network, and we assessed program feasibility. RESULTS : Six months after the program launched, there were 277 learning community members in 22 US states. Of the 74 active members, 50 (68%) completed the evaluation. Active members represented independently practicing physicians and trainees in 7 specialties, nurses, educators, and health system leaders. Nearly all speakers reported that the learning network provided them with a unique opportunity to connect with a different audience and achieve greater recognition for their work. Of the members who were active in the learning network, most reported that strategies gleaned from the network were helpful, and some adopted or adapted these innovations at their home institutions. One year after the program launched, the learning network had grown to 364 total members. CONCLUSIONS : The learning network helped participants share and implement innovations to promote high-value care. The model can help disseminate innovations in emerging areas of health care transformation, and is sustainable without ongoing support after a period of start-up funding.

Gupta, S. S., et al. (2017). "Results of a Quality Improvement Project Aimed at Eliminating Healthcare Waste by Changing Medical Resident Test Ordering Behavior." J Clin Med Res **9**(12): 965-969.

Background: In light of rising healthcare costs and evidence of inefficient use of medical resources,

there is growing interest in reducing healthcare waste by clinicians. Unwarranted lab tests may lead to further tests, prolonged hospital stays, unnecessary referrals and procedures, patient discomfort, and iatrogenic anemia, resulting in significant economic and clinical effects. Blood tests are essential in guiding medical decisions, but they are also associated with significant financial and clinical costs. We designed a quality improvement study that attempted to decrease inappropriate ordering of laboratory tests while maintaining quality of care in a large residency program. Methods: An algorithm outlining indications for complete blood count (CBC), coagulation profile (PT/INR) and basic metabolic profile (BMP) was created by the study team. Data from 1,312 patients over a 3-month period in the pre-intervention phase and 1,255 patients during the selected intervention phase were analyzed. The primary endpoint was mortality rate and secondary endpoints were length of stay and laboratory costs. Results: There were significant decreases in the number of PT/INR orders (20.6%), followed by BMP orders (12.4%), and CBC orders (9.3%). The mortality rate was 5.3% for the pre-intervention phase and 5.8% for the selected intervention phase, with a difference of 0.5% (P = 0.44). Conclusion: Our approach leads to a decrease in costs, preventing unnecessary downstream testing, and improving patient experience. It also brought a mental discipline while ordering blood tests amongst residents.

Moriates, C., et al. (2015). "Defining competencies for education in health care value: recommendations from the University of California, San Francisco Center for Healthcare Value Training Initiative." Acad Med **90**(4): 421-424.

Leaders in medical education have increasingly called for the incorporation of cost awareness and health care value into health professions curricula. Emerging efforts have thus far focused on physicians, but foundational competencies need to be defined related to health care value that span all health professions and stages of training. The University of California, San Francisco (UCSF) Center for Healthcare Value launched an initiative in 2012 that engaged a group of educators from all four health professions schools at UCSF: Dentistry, Medicine, Nursing, and Pharmacy. This group created and agreed on a multidisciplinary set of comprehensive competencies related to health care value. The term "competency" was used to describe components within the larger domain of providing high-value care. The group then classified the competencies as beginner, proficient, or expert level through an iterative process and group consensus. The group articulated 21 competencies. The beginner competencies include basic principles of health policy, health care delivery, health costs, and insurance. Proficient competencies include real-world applications of concepts to clinical situations, primarily related to the care of individual patients. The expert competencies focus primarily on systems-level design, advocacy, mentorship, and policy. These competencies aim to identify a standard that may help inform the development of curricula across health professions training. These competencies could be translated into the learning objectives and evaluation methods of resources to teach health care value, and they should be considered in educational settings for health care professionals at all levels of training and across a variety of specialties.

Vaucher, C., et al. (2016). "Meeting physicians' needs: a bottom-up approach for improving the implementation of medical knowledge into practice." Health Res Policy Syst **14**(1): 49.

BACKGROUND: Multiple barriers to knowledge translation in medicine have been identified (ranging from information overload to abstraction of models), leading to important implementation gaps. This study aimed at assessing the suggestions of practicing physicians for possible improvements of knowledge translation (KT) effectiveness into clinical practice. METHODS: We used a mixed methods design. French- German- and Italian-speaking general practitioners, psychiatrists, orthopaedic surgeons, cardiologists, and diabetologists practicing in Switzerland were interrogated through semi-structured interviews, focus group discussions, and an online survey. RESULTS: A total of 985 physicians from three regions of Switzerland participated in the online survey, whereas 39 participated in focus group discussions and 14 in face-to-face interviews. Physicians expressed limitations and difficulties related to KT into their daily practice. Several barriers were identified, including influence and pressure of pharmaceutical companies, non-publication of negative results, mismatch between guidelines and practice, education gaps, and insufficient collaboration between research and practice.

Suggestions to overcome barriers were improving education concerning the evaluation of scientific publications, expanding applicability of guidelines, having free and easy access to independent journals, developing collaborations between research and practice, and creating tools to facilitate access to medical information. CONCLUSIONS: Our study provides suggestions for improving KT into daily medical practice, matching the views, needs and preferences of practicing physicians. Responding to suggestions for improvements brought up by physicians may lead to better knowledge translation, higher professional satisfaction, and better healthcare outcomes.

Stratégies d'intervention adaptées

Revues de littérature

Baker, R., et al. (2015). "Tailored interventions to address determinants of practice." Cochrane Database Syst Rev(4): Cd005470.

BACKGROUND: Tailored intervention strategies are frequently recommended among approaches to the implementation of improvement in health professional performance. Attempts to change the behaviour of health professionals may be impeded by a variety of different barriers, obstacles, or factors (which we collectively refer to as determinants of practice). Change may be more likely if implementation strategies are specifically chosen to address these determinants. OBJECTIVES: To determine whether tailored intervention strategies are effective in improving professional practice and healthcare outcomes. We compared interventions tailored to address the identified determinants of practice with either no intervention or interventions not tailored to the determinants. SEARCH METHODS: We conducted searches of The Cochrane Library, MEDLINE, EMBASE, PubMed, CINAHL, and the British Nursing Index to May 2014. We conducted a final search in December 2014 (in MEDLINE only) for more recently published trials. We conducted searches of the metaRegister of Controlled Trials (mRCT) in March 2013. We also handsearched two journals. SELECTION CRITERIA: Cluster-randomised controlled trials (RCTs) of interventions tailored to address prospectively identified determinants of practice, which reported objectively measured professional practice or healthcare outcomes, and where at least one group received an intervention designed to address prospectively identified determinants of practice. DATA COLLECTION AND ANALYSIS: Two review authors independently assessed quality and extracted data. We undertook qualitative and quantitative analyses, the quantitative analysis including two elements: we carried out 1) meta-regression analyses to compare interventions tailored to address identified determinants with either no interventions or an intervention(s) not tailored to the determinants, and 2) heterogeneity analyses to investigate sources of differences in the effectiveness of interventions. These included the effects of: risk of bias, use of a theory when developing the intervention, whether adjustment was made for local factors, and number of domains addressed with the determinants identified. MAIN RESULTS: We added nine studies to this review to bring the total number of included studies to 32 comparing an intervention tailored to address identified determinants of practice to no intervention or an intervention(s) not tailored to the determinants. The outcome was implementation of recommended practice, e.g. clinical practice guideline recommendations. Fifteen studies provided enough data to be included in the quantitative analysis. The pooled odds ratio was 1.56 (95% confidence interval (CI) 1.27 to 1.93, P value < 0.001). The 17 studies not included in the meta-analysis had findings showing variable effectiveness consistent with the findings of the meta-regression. AUTHORS' CONCLUSIONS: Despite the increase in the number of new studies identified, our overall finding is similar to that of the previous review. Tailored implementation can be effective, but the effect is variable and tends to be small to moderate. The number of studies remains small and more research is needed, including trials comparing tailored interventions to no or other interventions, but also studies to develop and investigate the components of tailoring (identification of the most important determinants, selecting interventions to address the determinants). Currently available studies have used different methods to identify determinants of practice and different approaches to selecting interventions to address the determinants. It is not yet clear how best to tailor interventions and therefore not clear what the effect of an optimally tailored intervention would be.

Gillies, D., et al. (2015). "Consultation liaison in primary care for people with mental disorders." Cochrane Database Syst Rev(9): Cd007193.

BACKGROUND: Approximately 25% of people will be affected by a mental disorder at some stage in their life. Despite the prevalence and negative impacts of mental disorders, many people are not diagnosed or do not receive adequate treatment. Therefore primary health care has been identified as essential to improving the delivery of mental health care. Consultation liaison is a model of mental health care where the primary care provider maintains the central role in the delivery of mental health care with a mental health specialist providing consultative support. Consultation liaison has the potential to enhance the delivery of mental health care in the primary care setting and in turn improve outcomes for people with a mental disorder. OBJECTIVES: To identify whether consultation liaison can have beneficial effects for people with a mental disorder by improving the ability of primary care providers to provide mental health care. SEARCH METHODS: We searched the EPOC Specialised Register, Cochrane Central Register of Controlled Trials (CENTRAL), and bibliographic databases: MEDLINE, EMBASE, CINAHL and PsycINFO, in March 2014. We also searched reference lists of relevant studies and reviews to identify any potentially relevant studies. SELECTION CRITERIA: We included randomised controlled trials (RCTs) which compared consultation liaison to standard care or other service models of mental health care in the primary setting. Included participants were people attending primary care practices who required mental health care or had a mental disorder, and primary care providers who had direct contact with people in need of mental health care. DATA COLLECTION AND ANALYSIS: Two review authors independently screened the titles and abstracts of identified studies against the inclusion criteria and extracted details including the study design, participants and setting, intervention, outcomes and any risk of bias. We resolved any disagreements by discussion or referral to a third author. We contacted trial authors to obtain any missing information.We collected and analysed data for all follow-up periods: up to and including three months following the start of treatment; between three and 12 months; and more than 12 months following the start of therapy.We used a random-effects model to calculate the risk difference (RD) for binary data and number needed to treat for an additional beneficial outcome (NNTB), if differences between groups were significant. The mean difference (MD) or standardised mean difference (SMD) was calculated for continuous data. MAIN RESULTS: There were 8203 citations identified from database searches and reference lists. We included 12 trials with 2605 consumer participants and more than 905 primary care practitioner participants. Eleven trials compared consultation liaison to standard care and one compared consultation liaison to collaborative care, with a case manager co-ordinating mental health care. People with depression were included in eight trials; and one trial each included people with a variety of disorders: depression, anxiety and somatoform disorders; medically unexplained symptoms; and drinking problems. None of the included trials reported separate data for children or older people.There was some evidence that consultation liaison improved mental health up to three months following the start of treatment (two trials, n = 445, NNTB 8, 95% CI 5 to 25) but there was no evidence of its effectiveness between three and 12 months. Consultation liaison also appeared to improve consumer satisfaction (up to three months: one trial, n = 228, NNTB 3, 95% CI 3 to 5; 3 to 12 months: two trials, n = 445, NNTB 8, 95% CI 5 to 17) and adherence (3 to 12 months: seven trials, n = 1251, NNTB 6, 95% CI 4 to 13) up to 12 months. There was also an improvement in the primary care provider outcomes of providing adequate treatment between three to 12 months (three trials, n = 797, NNTB 7, 95% CI 4 to 17) and prescribing pharmacological treatment up to 12 months (four trials, n = 796, NNTB 13, 95% CI 7 to 50). There was also some evidence that consultation liaison may not be as effective as collaborative care in regards to symptoms of mental disorder, disability, general health status, and provision of treatment.The quality of these findings were low for all outcomes however, apart from consumer adherence from three to 12 months, which was of moderate quality. Eight trials were rated a high risk of performance bias because consumer participants were likely to have known whether or not they were allocated to the intervention group and most outcomes were self reported. Bias due to attrition was rated high in eight trials and reporting bias was rated high in six. AUTHORS' CONCLUSIONS: There is evidence that consultation liaison improves mental health for up to three months; and satisfaction and adherence for up to 12 months in people with mental disorders, particularly those who are depressed. Primary care providers

were also more likely to provide adequate treatment and prescribe pharmacological therapy for up to 12 months. There was also some evidence that consultation liaison may not be as effective as collaborative care in terms of mental disorder symptoms, disability, general health status, and provision of treatment. However, the overall quality of trials was low particularly in regards to performance and attrition bias and may have resulted in an overestimation of effectiveness. More evidence is needed to determine the effectiveness of consultation liaison for people with mental disorders particularly for those with mental disorders other than depression.

Lau, R., et al. (2015). "Achieving change in primary care--effectiveness of strategies for improving implementation of complex interventions: systematic review of reviews." BMJ Open **5**(12): e009993.

OBJECTIVE: To identify, summarise and synthesise available literature on the effectiveness of implementation strategies for optimising implementation of complex interventions in primary care. DESIGN: Systematic review of reviews. DATA SOURCES: MEDLINE, EMBASE, CINAHL, Cochrane Library and PsychINFO were searched, from first publication until December 2013; the bibliographies of relevant articles were screened for additional reports. ELIGIBILITY CRITERIA FOR SELECTING STUDIES: Eligible reviews had to (1) examine effectiveness of single or multifaceted implementation strategies, (2) measure health professional practice or process outcomes and (3) include studies from predominantly primary care in developed countries. Two reviewers independently screened titles/abstracts and full-text articles of potentially eligible reviews for inclusion. DATA SYNTHESIS: Extracted data were synthesised using a narrative approach. RESULTS: 91 reviews were included. The most commonly evaluated strategies were those targeted at the level of individual professionals, rather than those targeting organisations or context. These strategies (eg, audit and feedback, educational meetings, educational outreach, reminders) on their own demonstrated a small to modest improvement (2-9%) in professional practice or behaviour with considerable variability in the observed effects. The effects of multifaceted strategies targeted at professionals were mixed and not necessarily more effective than single strategies alone. There was relatively little review evidence on implementation strategies at the levels of organisation and wider context. Evidence on cost-effectiveness was limited and data on costs of different strategies were scarce and/or of low quality. CONCLUSIONS: There is a substantial literature on implementation strategies aimed at changing professional practices or behaviour. It remains unclear which implementation strategies are more likely to be effective than others and under what conditions. Future research should focus on identifying and assessing the effectiveness of strategies targeted at the wider context and organisational levels and examining the costs and cost-effectiveness of implementation strategies. PROSPERO REGISTRATION NUMBER: CRD42014009410.

Laurant, M., et al. (2005). "Substitution of doctors by nurses in primary care." Cochrane Database Syst Rev(2): Cd001271.

BACKGROUND: Demand for primary care services has increased in developed countries due to population ageing, rising patient expectations, and reforms that shift care from hospitals to the community. At the same time, the supply of physicians is constrained and there is increasing pressure to contain costs. Shifting care from physicians to nurses is one possible response to these challenges. The expectation is that nurse-doctor substitution will reduce cost and physician workload while maintaining quality of care. OBJECTIVES: Our aim was to evaluate the impact of doctor-nurse substitution in primary care on patient outcomes, process of care, and resource utilisation including cost. Patient outcomes included: morbidity; mortality; satisfaction; compliance; and preference. Process of care outcomes included: practitioner adherence to clinical guidelines; standards or quality of care; and practitioner health care activity (e.g. provision of advice). Resource utilisation was assessed by: frequency and length of consultations; return visits; prescriptions; tests and investigations; referral to other services; and direct or indirect costs. SEARCH STRATEGY: The following databases were searched for the period 1966 to 2002: Medline; Cinahl; Bids, Embase; Social Science Citation Index; British Nursing Index; HMIC; EPOC Register; and Cochrane Controlled Trial Register. Search terms specified the setting (primary care), professional (nurse), study design (randomised controlled trial, controlled before-and-after-study, interrupted time series), and subject (e.g. skill mix).

SELECTION CRITERIA: Studies were included if nurses were compared to doctors providing a similar primary health care service (excluding accident and emergency services). Primary care doctors included: general practitioners, family physicians, paediatricians, general internists or geriatricians. Primary care nurses included: practice nurses, nurse practitioners, clinical nurse specialists, or advanced practice nurses. DATA COLLECTION AND ANALYSIS: Study selection and data extraction was conducted independently by two reviewers with differences resolved through discussion. Meta-analysis was applied to outcomes for which there was adequate reporting of intervention effects from at least three randomised controlled trials. Semi-quantitative methods were used to synthesize other outcomes. MAIN RESULTS: 4253 articles were screened of which 25 articles, relating to 16 studies, met our inclusion criteria. In seven studies the nurse assumed responsibility for first contact and ongoing care for all presenting patients. The outcomes investigated varied across studies so limiting the opportunity for data synthesis. In general, no appreciable differences were found between doctors and nurses in health outcomes for patients, process of care, resource utilisation or cost. In five studies the nurse assumed responsibility for first contact care for patients wanting urgent consultations during office hours or out-of-hours. Patient health outcomes were similar for nurses and doctors but patient satisfaction was higher with nurse-led care. Nurses tended to provide longer consultations, give more information to patients and recall patients more frequently than did doctors. The impact on physician workload and direct cost of care was variable. In four studies the nurse took responsibility for the ongoing management of patients with particular chronic conditions. The outcomes investigated varied across studies so limiting the opportunity for data synthesis. In general, no appreciable differences were found between doctors and nurses in health outcomes for patients, process of care, resource utilisation or cost. AUTHORS' CONCLUSIONS: The findings suggest that appropriately trained nurses can produce as high quality care as primary care doctors and achieve as good health outcomes for patients. However, this conclusion should be viewed with caution given that only one study was powered to assess equivalence of care, many studies had methodological limitations, and patient follow-up was generally 12 months or less. While doctor-nurse substitution has the potential to reduce doctors' workload and direct healthcare costs, achieving such reductions depends on the particular context of care. Doctors' workload may remain unchanged either because nurses are deployed to meet previously unmet patient need or because nurses generate demand for care where previously there was none. Savings in cost depend on the magnitude of the salary differential between doctors and nurses, and may be offset by the lower productivity of nurses compared to doctors.

Legare, F., et al. (2014). "Interventions for improving the adoption of shared decision making by healthcare professionals." Cochrane Database Syst Rev(9): Cd006732.

BACKGROUND: Shared decision making (SDM) can reduce overuse of options not associated with benefits for all and respects patient rights, but has not yet been widely adopted in practice. OBJECTIVES: To determine the effectiveness of interventions to improve healthcare professionals' adoption of SDM. SEARCH METHODS: For this update we searched for primary studies in The Cochrane Library, MEDLINE, EMBASE, CINAHL, the Cochrane Effective Practice and Organisation of Care (EPOC) Specialsied Register and PsycINFO for the period March 2009 to August 2012. We searched the Clinical Trials.gov registry and the proceedings of the International Shared Decision Making Conference. We scanned the bibliographies of relevant papers and studies. We contacted experts in the field to identify papers published after August 2012. SELECTION CRITERIA: Randomised and non-randomised controlled trials, controlled before-and-after studies and interrupted time series studies evaluating interventions to improve healthcare professionals' adoption of SDM where the primary outcomes were evaluated using observer-based outcome measures (OBOM) or patient-reported outcome measures (PROM). DATA COLLECTION AND ANALYSIS: The three overall categories of intervention were: interventions targeting patients, interventions targeting healthcare professionals, and interventions targeting both. Studies in each category were compared to studies in the same category, to studies in the other two categories, and to usual care, resulting in nine comparison groups. Statistical analysis considered categorical and continuous primary outcomes separately. We calculated the median of the standardized mean difference (SMD), or risk difference, and range of effect across studies and categories of intervention. We assessed risk of bias. MAIN RESULTS: Thirty-nine studies

were included, 38 randomised and one non-randomised controlled trial. Categorical measures did not show any effect for any of the interventions. In OBOM studies, interventions targeting both patients and healthcare professionals had a positive effect compared to usual care (SMD of 2.83) and compared to interventions targeting patients alone (SMD of 1.42). Studies comparing interventions targeting patients with other interventions targeting patients had a positive effect, as did studies comparing interventions targeting healthcare professionals with usual care (SDM of 1.13 and 1.08 respectively). In PROM studies, only three comparisons showed any effect, patient compared to usual care (SMD of 0.21), patient compared to another patient (SDM of 0.29) and healthcare professional compared to another healthcare professional (SDM of 0.20). For all comparisons, interpretation of the results needs to consider the small number of studies, the heterogeneity, and some methodological issues. Overall quality of the evidence for the outcomes, assessed with the GRADE tool, ranged from low to very low. AUTHORS' CONCLUSIONS: It is uncertain whether interventions to improve adoption of SDM are effective given the low quality of the evidence. However, any intervention that actively targets patients, healthcare professionals, or both, is better than none. Also, interventions targeting patients and healthcare professionals together show more promise than those targeting only one or the other.

Low, L. F., et al. (2015). "A Systematic Review of Interventions to Change Staff Care Practices in Order to Improve Resident Outcomes in Nursing Homes." PLoS One **10**(11): e0140711.

BACKGROUND: We systematically reviewed interventions that attempted to change staff practice to improve long-term care resident outcomes. METHODS: Studies met criteria if they used a control group, included 6 or more nursing home units and quantitatively assessed staff behavior or resident outcomes. Intervention components were coded as including education material, training, audit and feedback, monitoring, champions, team meetings, policy or procedures and organizational restructure. RESULTS: Sixty-three unique studies were broadly grouped according to clinical domain-oral health (3 studies), hygiene and infection control (3 studies), nutrition (2 studies), nursing home acquired pneumonia (2 studies), depression (2 studies) appropriate prescribing (7 studies), reduction of physical restraints (3 studies), management of behavioral and psychological symptoms of dementia (6 studies), falls reduction and prevention (11 studies), quality improvement (9 studies), philosophy of care (10 studies) and other (5 studies). No single intervention component, combination of, or increased number of components was associated with greater likelihood of positive outcomes. Studies with positive outcomes for residents also tended to change staff behavior, however changing staff behavior did not necessarily improve resident outcomes. Studies targeting specific care tasks (e.g. oral care, physical restraints) were more likely to produce positive outcomes than those requiring global practice changes (e.g. care philosophy). Studies using intervention theories were more likely to be successful. Program logic was rarely articulated, so it was often unclear whether there was a coherent connection between the intervention components and measured outcomes. Many studies reported barriers relating to staff (e.g. turnover, high workload, attitudes) or organizational factors (e.g. funding, resources, logistics). CONCLUSION: Changing staff practice in nursing homes is possible but complex. Interventionists should consider barriers and feasibility of program components to impact on each intended outcome.

Oxman, A. D., et al. (1995). "No magic bullets: a systematic review of 102 trials of interventions to improve professional practice." Cmaj **153**(10): 1423-1431.

OBJECTIVE: To determine the effectiveness of different types of interventions in improving health professional performance and health outcomes. DATA SOURCES: MEDLINE, SCISEARCH, CINAHL and the Research and Development Resource Base in CME were searched for trials of educational interventions in the health care professions published between 1970 and 1993 inclusive. STUDY SELECTION: Studies were selected if they provided objective measurements of health professional performance or health outcomes and employed random or quasi-random allocation methods in their study designs to assign individual subjects or groups. Interventions included such activities as conferences, outreach visits, the use of local opinion leaders, audit and feedback, and reminder systems. DATA EXTRACTION: Details extracted from the studies included the study design; the unit of

allocation (e.g., patient, provider, practice, hospital); the characteristics of the targeted health care professionals, educational interventions and patients (when appropriate); and the main outcome measure. DATA SYNTHESIS: The inclusion criteria were met by 102 trials. Areas of behaviour change included general patient management, preventive services, prescribing practices, treatment of specific conditions such as hypertension or diabetes, and diagnostic service or hospital utilization. Dissemination-only strategies, such as conferences or the mailing of unsolicited materials, demonstrated little or no changes in health professional behaviour or health outcome when used alone. More complex interventions, such as the use of outreach visits or local opinion leaders, ranged from ineffective to highly effective but were most often moderately effective (resulting in reductions of 20% to 50% in the incidence of inappropriate performance). CONCLUSION: There are no "magic bullets" for improving the quality of health care, but there are a wide range of interventions available that, if used appropriately, could lead to important improvements in professional practice and patient outcomes.

Parmelli, E., et al. (2011). "The effectiveness of strategies to change organisational culture to improve healthcare performance: a systematic review." Implement Sci **6**: 33.

BACKGROUND: Organisational culture is an anthropological metaphor used to inform research and consultancy and to explain organisational environments. In recent years, increasing emphasis has been placed on the need to change organisational culture in order to improve healthcare performance. However, the precise function of organisational culture in healthcare policy often remains underspecified and the desirability and feasibility of strategies to be adopted have been called into question. The objective of this review was to determine the effectiveness of strategies to change organisational culture in order to improve healthcare performance. METHODS: We searched the following electronic databases: The Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, CINAHL, Sociological Abstracts, Web of Knowledge, PsycINFO, Business and Management, EThOS, Index to Theses, Intute, HMIC, SIGLE, and Scopus until October 2009. The Database of Abstracts of Reviews of Effectiveness (DARE) was searched for related reviews. We also searched the reference lists of all papers and relevant reviews identified, and we contacted experts in the field for advice on further potential studies. We considered randomised controlled trials (RCTs) or well designed quasi-experimental studies (controlled clinical trials (CCTs), controlled before and after studies (CBAs), and interrupted time series (ITS) analyses). Studies could be set in any type of healthcare organisation in which strategies to change organisational culture in order to improve healthcare performance were applied. Our main outcomes were objective measures of professional performance and patient outcome. RESULTS: The search strategy yielded 4,239 records. After the full text assessment, two CBA studies were included in the review. They both assessed the impact of interventions aimed at changing organisational culture, but one evaluated the impact on work-related and personal outcomes while the other measured clinical outcomes. Both were at high risk of bias. Both reported positive results. CONCLUSIONS: Current available evidence does not identify any effective, generalisable strategies to change organisational culture. Healthcare organisations considering implementing interventions aimed at changing culture should seriously consider conducting an evaluation (using a robust design, e.g., ITS) to strengthen the evidence about this topic.

Parmelli, E., et al. (2011). "The effectiveness of strategies to change organisational culture to improve healthcare performance." Cochrane Database Syst Rev(1): Cd008315.

BACKGROUND: Organisational culture is an anthropological metaphor used to inform research and consultancy and to explain organisational environments. Great emphasis has been placed during the last years on the need to change organisational culture in order to pursue effective improvement of healthcare performance. However, the precise nature of organisational culture in healthcare policy often remains underspecified and the desirability and feasibility of strategies to be adopted has been called into question. OBJECTIVES: To determine the effectiveness of strategies to change organisational culture in order to improve healthcare performance.To examine the effectiveness of these strategies according to different patterns of organisational culture. SEARCH STRATEGY: We searched the following electronic databases for primary studies: The Cochrane Central Register of

Controlled Trials, MEDLINE, EMBASE, CINAHL, Sociological Abstracts, Web of Knowledge, PsycINFO, Business and Management, EThOS, Index to Theses, Intute, HMIC, SIGLE, and Scopus until October 2009. The Database of Abstracts of Reviews of Effectiveness (DARE) was searched for related reviews. We also searched the reference lists of all papers and relevant reviews identified, and we contacted experts in the field for advice on further potential studies. SELECTION CRITERIA: We considered randomised controlled trials (RCTs) or well designed quasi-experimental studies, controlled clinical trials (CCTs), controlled before and after studies (CBAs) and interrupted time series analyses (ITS) meeting the quality criteria used by the Cochrane Effective Practice and Organisation of Care Group (EPOC). Studies should be set in any type of healthcare organisation in which strategies to change organisational culture in order to improve healthcare performance were applied. Our main outcomes were objective measures of professional performance and patient outcome. DATA COLLECTION AND ANALYSIS: At least two review authors independently applied the criteria for inclusion and exclusion criteria to scan titles and abstracts and then to screen the full reports of selected citations. At each stage results were compared and discrepancies solved through discussion. MAIN RESULTS: The search strategy yielded 4239 records. After the full text assessment, no studies met the quality criteria used by the EPOC Group and evaluated the effectiveness of strategies to change organisational culture to improve healthcare performance. AUTHORS' CONCLUSIONS: It is not possible to draw any conclusions about the effectiveness of strategies to change organisational culture because we found no studies that fulfilled the methodological criteria for this review. Research efforts should focus on strengthening the evidence about the effectiveness of methods to change organisational culture to improve health care performance.

Peytremann-Bridevaux, I., et al. (2015). "Chronic disease management programmes for adults with asthma." Cochrane Database Syst Rev(5): Cd007988.

BACKGROUND: The burden of asthma on patients and healthcare systems is substantial. Interventions have been developed to overcome difficulties in asthma management. These include chronic disease management programmes, which are more than simple patient education, encompassing a set of coherent interventions that centre on the patients' needs, encouraging the co-ordination and integration of health services provided by a variety of healthcare professionals, and emphasising patient self-management as well as patient education. OBJECTIVES: To evaluate the effectiveness of chronic disease management programmes for adults with asthma. SEARCH METHODS: Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Effective Practice and Organisation of Care (EPOC) Group Specialised Register, MEDLINE (MEDLINE In-Process and Other Non-Indexed Citations), EMBASE, CINAHL, and PsycINFO were searched up to June 2014. We also handsearched selected journals from 2000 to 2012 and scanned reference lists of relevant reviews. SELECTION CRITERIA: We included individual or cluster-randomised controlled trials, non-randomised controlled trials, and controlled before-after studies comparing chronic disease management programmes with usual care in adults over 16 years of age with a diagnosis of asthma. The chronic disease management programmes had to satisfy at least the following five criteria: an organisational component targeting patients; an organisational component targeting healthcare professionals or the healthcare system, or both; patient education or self-management support, or both; active involvement of two or more healthcare professionals in patient care; a minimum duration of three months. DATA COLLECTION AND ANALYSIS: After an initial screen of the titles, two review authors working independently assessed the studies for eligibility and study quality; they also extracted the data. We contacted authors to obtain missing information and additional data, where necessary. We pooled results using the random-effects model and reported the pooled mean or standardised mean differences (SMDs). MAIN RESULTS: A total of 20 studies including 81,746 patients (median 129.5) were included in this review, with a follow-up ranging from 3 to more than 12 months. Patients' mean age was 42.5 years, 60% were female, and their asthma was mostly rated as moderate to severe. Overall the studies were of moderate to low methodological quality, because of limitations in their design and the wide confidence intervals for certain results.Compared with usual care, chronic disease management programmes resulted in improvements in asthma-specific quality of life (SMD 0.22, 95% confidence interval (CI) 0.08 to 0.37), asthma severity scores (SMD 0.18, 95% CI 0.05 to 0.30), and lung function tests (SMD 0.19, 95% CI 0.09 to 0.30). The data for improvement in self-efficacy scores were

inconclusive (SMD 0.51, 95% CI -0.08 to 1.11). Results on hospitalisations and emergency department or unscheduled visits could not be combined in a meta-analysis because the data were too heterogeneous; results from the individual studies were inconclusive overall. Only a few studies reported results on asthma exacerbations, days off work or school, use of an action plan, and patient satisfaction. Meta-analyses could not be performed for these outcomes. AUTHORS' CONCLUSIONS: There is moderate to low quality evidence that chronic disease management programmes for adults with asthma can improve asthma-specific quality of life, asthma severity, and lung function tests. Overall, these results provide encouraging evidence of the potential effectiveness of these programmes in adults with asthma when compared with usual care. However, the optimal composition of asthma chronic disease management programmes and their added value, compared with education or self-management alone that is usually offered to patients with asthma, need further investigation.

Reeves, S., et al. (2017). "Interprofessional collaboration to improve professional practice and healthcare outcomes." Cochrane Database Syst Rev **6**: Cd000072.

BACKGROUND: Poor interprofessional collaboration (IPC) can adversely affect the delivery of health services and patient care. Interventions that address IPC problems have the potential to improve professional practice and healthcare outcomes. OBJECTIVES: To assess the impact of practice-based interventions designed to improve interprofessional collaboration (IPC) amongst health and social care professionals, compared to usual care or to an alternative intervention, on at least one of the following primary outcomes: patient health outcomes, clinical process or efficiency outcomes or secondary outcomes (collaborative behaviour). SEARCH METHODS: We searched CENTRAL (2015, issue 11), MEDLINE, CINAHL, ClinicalTrials.gov and WHO International Clinical Trials Registry Platform to November 2015. We handsearched relevant interprofessional journals to November 2015, and reviewed the reference lists of the included studies. SELECTION CRITERIA: We included randomised trials of practice-based IPC interventions involving health and social care professionals compared to usual care or to an alternative intervention. DATA COLLECTION AND ANALYSIS: Two review authors independently assessed the eligibility of each potentially relevant study. We extracted data from the included studies and assessed the risk of bias of each study. We were unable to perform a meta-analysis of study outcomes, given the small number of included studies and their heterogeneity in clinical settings, interventions and outcomes. Consequently, we summarised the study data and presented the results in a narrative format to report study methods, outcomes, impact and certainty of the evidence. MAIN RESULTS: We included nine studies in total (6540 participants); six cluster-randomised trials and three individual randomised trials (1 study randomised clinicians, 1 randomised patients, and 1 randomised clinicians and patients). All studies were conducted in high-income countries (Australia, Belgium, Sweden, UK and USA) across primary, secondary, tertiary and community care settings and had a follow-up of up to 12 months. Eight studies compared an IPC intervention with usual care and evaluated the effects of different practice-based IPC interventions: externally facilitated interprofessional activities (e.g. team action planning; 4 studies), interprofessional rounds (2 studies), interprofessional meetings (1 study), and interprofessional checklists (1 study). One study compared one type of interprofessional meeting with another type of interprofessional meeting. We assessed four studies to be at high risk of attrition bias and an equal number of studies to be at high risk of detection bias.For studies comparing an IPC intervention with usual care, functional status in stroke patients may be slightly improved by externally facilitated interprofessional activities (1 study, 464 participants, low-certainty evidence). We are uncertain whether patient-assessed quality of care (1 study, 1185 participants), continuity of care (1 study, 464 participants) or collaborative working (4 studies, 1936 participants) are improved by externally facilitated interprofessional activities, as we graded the evidence as very low-certainty for these outcomes. Healthcare professionals' adherence to recommended practices may be slightly improved with externally facilitated interprofessional activities or interprofessional meetings (3 studies, 2576 participants, low certainty evidence). The use of healthcare resources may be slightly improved by externally facilitated interprofessional activities, interprofessional checklists and rounds (4 studies, 1679 participants, low-certainty evidence). None of the included studies reported on patient mortality, morbidity or complication rates.Compared to multidisciplinary audio conferencing, multidisciplinary

video conferencing may reduce the average length of treatment and may reduce the number of multidisciplinary conferences needed per patient and the patient length of stay. There was little or no difference between these interventions in the number of communications between health professionals (1 study, 100 participants; low-certainty evidence). AUTHORS' CONCLUSIONS: Given that the certainty of evidence from the included studies was judged to be low to very low, there is not sufficient evidence to draw clear conclusions on the effects of IPC interventions. Neverthess, due to the difficulties health professionals encounter when collaborating in clinical practice, it is encouraging that research on the number of interventions to improve IPC has increased since this review was last updated. While this field is developing, further rigorous, mixed-method studies are required. Future studies should focus on longer acclimatisation periods before evaluating newly implemented IPC interventions, and use longer follow-up to generate a more informed understanding of the effects of IPC on clinical practice.

Rose, L., et al. (2017). "Patient- and family-centered performance measures focused on actionable processes of care for persistent and chronic critical illness: protocol for a systematic review." Syst Rev **6**(1): 84.

BACKGROUND: Approximately 5 to 10% of critically ill patients transition from acute critical illness to a state of persistent and in some cases chronic critical illness. These patients have unique and complex needs that require a change in the clinical management plan and overall goals of care to a focus on rehabilitation, symptom relief, discharge planning, and in some cases, end-of-life care. However, existing indicators and measures of care quality, and tools such as checklists, that foster implementation of best practices, may not be sufficiently inclusive in terms of actionable processes of care relevant to these patients. Therefore, the aim of this systematic review is to identify the processes of care, performance measures, quality indicators, and outcomes including reports of patient/family experience described in the current evidence base relevant to patients with persistent or chronic critical illness and their family members. METHODS: Two authors will independently search from inception to November 2016: MEDLINE, Embase, CINAHL, Web of Science, the Cochrane Library, PROSPERO, the Joanna Briggs Institute and the International Clinical Trials Registry Platform. We will include all study designs except case series/reports of <10 patients describing their study population (aged 18 years and older) using terms such as persistent critical illness, chronic critical illness, and prolonged mechanical ventilation. Two authors will independently perform data extraction and complete risk of bias assessment. Our primary outcome is to determine actionable processes of care and interventions deemed relevant to patients experiencing persistent or chronic critical illness and their family members. Secondary outcomes include (1) performance measures and quality indicators considered relevant to our population of interest and (2) themes related to patient and family experience. DISCUSSION: We will use our systematic review findings, with data from patient, family member and clinician interviews, and a subsequent consensus building process to inform the development of quality metrics and tools to measure processes of care, outcomes and experience for patients experiencing persistent or chronic critical illness and their family members. SYSTEMATIC REVIEW REGISTRATION: PROSPERO CRD42016052715.

Smith, S. M., et al. (2017). "Shared care across the interface between primary and specialty care in management of long term conditions." Cochrane Database Syst Rev **2**: Cd004910.

BACKGROUND: Shared care has been used in the management of many chronic conditions with the assumption that it delivers better care than primary or specialty care alone; however, little is known about the effectiveness of shared care. OBJECTIVES: To determine the effectiveness of shared care health service interventions designed to improve the management of chronic disease across the primary/specialty care interface. This is an update of a previously published review. Secondary questions include the following:1. Which shared care interventions or portions of shared care interventions are most effective?2. What do the most effective systems have in common? SEARCH METHODS: We searched MEDLINE, Embase and the Cochrane Library to 12 October 2015. SELECTION CRITERIA: One review author performed the initial abstract screen; then two review authors independently screened and selected studies for inclusion. We considered randomised controlled trials (RCTs), non-randomised controlled trials (NRCTs), controlled before-after studies (CBAs) and

interrupted time series analyses (ITS) evaluating the effectiveness of shared care interventions for people with chronic conditions in primary care and community settings. The intervention was compared with usual care in that setting. DATA COLLECTION AND ANALYSIS: Two review authors independently extracted data from the included studies, evaluated study quality and judged the certainty of the evidence using the GRADE approach. We conducted a meta-analysis of results when possible and carried out a narrative synthesis of the remainder of the results. We presented the results in a 'Summary of findings' table, using a tabular format to show effect sizes for all outcome types. MAIN RESULTS: We identified 42 studies of shared care interventions for chronic disease management (N = 18,859), 39 of which were RCTs, two CBAs and one an NRCT. Of these 42 studies, 41 examined complex multi-faceted interventions and lasted from six to 24 months. Overall, our confidence in results regarding the effectiveness of interventions ranged from moderate to high certainty. Results showed probably few or no differences in clinical outcomes overall with a tendency towards improved blood pressure management in the small number of studies on shared care for hypertension, chronic kidney disease and stroke (mean difference (MD) 3.47, 95% confidence interval (CI) 1.68 to 5.25)(based on moderate-certainty evidence). Mental health outcomes improved, particularly in response to depression treatment (risk ratio (RR) 1.40, 95% confidence interval (CI) 1.22 to 1.62; six studies, N = 1708) and recovery from depression (RR 2.59, 95% CI 1.57 to 4.26; 10 studies, N = 4482) in studies examining the 'stepped care' design of shared care interventions (based on high-certainty evidence). Investigators noted modest effects on mean depression scores (standardised mean difference (SMD) -0.29, 95% CI -0.37 to -0.20; six studies, N = 3250). Differences in patient-reported outcome measures (PROMs), processes of care and participation and default rates in shared care services were probably limited (based on moderate-certainty evidence). Studies probably showed little or no difference in hospital admissions, service utilisation and patient health behaviours (with evidence of moderate certainty). AUTHORS' CONCLUSIONS: This review suggests that shared care improves depression outcomes and probably has mixed or limited effects on other outcomes. Methodological shortcomings, particularly inadequate length of follow-up, may account in part for these limited effects. Review findings support the growing evidence base for shared care in the management of depression, particularly stepped care models of shared care. Shared care interventions for other conditions should be developed within research settings, with account taken of the complexity of such interventions and awareness of the need to carry out longer studies to test effectiveness and sustainability over time.

Smith, S. M., et al. (2016). "Interventions for improving outcomes in patients with multimorbidity in primary care and community settings." Cochrane Database Syst Rev **3**: Cd006560.

BACKGROUND: Many people with chronic disease have more than one chronic condition, which is referred to as multimorbidity. The term comorbidity is also used but this is now taken to mean that there is a defined index condition with other linked conditions, for example diabetes and cardiovascular disease. It is also used when there are combinations of defined conditions that commonly co-exist, for example diabetes and depression. While this is not a new phenomenon, there is greater recognition of its impact and the importance of improving outcomes for individuals affected. Research in the area to date has focused mainly on descriptive epidemiology and impact assessment. There has been limited exploration of the effectiveness of interventions to improve outcomes for people with multimorbidity. OBJECTIVES: To determine the effectiveness of health-service or patient-oriented interventions designed to improve outcomes in people with multimorbidity in primary care and community settings. Multimorbidity was defined as two or more chronic conditions in the same individual. SEARCH METHODS: We searched MEDLINE, EMBASE, CINAHL and seven other databases to 28 September 2015. We also searched grey literature and consulted experts in the field for completed or ongoing studies. SELECTION CRITERIA: Two review authors independently screened and selected studies for inclusion. We considered randomised controlled trials (RCTs), non-randomised clinical trials (NRCTs), controlled before-after studies (CBAs), and interrupted time series analyses (ITS) evaluating interventions to improve outcomes for people with multimorbidity in primary care and community settings. Multimorbidity was defined as two or more chronic conditions in the same individual. This includes studies where participants can have combinations of any condition or have combinations of pre-specified common conditions (comorbidity), for example, hypertension and cardiovascular

disease. The comparison was usual care as delivered in that setting. DATA COLLECTION AND ANALYSIS: Two review authors independently extracted data from the included studies, evaluated study quality, and judged the certainty of the evidence using the GRADE approach. We conducted a meta-analysis of the results where possible and carried out a narrative synthesis for the remainder of the results. We present the results in a 'Summary of findings' table and tabular format to show effect sizes across all outcome types. MAIN RESULTS: We identified 18 RCTs examining a range of complex interventions for people with multimorbidity. Nine studies focused on defined comorbid conditions with an emphasis on depression, diabetes and cardiovascular disease. The remaining studies focused on multimorbidity, generally in older people. In 12 studies, the predominant intervention element was a change to the organisation of care delivery, usually through case management or enhanced multidisciplinary team work. In six studies, the interventions were predominantly patient-oriented, for example, educational or self-management support-type interventions delivered directly to participants. Overall our confidence in the results regarding the effectiveness of interventions ranged from low to high certainty. There was little or no difference in clinical outcomes (based on moderate certainty evidence). Mental health outcomes improved (based on high certainty evidence) and there were modest reductions in mean depression scores for the comorbidity studies that targeted participants with depression (standardized mean difference (SMD) -2.23, 95% confidence interval (CI) -2.52 to -1.95). There was probably a small improvement in patient-reported outcomes (moderate certainty evidence) although two studies that specifically targeted functional difficulties in participants had positive effects on functional outcomes with one of these studies also reporting a reduction in mortality at four year follow-up (Int 6%, Con 13%, absolute difference 7%). The intervention may make little or no difference to health service use (low certainty evidence), may slightly improve medication adherence (low certainty evidence), probably slightly improves patient-related health behaviours (moderate certainty evidence), and probably improves provider behaviour in terms of prescribing behaviour and quality of care (moderate certainty evidence). Cost data were limited. AUTHORS' CONCLUSIONS: This review identifies the emerging evidence to support policy for the management of people with multimorbidity and common comorbidities in primary care and community settings. There are remaining uncertainties about the effectiveness of interventions for people with multimorbidity in general due to the relatively small number of RCTs conducted in this area to date, with mixed findings overall. It is possible that the findings may change with the inclusion of large ongoing well-organised trials in future updates. The results suggest an improvement in health outcomes if interventions can be targeted at risk factors such as depression, or specific functional difficulties in people with multimorbidity.

Swan, M., et al. (2015). "Quality of primary care by advanced practice nurses: a systematic review." Int J Qual Health Care **27**(5): 396-404.
https://www.ncbi.nlm.nih.gov/pubmed/26239474

PURPOSE: To conduct a systematic review of randomized controlled trials (RCTs) of the safety and effectiveness of primary care provided by advanced practice nurses (APNs) and evaluate the potential of their deployment to help alleviate primary care shortages. DATA SOURCES: PubMed, Medline and the Cumulative Index to Nursing and Allied Health Literature. STUDY SELECTION: RCTs and their follow-up reports that compared outcomes of care provided to adults by APNs and physicians in equivalent primary care provider roles were selected for inclusion. DATA EXTRACTION: Ten articles (seven RCTs, plus two economic evaluations and one 2-year follow-up study of included RCTs) met inclusion criteria. Data were extracted regarding study design, setting and outcomes across four common categories. RESULTS OF DATA SYNTHESIS: The seven RCTs include data for 10 911 patients who presented for ongoing primary care (four RCTs) or same-day consultations for acute conditions (three RCTs) in the primary care setting. Study follow-up ranged from 1 day to 2 years. APN groups demonstrated equal or better outcomes than physician groups for physiologic measures, patient satisfaction and cost. APNs generally had longer consultations compared with physicians; however, two studies reported that APN patients required fewer consultations over time. CONCLUSION: There were few differences in primary care provided by APNs and physicians; for some measures APN care was superior. While studies are needed to assess longer term outcomes, these data suggest that the APN workforce is well-positioned to provide safe and effective primary care.

Threapleton, D. E., et al. (2017). "Integrated care for older populations and its implementation facilitators and barriers: A rapid scoping review." Int J Qual Health Care **29**(3): 327-334.

Purpose: Inform health system improvements by summarizing components of integrated care in older populations. Identify key implementation barriers and facilitators. Data sources: A scoping review was undertaken for evidence from MEDLINE, the Cochrane Library, organizational websites and internet searches. Eligible publications included reviews, reports, individual studies and policy documents published from 2005 to February 2017. Study selection: Initial eligible documents were reviews or reports concerning integrated care approaches in older/frail populations. Other documents were later sourced to identify and contextualize implementation issues. Data extraction: Study findings and implementation barriers and facilitators were charted and thematically synthesized. Results of data synthesis: Thematic synthesis using 30 publications identified 8 important components for integrated care in elderly and frail populations: (i) care continuity/transitions; (ii) enabling policies/governance; (iii) shared values/goals; (iv) person-centred care; (v) multi-/inter-disciplinary services; (vi) effective communication; (vii) case management; (viii) needs assessments for care and discharge planning. Intervention outcomes and implementation issues (barriers or facilitators) tend to depend heavily on the context and programme objectives. Implementation issues in four main areas were observed: (i) Macro-level contextual factors; (ii) Miso-level system organization (funding, leadership, service structure and culture); (iii) Miso-level intervention organization (characteristics, resources and credibility) and (iv) Micro-level factors (shared values, engagement and communication). Conclusion: Improving integration in care requires many components. However, local barriers and facilitators need to be considered. Changes are expected to occur slowly and are more likely to be successful where elements of integrated care are well incorporated into local settings.

Tzortziou Brown, V., et al. (2016). "Professional interventions for general practitioners on the management of musculoskeletal conditions." Cochrane Database Syst Rev(5): Cd007495.

BACKGROUND: Musculoskeletal conditions require particular management skills. Identification of interventions which are effective in equipping general practitioners (GPs) with such necessary skills could translate to improved health outcomes for patients and reduced healthcare and societal costs. OBJECTIVES: To determine the effectiveness of professional interventions for GPs that aim to improve the management of musculoskeletal conditions in primary care. SEARCH METHODS: We searched the Cochrane Central Register of Controlled Trials (CENTRAL), 2010, Issue 2; MEDLINE, Ovid (1950 - October 2013); EMBASE, Ovid (1980 - Ocotber 2013); CINAHL, EbscoHost (1980 - November 2013), and the EPOC Specialised Register. We conducted cited reference searches using ISI Web of Knowledge and Google Scholar; and handsearched selected issues of Arthritis and Rheumatism and Primary Care-Clinics in Office Practice. The latest search was conducted in November 2013. SELECTION CRITERIA: We included randomised controlled trials (RCTs), non-randomised controlled trials (NRCTs), controlled before-and-after studies (CBAs) and interrupted time series (ITS) studies of professional interventions for GPs, taking place in a community setting, aiming to improve the management (including diagnosis and treatment) of musculoskeletal conditions and reporting any objective measure of GP behaviour, patient or economic outcomes. We considered professional interventions of any length, duration, intensity and complexity compared with active or inactive controls. DATA COLLECTION AND ANALYSIS: Two review authors independently abstracted all data. We calculated the risk difference (RD) and risk ratio (RR) of compliance with desired practice for dichotomous outcomes, and the mean difference (MD) and standardised mean difference (SMD) for continuous outcomes. We investigated whether the direction of the targeted behavioural change affects the effectiveness of interventions. MAIN RESULTS: Thirty studies met our inclusion criteria.From 11 studies on osteoporosis, meta-analysis of five studies (high-certainty evidence) showed that a combination of a GP alerting system on a patient's increased risk of osteoporosis and a patient-directed intervention (including patient education and a reminder to see their GP) improves GP behaviour with regard to diagnostic bone mineral density (BMD) testing and osteoporosis medication prescribing (RR 4.44; (95% confidence interval (CI) 3.54 to 5.55; 3 studies; 3,386 participants)) for BMD and RR 1.71 (95% CI 1.50 to 1.94; 5 studies; 4,223 participants) for osteoporosis medication. Meta-analysis of two studies showed that GP alerting on its

own also probably improves osteoporosis guideline-consistent GP behaviour (RR 4.75 (95% CI 3.62 to 6.24; 3,047 participants)) for BMD and RR 1.52 (95% CI 1.26 to 1.84; 3.047 participants) for osteoporosis medication) and that adding the patient-directed component probably does not lead to a greater effect (RR 0.94 (95% CI 0.81 to 1.09; 2,995 participants)) for BMD and RR 0.93 (95% CI 0.79 to 1.10; 2,995 participants) for osteoporosis medication.Of the 10 studies on low back pain, seven showed that guideline dissemination and educational opportunities for GPs may lead to little or no improvement with regard to guideline-consistent GP behaviour. Two studies showed that the combination of guidelines and GP feedback on the total number of investigations requested may have an effect on GP behaviour and result in a slight reduction in the number of tests, while one of these studies showed that the combination of guidelines and GP reminders attached to radiology reports may result in a small but sustained reduction in the number of investigation requests.Of the four studies on osteoarthritis, one study showed that using educationally influential physicians may result in improvement in guideline-consistent GP behaviour. Another study showed slight improvements in patient outcomes (pain control) after training GPs on pain management.Of three studies on shoulder pain, one study reported that there may be little or no improvement in patient outcomes (functional capacity) after GP education on shoulder pain and injection training.Of two studies on other musculoskeletal conditions, one study on pain management showed that there may be worse patient outcomes (pain control) after GP training on the use of validated assessment scales.The 12 remaining studies across all musculoskeletal conditions showed little or no improvement in GP behaviour and patient outcomes.The direction of the targeted behaviour (i.e. increasing or decreasing a behaviour) does not seem to affect the effectiveness of an intervention. The majority of the studies did not investigate the potential adverse effects of the interventions and only three studies included a cost-effectiveness analysis.Overall, there were important methodological limitations in the body of evidence, with just a third of the studies reporting adequate allocation concealment and blinded outcome assessments. While our confidence in the pooled effect estimate of interventions for improving diagnostic testing and medication prescribing in osteoporosis is high, our confidence in the reported effect estimates in the remaining studies is low. AUTHORS' CONCLUSIONS: There is good-quality evidence that a GP alerting system with or without patient-directed education on osteoporosis improves guideline-consistent GP behaviour, resulting in better diagnosis and treatment rates.Interventions such as GP reminder messages and GP feedback on performance combined with guideline dissemination may lead to small improvements in guideline-consistent GP behaviour with regard to low back pain, while GP education on osteoarthritis pain and the use of educationally influential physicians may lead to slight improvement in patient outcomes and guideline-consistent behaviour respectively. However, further studies are needed to ascertain the effectiveness of such interventions in improving GP behaviour and patient outcomes.

Zwarenstein, M., et al. (2009). "Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes." Cochrane Database Syst Rev(3): Cd000072.

BACKGROUND: Poor interprofessional collaboration (IPC) can negatively affect the delivery of health services and patient care. Interventions that address IPC problems have the potential to improve professional practice and healthcare outcomes. OBJECTIVES: To assess the impact of practice-based interventions designed to change IPC, compared to no intervention or to an alternate intervention, on one or more of the following primary outcomes: patient satisfaction and/or the effectiveness and efficiency of the health care provided. Secondary outcomes include the degree of IPC achieved. SEARCH STRATEGY: We searched the Cochrane Effective Practice and Organisation of Care Group Specialised Register (2000-2007), MEDLINE (1950-2007) and CINAHL (1982-2007). We also handsearched the Journal of Interprofessional Care (1999 to 2007) and reference lists of the five included studies. SELECTION CRITERIA: Randomised controlled trials of practice-based IPC interventions that reported changes in objectively-measured or self-reported (by use of a validated instrument) patient/client outcomes and/or health status outcomes and/or healthcare process outcomes and/or measures of IPC. DATA COLLECTION AND ANALYSIS: At least two of the three reviewers independently assessed the eligibility of each potentially relevant study. One author extracted data from and assessed risk of bias of included studies, consulting with the other authors when necessary. A meta-analysis of study outcomes was not possible given the small number of

included studies and their heterogeneity in relation to clinical settings, interventions and outcome measures. Consequently, we summarised the study data and presented the results in a narrative format. MAIN RESULTS: Five studies met the inclusion criteria; two studies examined interprofessional rounds, two studies examined interprofessional meetings, and one study examined externally facilitated interprofessional audit. One study on daily interdisciplinary rounds in inpatient medical wards at an acute care hospital showed a positive impact on length of stay and total charges, but another study on daily interdisciplinary rounds in a community hospital telemetry ward found no impact on length of stay. Monthly multidisciplinary team meetings improved prescribing of psychotropic drugs in nursing homes. Videoconferencing compared to audioconferencing multidisciplinary case conferences showed mixed results; there was a decreased number of case conferences per patient and shorter length of treatment, but no differences in occasions of service or the length of the conference. There was also no difference between the groups in the number of communications between health professionals recorded in the notes. Multidisciplinary meetings with an external facilitator, who used strategies to encourage collaborative working, was associated with increased audit activity and reported improvements to care. AUTHORS' CONCLUSIONS: In this updated review, we found five studies (four new studies) that met the inclusion criteria. The review suggests that practice-based IPC interventions can improve healthcare processes and outcomes, but due to the limitations in terms of the small number of studies, sample sizes, problems with conceptualising and measuring collaboration, and heterogeneity of interventions and settings, it is difficult to draw generalisable inferences about the key elements of IPC and its effectiveness. More rigorous, cluster randomised studies with an explicit focus on IPC and its measurement, are needed to provide better evidence of the impact of practice-based IPC interventions on professional practice and healthcare outcomes. These studies should include qualitative methods to provide insight into how the interventions affect collaboration and how improved collaboration contributes to changes in outcomes.

Autres études

Artenstein, A. W., et al. (2015). "Promoting high value inpatient care via a coaching model of structured, interdisciplinary team rounds." Br J Hosp Med (Lond) **76**(1): 41-45.

The professional development of early career hospital physicians may be improved by embedding an experienced physician in a coaching role during structured, interdisciplinary team rounds. This article gives a descriptive report of such a model and discusses how it may promote delivery of high-value care to adult inpatients.

Bell, B., et al. (2014). "Tools for measuring patient safety in primary care settings using the RAND/UCLA appropriateness method." BMC Fam Pract **15**(1): 110-110.

The majority of patient contacts occur in general practice but general practice patient safety has been poorly described and under-researched to date compared to hospital settings. Our objective was to produce a set of patient safety tools and indicators that can be used in general practices in any healthcare setting and develop a ?toolkit? of feasible patient safety measures for general practices in England.

Betancourt, J. R. (2014). "In pursuit of high-value healthcare: the case for improving quality and achieving equity in a time of healthcare transformation." Front Health Serv Manage **30**(3): 16-31.

The passage of the Patient Protection and Affordable Care Act and current efforts in payment reform signal the beginning of a significant transformation for the US healthcare system. As we embark on this transformation, disparities have emerged as the hallmark of low-value healthcare--care that does not meet quality standards, is inefficient, and is usually of high cost. A new set of structures is being developed to facilitate increased access to care that is cost-effective and high in quality--otherwise known as high-value healthcare. Addressing disparities and achieving equity are the perfect target areas for recouping value, and doing so will pave the way for high-value healthcare. As healthcare

leaders make difficult choices, they should consider the realities of healthcare equity. First, racial and ethnic disparities in healthcare persist and are a clear sign of poor-quality, low-value healthcare. Second, the root causes of these disparities are complex, but a well-developed set of evidence-based approaches is available to help leaders address healthcare inequity. Third, evidence suggests that being inattentive to the root causes of disparities adversely affects efficiency and an organization's bottom line. Finally, if healthcare organizations are progressive, thoughtful, and prepared for success in such an environment, a new healthcare system that offers accessible, high-value, equitable, culturally competent, and high-quality care to all is well within reach.

Buchert, A. R. et Butler, G. A. (2016). "Clinical Pathways: Driving High-Reliability and High-Value Care." Pediatr Clin North Am **63**(2): 317-328.

Health care in the United States is plagued by errors, inconsistencies, and inefficiencies. It is also extremely costly. Clinical pathways can drive high-value care and high reliability within a health care organization. Clinical pathways are much more than just guidelines or order sets as a part of a protocol of care, however; they must incorporate multiple elements that are critical to their successful implementation and sustainability. Additionally, clinical pathways can be utilized to accomplish strategic goals of the organization while fulfilling the quality, safety, and clinical aspects of the organization's mission.

Cramm, J. M. et Nieboer, A. P. (2013). "High-quality chronic care delivery improves experiences of chronically ill patients receiving care." Int J Qual.Health Care **25**(6): 689-695.

OBJECTIVE: /st> Investigate whether high-quality chronic care delivery improved the experiences of patients. DESIGN: /st> This study had a longitudinal design. SETTING AND PARTICIPANTS: /st> We surveyed professionals and patients in 17 disease management programs targeting patients with cardiovascular diseases, chronic obstructive pulmonary disease, heart failure, stroke, comorbidity and eating disorders. MAIN OUTCOME MEASURES: /st> Patients completed questionnaires including the Patient Assessment of Chronic Illness Care (PACIC) [T1 (2010), 2637/4576 (58%); T2 (2011), 2314/4330 (53%)]. Professionals' Assessment of Chronic Illness Care (ACIC) scores [T1, 150/274 (55%); T2, 225/325 (68%)] were used as a context variable for care delivery. We used two-tailed, paired t-tests to investigate improvements in chronic illness care quality and patients' experiences with chronic care delivery. We employed multilevel analyses to investigate the predictive role of chronic care delivery quality in improving patients' experiences with care delivery. RESULTS: /st> Overall, care quality and patients' experiences with chronic illness care delivery significantly improved. PACIC scores improved significantly from 2.89 at T1 to 2.96 at T2 and ACIC-S scores improved significantly from 6.83 at T1 to 7.18 at T2. After adjusting for patients' experiences with care delivery at T1, age, educational level, marital status, gender and mental and physical quality of life, analyses showed that the quality of chronic care delivery at T1 ($P < 0.001$) and changes in care delivery quality ($P < 0.001$) predicted patients' experiences with chronic care delivery at T2. CONCLUSION: /st> This research showed that care quality and changes therein predict more positive experiences of patients with various chronic conditions over time

Cramm, J. M. et Nieboer, A. P. (2014). "Short and long term improvements in quality of chronic care delivery predict program sustainability." Soc Sci Med **101**: 148-154.

Empirical evidence on sustainability of programs that improve the quality of care delivery over time is lacking. Therefore, this study aims to identify the predictive role of short and long term improvements in quality of chronic care delivery on program sustainability. In this longitudinal study, professionals [2010 (T0): n=218, 55% response rate; 2011 (T1): n=300, 68% response rate; 2012 (T2): n=265, 63% response rate] from 22 Dutch disease-management programs completed surveys assessing quality of care and program sustainability. Our study findings indicated that quality of chronic care delivery improved significantly in the first 2 years after implementation of the disease-management programs. At T1, overall quality, self-management support, delivery system design, and integration of chronic care components, as well as health care delivery and clinical information systems and decision

support, had improved. At T2, overall quality again improved significantly, as did community linkages, delivery system design, clinical information systems, decision support and integration of chronic care components, and self-management support. Multilevel regression analysis revealed that quality of chronic care delivery at T0 ($p<0.001$) and quality changes in the first ($p<0.001$) and second ($p<0.01$) years predicted program sustainability. In conclusion this study showed that disease-management programs based on the chronic care model improved the quality of chronic care delivery over time and that short and long term changes in the quality of chronic care delivery predicted the sustainability of the projects

Elshaug, A. G., et al. (2017). "Levers for addressing medical underuse and overuse: achieving high-value health care." Lancet **390**(10090): 191-202.

The preceding papers in this Series have outlined how underuse and overuse of health-care services occur within a complex system of health-care production, with a multiplicity of causes. Because poor care is ubiquitous and has considerable consequences for the health and wellbeing of billions of people around the world, remedying this problem is a morally and politically urgent task. Universal health coverage is a key step towards achieving the right care. Therefore, full consideration of potential levers of change must include an upstream perspective-ie, an understanding of the system-level factors that drive overuse and underuse, as well as the various incentives at work during a clinical encounter. One example of a system-level factor is the allocation of resources (eg, hospital beds and clinicians) to meet the needs of a local population to minimise underuse or overuse. Another example is priority setting using tools such as health technology assessment to guide the optimum diffusion of safe, effective, and cost-effective health-care services. In this Series paper we investigate a range of levers for eliminating medical underuse and overuse. Some levers could operate effectively (and be politically viable) across many different health and political systems (eg, increase patient activation with decision support) whereas other levers must be tailored to local contexts (eg, basing coverage decisions on a particular cost-effectiveness ratio). Ideally, policies must move beyond the purely incremental; that is, policies that merely tinker at the policy edges after underuse or overuse arises. In this regard, efforts to increase public awareness, mobilisation, and empowerment hold promise as universal methods to reset all other contexts and thereby enhance all other efforts to promote the right care.

Gordon, J. E., et al. (2014). "Delivering value: provider efforts to improve the quality and reduce the cost of health care." Annu Rev Med **65**: 447-458.

Growing concern regarding costs of care and health outcomes in the United States has led to widespread calls to address the issue of health care spending. Today, providers across the country are working both to improve the quality and to reduce the cost of health care. These activities span multiple care delivery settings and include care standardization and redesign, shared decision making, palliative care, care coordination, readmission reduction, patient engagement, predictive modeling, and direct cost reduction. These efforts differ from those undertaken in the past because of the availability of information technology tools to collect and analyze data, and because of the emphasis on cost reduction in conjunction with quality improvement. Although the available literature reflects only a small fraction of the provider activities currently in progress, there is cause for hope for achieving a sustainable, innovative, and value-driven health care system.

Greene, J. et Sacks, R. M. (2018). "Presenting Cost and Efficiency Measures That Support Consumers to Make High-Value Health Care Choices." Health Serv Res.

OBJECTIVE: To identify approaches to presenting cost and resource use measures that support consumers in selecting high-value hospitals. DATA SOURCES: Survey data were collected from U.S. employees of Analog Devices (n = 420). STUDY DESIGN: In two online experiments, participants viewed comparative data on four hospitals. In one experiment, participants were randomized to view one of five versions of the same comparative cost data, and in the other experiment they viewed different versions of the same readmissions data. Bivariate and multivariate analyses examined whether

presentation approach was related to selecting the high-value hospital. PRINCIPAL FINDINGS: Consumers were approximately 16 percentage points more likely to select a high-value hospital when cost data were presented using actual dollar amounts or using the word "affordable" to describe low-cost hospitals, compared to when the Hospital Compare spending ratio was used. Consumers were 33 points more likely to select the highest performing hospital when readmission performance was shown using word icons rather than percentages. CONCLUSIONS: Presenting cost and resource use measures effectively to consumers is challenging. This study suggests using actual dollar amounts for cost, but presenting performance on readmissions using evaluative symbols.

Hansen, M. (2012). "Saving money and improving care by integrating health care." NCSL Legisbrief **20**(6): 1-2.

Hardin, L., et al. (2017). "Cross-Continuum Tool Is Associated with Reduced Utilization and Cost for Frequent High-Need Users." West J Emerg Med **18**(2): 189-200.

INTRODUCTION: High-need, high-cost (HNHC) patients can over-use acute care services, a pattern of behavior associated with many poor outcomes that disproportionately contributes to increased U.S. healthcare cost. Our objective was to reduce healthcare cost and improve outcomes by optimizing the system of care. We targeted HNHC patients and identified root causes of frequent healthcare utilization. We developed a cross-continuum intervention process and a succinct tool called a Complex Care Map (CCM)(c) that addresses fragmentation in the system and links providers to a comprehensive individualized analysis of the patient story and causes for frequent access to health services. METHODS: Using a pre-/post-test design in which each subject served as his/her own historical control, this quality improvement project focused on determining if the interdisciplinary intervention called CCM(c) had an impact on healthcare utilization and costs for HNHC patients. We conducted the analysis between November 2012 and December 2015 at Mercy Health Saint Mary's, a Midwestern urban hospital with greater than 80,000 annual emergency department (ED) visits. All referred patients with three or more hospital visits (ED or inpatient [IP]) in the 12 months prior to initiation of a CCM(c) (n=339) were included in the study. Individualized CCMs(c) were created and made available in the electronic medical record (EMR) to all healthcare providers. We compared utilization, cost, social, and healthcare access variables from the EMR and cost-accounting system for 12 months before and after CCMs(c) implementation. We used both descriptive and limited inferential statistics. RESULTS: ED mean visits decreased 43% (p<0.001), inpatient mean admissions decreased 44% (p<0.001), outpatient mean visits decreased 17% (p<0.001), computed tomography mean scans decreased 62% (p<0.001), and OBS/IP length of stay mean days decreased 41% (p<0.001). Gross charges decreased 45% (p<0.001), direct expenses decreased 47% (p<0.001), contribution margin improved by 11% (p=0.002), and operating margin improved by 73% (p<0.001). Patients with housing increased 14% (p<0.001), those with primary care increased 15% (p<0.001), and those with insurance increased 16% (p<0.001). CONCLUSION: Individualized CCMs(c) for a select group of patients are associated with decreased healthcare system overutilization and cost of care.

Johnson, P. T., et al. (2017). "Transitioning to a High Value Health Care Model: Academic Accountability." Acad Med.

Health care spending in the United States has increased to unprecedented levels, and these costs have broken medical providers' promise to do no harm. Medical debt is the leading contributor to U.S. personal bankruptcy, more than 50% of household foreclosures are secondary to medical debt and illness, and patients are choosing to avoid necessary care because of its cost. Evidence that the health care delivery model is contributing to patient hardship is a call for action to the profession to transition to a high value model, one that delivers the highest health care quality and safety at the lowest personal and financial cost to patients. As such, value improvement work is being done at academic medical centers across the country. In order to promote measurable improvements in practice on a national scale, academic institutions need to align efforts and create a new model for collaboration, one that transcends cross-institutional competition, specialty divisions, and geographical constraints. Academic institutions are particularly accountable because of the importance of research and education in driving this transition. Investigations that elucidate effective

implementation methodologies and evaluate safety outcomes data can facilitate transformation. Engaging trainees in quality improvement initiatives will instill high value care into their practice. This article charges academic institutions to go beyond dissemination of best practice guidelines and demonstrate accountability for high value quality improvement implementation. By effectively transitioning to a high value health care system, medical providers will convincingly demonstrate that patients are their most important priority.

Lazaroff, A. (2013). "Using risk contracting to reduce service use, improve quality, and strengthen primary care." Chest **144**(4): 1368-1375.

The high costs of American health care, the related problem of the uninsured, and the grim fiscal prognosis of Medicare and Medicaid are among the most pressing challenges facing the United States today. A solution to the cost problem that does not reduce access or quality is sought by those at all points on the political spectrum. This article discusses the experience of an independent practice association that has collaborated with a related business partner and a health plan to improve the quality of care of 16,000 Medicare Advantage beneficiaries while substantially reducing hospitalization rates and overall service use. The capacity to reduce service use frees funds that are used to support the infrastructure for high-value care and to reward those who provide it. Higher performing primary care, supported by changes in payment, has driven a sustainable business model that preserves the option of independent practice for physicians. We are now testing competencies developed for Medicare Advantage in the Pioneer Accountable Care Organization program, which preserves the broad patient choice that is an important feature of traditional Medicare.

Linden, T., et al. (2013). "High-value health care. Achieving success and demonstrating results." Hosp Health Netw **87**(12): 45-55, 41.

A panel of hospital executives and industry experts came together in Chicago recently to discuss the transformational initiatives that can lead to the delivery of high-value health care. Here's what they had to say about the critical changes in infrastructure and care processes that will be necessary.

Mack, K. E., et al. (2013). "The search for quality and outcomes. Strategic physician alignment is key to improving care while reducing costs." Healthc Exec **28**(3): 86-88.

McDaniel, C. E., et al. (2018). "The High-Value Care Rounding Tool: Development and Validity Evidence." Acad Med **93**(2): 199-206.

Little is known about current practices in high-value care (HVC) bedside teaching. A lack of instruments for measuring bedside HVC behaviors confounds efforts to assess the impact of curricular interventions. The authors aimed to define observable HVC concepts by developing an instrument to measure the content and frequency of HVC discussions.The authors developed the HVC Rounding Tool in four iterative phases, using Messick's validity framework. Phases 1 and 2 were designed to collect evidence of content validity, Phases 3 and 4 to collect evidence of response process and internal structure. Phase 1 identified HVC topics within the literature. Phase 2 used a modified Delphi approach for construct definition and tool development. Through two rounds, the Delphi panel narrowed 16 HVC topics to 11 observable items, categorized into three domains (quality, cost, and patient values). Phase 3 involved rater training and creation of a codebook. Phase 4 involved three iterations of instrument piloting. Six trained raters, in pairs, observed bedside rounds during 148 patient encounters in 2016. Weighted kappas for each domain demonstrated improvement from the first to third iteration: Quality increased from 0.65 (95% CI 0.55-0.79) to 1.00, cost from 0.58 (95% CI 0.4-0.75) to 0.96 (95% CI 0.80-1.00), and patient values from 0.41 (95% CI 0.19-0.68) to 1.00. Percent positive agreement for all domains improved from 65.3% to 98.1%. This tool, the first with established validity evidence, addresses an important educational gap for measuring the translation of HVC from theoretical knowledge to bedside practice.

Paton, F., et al. (2016). "Improving outcomes for people in mental health crisis: a rapid synthesis of the evidence for available models of care." Health Technol Assess **20**(3): 1-162.

BACKGROUND: Crisis Concordat was established to improve outcomes for people experiencing a mental health crisis. The Crisis Concordat sets out four stages of the crisis care pathway: (1) access to support before crisis point; (2) urgent and emergency access to crisis care; (3) quality treatment and care in crisis; and (4) promoting recovery. OBJECTIVES: To evaluate the clinical effectiveness and cost-effectiveness of the models of care for improving outcomes at each stage of the care pathway. DATA SOURCES: Electronic databases were searched for guidelines, reviews and, where necessary, primary studies. The searches were performed on 25 and 26 June 2014 for NHS Evidence, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects, NHS Economic Evaluation Database, and the Health Technology Assessment (HTA) and PROSPERO databases, and on 11 November 2014 for MEDLINE, PsycINFO and the Criminal Justice Abstracts databases. Relevant reports and reference lists of retrieved articles were scanned to identify additional studies. STUDY SELECTION: When guidelines covered a topic comprehensively, further literature was not assessed; however, where there were gaps, systematic reviews and then primary studies were assessed in order of priority. STUDY APPRAISAL AND SYNTHESIS METHODS: Systematic reviews were critically appraised using the Risk Of Bias In Systematic reviews assessment tool, trials were assessed using the Cochrane risk-of-bias tool, studies without a control group were assessed using the National Institute for Health and Care Excellence (NICE) prognostic studies tool and qualitative studies were assessed using the Critical Appraisal Skills Programme quality assessment tool. A narrative synthesis was conducted for each stage of the care pathway structured according to the type of care model assessed. The type and range of evidence identified precluded the use of meta-analysis. RESULTS AND LIMITATIONS: One review of reviews, six systematic reviews, nine guidelines and 15 primary studies were included. There was very limited evidence for access to support before crisis point. There was evidence of benefits for liaison psychiatry teams in improving service-related outcomes in emergency departments, but this was often limited by potential confounding in most studies. There was limited evidence regarding models to improve urgent and emergency access to crisis care to guide police officers in their Mental Health Act responsibilities. There was positive evidence on clinical effectiveness and cost-effectiveness of crisis resolution teams but variability in implementation. Current work from the Crisis resolution team Optimisation and RElapse prevention study aims to improve fidelity in delivering these models. Crisis houses and acute day hospital care are also currently recommended by NICE. There was a large evidence base on promoting recovery with a range of interventions recommended by NICE likely to be important in helping people stay well. CONCLUSIONS AND IMPLICATIONS: Most evidence was rated as low or very low quality, but this partly reflects the difficulty of conducting research into complex interventions for people in a mental health crisis and does not imply that all research was poorly conducted. However, there are currently important gaps in research for a number of stages of the crisis care pathway. Particular gaps in research on access to support before crisis point and urgent and emergency access to crisis care were found. In addition, more high-quality research is needed on the clinical effectiveness and cost-effectiveness of mental health crisis care, including effective components of inpatient care, post-discharge transitional care and Community Mental Health Teams/intensive case management teams. STUDY REGISTRATION: This study is registered as PROSPERO CRD42014013279. FUNDING: The National Institute for Health Research HTA programme.

Puchner, R., et al. (2017). "Improving patient flow of people with rheumatoid arthritis has the potential to simultaneously improve health outcomes and reduce direct costs." BMC Musculoskelet Disord **18**(1): 7.

BACKGROUND: In our current economic climate of scarce resources there is a lot of debate around the best - and most efficient - way of delivering care, which points patients towards the right physician at the earliest opportunity. The aim of the study was to assess whether an improvement in the interdisciplinary management of rheumatoid arthritis (RA) has the potential to simultaneously improve health outcomes and reduce costs. METHODS: In a first step, we modelled the ways which lead patients with RA to the correct diagnosis, and the relevant specialist, respectively. On average, a patient experiences 3 GP visits before referral to a specialist. We compared this situation against a reconfiguration of current practice towards a more proactive identification and referral method with

initiation of care by a rheumatologist early in the disease. We evaluated the impact of this reconfiguration on the number of RA patients diagnosed and the costs associated with the diagnostic process. RESULT: Using data on epidemiology and Austrian practice patterns, we estimate a total of 5294 people with undifferentiated arthritis per year, of which 1765 suffer from RA. Modelling for diagnostic accuracy, we found that 1200 of these patients are initially misdiagnosed in a primary care setting and 95 at a rheumatologist. Our model found that a reconfiguration of current practice towards an approach of more integrated care has the potential to be not only cost-effective, but cost-saving: EUR 100,188 could be saved annually by exclusively adopting the new approach. CONCLUSIONS: Our results show that by better directing the flow of people with RA, simultaneous clinical and economic benefits may be reaped:.

Ryrie, I. et Anderson, B. (2011). "Tool to assess the cost and quality benefits of nursing innovation." Nurs Manag (Harrow) **18**(4): 28-31.

Understanding the economic value of nursing services in a time of unprecedented public sector cuts is a challenge. The economic assessment tool (EAT) (RCN 2011) has been designed by the authors of the article for this purpose and generates return on investment dividends for nursing innovations and services. The EAT, which is built on the discipline of improvement and uses many of its tools and techniques, involves four stages: mapping, costing, calculating and reporting. The nursing profession systematically captures a range of clinical data as part of routine care to which monetary values can be assigned. The EAT exploits these data and provides the profession with the economic evidence it might need to sustain quality nursing services in financially uncertain times.

Shaikh, U. et Roth, A. (2017). "Five Organizational Strategies to Deliver High-Value Health Care." Am J Med Qual **32**(5): 566-568.

Shi, Y., et al. (2016). "The longitudinal impact of Aligning Forces for Quality on measures of population health, quality and experience of care, and cost of care." Am J Manag Care **22**(12 Suppl): s373-381.

OBJECTIVE: To summarize the results from the quantitative analyses conducted during the summative evaluation of the Aligning Forces for Quality (AF4Q) initiative. STUDY DESIGN: Longitudinal design using linear difference-in-difference (DD) regression models with fixed effects. Outcomes were selected based on the AF4Q program logic model and organized according to the categories of the Triple Aim: improving population health, improving quality and experience of care, and reducing the cost of care. DATA: Two primary data sources: the AF4Q Consumer Survey and the National Study of Physician Organizations (NSPO); and 4 secondary data sources: the Dartmouth Atlas Medicare claims database, the Truven Health MarketScan commercial claims database, the Behavioral Risk Factor Surveillance System (BRFSS), and the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS). RESULTS: In total, 144 outcomes were analyzed, 27 were associated with improving population health, 87 were associated with improving care quality and experience, and 30 were associated with reducing the cost of care. Based on the estimated DD coefficients, there is no consistent evidence that AF4Q regions, over the life of the program, showed greater improvement in these measures compared with the rest of the United States. For less than 12% of outcomes (17/144), the AF4Q initiative was associated with a significant positive impact (P </=.05), although the magnitude of the impact was often small. Among the remaining outcomes, with some exceptions, similarly improving trends were observed in both AF4Q and non-AF4Q areas over the period of intervention. Conclusion and Policy and Practice Implications: Our quantitative findings, which suggest that the AF4Q initiative had less impact than expected, are potentially due to the numerous other efforts to improve healthcare across the United States, including regions outside the AF4Q program over the same period of time. The limited overall impact may also be due to the variability in the "dose" of the interventions across AF4Q regions. However, these results should not be interpreted as a conclusive statement about the AF4Q initiative. More nuanced discussions of the implementation of interventions in the specific AF4Q programmatic areas and their potential success (or lack thereof) in the participating communities are included in other articles in this supplement.

Outils d'aide à la decision

Les outils d'aide à la decision retenus dans cette bibliographie concernent la pratique quotidienne des médecins, et plus particulièrement, les actes de prescription.

Les outils d'amélioration de la pratique quotidienne

Revues de littérature

Arditi, C., et al. (2017). "Computer-generated reminders delivered on paper to healthcare professionals: effects on professional practice and healthcare outcomes." Cochrane Database Syst Rev **7**: Cd001175.

> BACKGROUND: Clinical practice does not always reflect best practice and evidence, partly because of unconscious acts of omission, information overload, or inaccessible information. Reminders may help clinicians overcome these problems by prompting them to recall information that they already know or would be expected to know and by providing information or guidance in a more accessible and relevant format, at a particularly appropriate time. This is an update of a previously published review. OBJECTIVES: To evaluate the effects of reminders automatically generated through a computerized system (computer-generated) and delivered on paper to healthcare professionals on quality of care (outcomes related to healthcare professionals' practice) and patient outcomes (outcomes related to patients' health condition). SEARCH METHODS: We searched CENTRAL, MEDLINE, Embase, six other databases and two trials registers up to 21 September 2016 together with reference checking, citation searching and contact with study authors to identify additional studies. SELECTION CRITERIA: We included individual- or cluster-randomized and non-randomized trials that evaluated the impact of computer-generated reminders delivered on paper to healthcare professionals, alone (single-component intervention) or in addition to one or more co-interventions (multi-component intervention), compared with usual care or the co-intervention(s) without the reminder component. DATA COLLECTION AND ANALYSIS: Review authors working in pairs independently screened studies for eligibility and abstracted data. For each study, we extracted the primary outcome when it was defined or calculated the median effect size across all reported outcomes. We then calculated the median improvement and interquartile range (IQR) across included studies using the primary outcome or median outcome as representative outcome. We assessed the certainty of the evidence according to the GRADE approach. MAIN RESULTS: We identified 35 studies (30 randomized trials and five non-randomized trials) and analyzed 34 studies (40 comparisons). Twenty-nine studies took place in the USA and six studies took place in Canada, France, Israel, and Kenya. All studies except two took place in outpatient care. Reminders were aimed at enhancing compliance with preventive guidelines (e.g. cancer screening tests, vaccination) in half the studies and at enhancing compliance with disease management guidelines for acute or chronic conditions (e.g. annual follow-ups, laboratory tests, medication adjustment, counseling) in the other half.Computer-generated reminders delivered on paper to healthcare professionals, alone or in addition to co-intervention(s), probably improves quality of care slightly compared with usual care or the co-intervention(s) without the reminder component (median improvement 6.8% (IQR: 3.8% to 17.5%); 34 studies (40 comparisons); moderate-certainty evidence).Computer-generated reminders delivered on paper to healthcare professionals alone (single-component intervention) probably improves quality of care compared with usual care (median improvement 11.0% (IQR 5.4% to 20.0%); 27 studies (27 comparisons); moderate-certainty evidence). Adding computer-generated reminders delivered on paper to healthcare professionals to one or more co-interventions (multi-component intervention) probably improves quality of care slightly compared with the co-intervention(s) without the reminder component (median improvement 4.0% (IQR 3.0% to 6.0%); 11 studies (13 comparisons); moderate-certainty evidence).We are uncertain whether reminders, alone or in addition to co-intervention(s), improve patient outcomes as the certainty of the evidence is very low (n = 6 studies (seven comparisons)). None of the included studies reported outcomes related to harms or adverse effects of the intervention. AUTHORS' CONCLUSIONS: There is moderate-certainty evidence that computer-generated reminders delivered on paper to healthcare professionals probably slightly improves quality of care, in terms of compliance with preventive

guidelines and compliance with disease management guidelines. It is uncertain whether reminders improve patient outcomes because the certainty of the evidence is very low. The heterogeneity of the reminder interventions included in this review also suggests that reminders can probably improve quality of care in various settings under various conditions.

Bunn, F., et al. (2004). "Telephone consultation and triage: effects on health care use and patient satisfaction." Cochrane Database Syst Rev(4): Cd004180.

BACKGROUND: Telephone consultation is the process where calls are received, assessed and managed by giving advice or by referral to a more appropriate service. In recent years there has been a growth in telephone consultation developed, in part, as a response to increased demand for General Practitioner (GP) and Accident and Emergency (A&E) department care. OBJECTIVES: To assess the effects of telephone consultation on safety, service usage and patient satisfaction and to compare telephone consultation by different health care professionals. SEARCH STRATEGY: We searched the Cochrane Central Register of Controlled Trials, the specialised register of the Cochrane Effective Practice and Organisation of Care (EPOC) group, Pubmed, EMBASE, CINAHL, SIGLE, and the National Research Register. We checked reference lists of identified studies and review articles and contacted experts in the field. The search was not restricted by language or publication status. SELECTION CRITERIA: Randomised controlled trials (RCTs), controlled studies, controlled before/after studies (CBAs) and interrupted time series (ITSs) of telephone consultation or triage in a general health care setting. Disease specific phone lines were excluded. DATA COLLECTION AND ANALYSIS: Two reviewers independently screened studies for inclusion in the review, extracted data and assessed study quality. Data were collected on adverse events, service usage, cost and patient satisfaction. Due to heterogeneity we did not pool studies in a meta-analysis and instead present a narrative summary of the findings. MAIN RESULTS: Nine studies met our inclusion criteria, five RCTs, one CCT and three ITSs. Six studies compared telephone consultation versus normal care; four by a doctor, one by a nurse and one by a clinic clerk. Three studies compared telephone consultation by different types of health care workers; two compared nurses with doctors and one compared health assistants with doctors or nurses. Three of five studies found a decrease in visits to GP's but two found a significant increase in return consultations. In general at least 50% of calls were handled by telephone advice alone. Seven studies looked at accident and emergency department visits, six showed no difference between the groups and one, of nurse telephone consultation, found an increase in visits. Two studies reported deaths and found no difference between nurse telephone triage and normal care. REVIEWERS' CONCLUSIONS: Telephone consultation appears to reduce the number of surgery contacts and out-of-hours visits by general practitioners. However, questions remain about its affect on service use and further rigorous evaluation is needed with emphasis on service use, safety, cost and patient satisfaction.

Flodgren, G., et al. (2015). "Interactive telemedicine: effects on professional practice and health care outcomes." Cochrane Database Syst Rev(9): Cd002098.

BACKGROUND: Telemedicine (TM) is the use of telecommunication systems to deliver health care at a distance. It has the potential to improve patient health outcomes, access to health care and reduce healthcare costs. As TM applications continue to evolve it is important to understand the impact TM might have on patients, healthcare professionals and the organisation of care. OBJECTIVES: To assess the effectiveness, acceptability and costs of interactive TM as an alternative to, or in addition to, usual care (i.e. face-to-face care, or telephone consultation). SEARCH METHODS: We searched the Effective Practice and Organisation of Care (EPOC) Group's specialised register, CENTRAL, MEDLINE, EMBASE, five other databases and two trials registers to June 2013, together with reference checking, citation searching, handsearching and contact with study authors to identify additional studies. SELECTION CRITERIA: We considered randomised controlled trials of interactive TM that involved direct patient-provider interaction and was delivered in addition to, or substituting for, usual care compared with usual care alone, to participants with any clinical condition. We excluded telephone only interventions and wholly automatic self-management TM interventions. DATA COLLECTION AND ANALYSIS: For each condition, we pooled outcome data that were sufficiently homogenous using fixed effect meta-

analysis. We reported risk ratios (RR) and 95% confidence intervals (CI) for dichotomous outcomes, and mean differences (MD) for continuous outcomes. MAIN RESULTS: We included 93 eligible trials (N = 22,047 participants), which evaluated the effectiveness of interactive TM delivered in addition to (32% of studies), as an alternative to (57% of studies), or partly substituted for usual care (11%) as compared to usual care alone.The included studies recruited patients with the following clinical conditions: cardiovascular disease (36), diabetes (21), respiratory conditions (9), mental health or substance abuse conditions (7), conditions requiring a specialist consultation (6), co morbidities (3), urogenital conditions (3), neurological injuries and conditions (2), gastrointestinal conditions (2), neonatal conditions requiring specialist care (2), solid organ transplantation (1), and cancer (1).Telemedicine provided remote monitoring (55 studies), or real-time video-conferencing (38 studies), which was used either alone or in combination. The main TM function varied depending on clinical condition, but fell typically into one of the following six categories, with some overlap: i) monitoring of a chronic condition to detect early signs of deterioration and prompt treatment and advice, (41); ii) provision of treatment or rehabilitation (12), for example the delivery of cognitive behavioural therapy, or incontinence training; iii) education and advice for self-management (23), for example nurses delivering education to patients with diabetes or providing support to parents of very low birth weight infants or to patients with home parenteral nutrition; iv) specialist consultations for diagnosis and treatment decisions (8), v) real-time assessment of clinical status, for example post-operative assessment after minor operation or follow-up after solid organ transplantation (8) vi), screening, for angina (1).The type of data transmitted by the patient, the frequency of data transfer, (e.g. telephone, e-mail, SMS) and frequency of interactions between patient and healthcare provider varied across studies, as did the type of healthcare provider/s and healthcare system involved in delivering the intervention.We found no difference between groups for all-cause mortality for patients with heart failure (16 studies; N = 5239; RR:0.89, 95% CI 0.76 to 1.03, P = 0.12; I(2) = 44%) (moderate to high certainty of evidence) at a median of six months follow-up. Admissions to hospital (11 studies; N = 4529) ranged from a decrease of 64% to an increase of 60% at median eight months follow-up (moderate certainty of evidence). We found some evidence of improved quality of life (five studies; N = 482; MD:-4.39, 95% CI -7.94 to -0.83; P < 0.02; I(2) = 0%) (moderate certainty of evidence) for those allocated to TM as compared with usual care at a median three months follow-up. In studies recruiting participants with diabetes (16 studies; N = 2768) we found lower glycated haemoglobin (HbA1c %) levels in those allocated to TM than in controls (MD -0.31, 95% CI -0.37 to -0.24; P < 0.00001; I(2)= 42%, P = 0.04) (high certainty of evidence) at a median of nine months follow-up. We found some evidence for a decrease in LDL (four studies, N = 1692; MD -12.45, 95% CI -14.23 to -10.68; P < 0.00001; I(2 =) 0%) (moderate certainty of evidence), and blood pressure (four studies, N = 1770: MD: SBP:-4.33, 95% CI -5.30 to -3.35, P < 0.00001; I(2) = 17%; DBP: -2.75 95% CI -3.28 to -2.22, P < 0.00001; I(2) = 45% (moderate certainty evidence), in TM as compared with usual care.Seven studies that recruited participants with different mental health and substance abuse problems, reported no differences in the effect of therapy delivered over video-conferencing, as compared to face-to-face delivery. Findings from the other studies were inconsistent; there was some evidence that monitoring via TM improved blood pressure control in participants with hypertension, and a few studies reported improved symptom scores for those with a respiratory condition. Studies recruiting participants requiring mental health services and those requiring specialist consultation for a dermatological condition reported no differences between groups. AUTHORS' CONCLUSIONS: The findings in our review indicate that the use of TM in the management of heart failure appears to lead to similar health outcomes as face-to-face or telephone delivery of care; there is evidence that TM can improve the control of blood glucose in those with diabetes. The cost to a health service, and acceptability by patients and healthcare professionals, is not clear due to limited data reported for these outcomes. The effectiveness of TM may depend on a number of different factors, including those related to the study population e.g. the severity of the condition and the disease trajectory of the participants, the function of the intervention e.g., if it is used for monitoring a chronic condition, or to provide access to diagnostic services, as well as the healthcare provider and healthcare system involved in delivering the intervention.

Martin, S., et al. (2008). "Smart home technologies for health and social care support." Cochrane Database Syst Rev(4): Cd006412.

BACKGROUND: The integration of smart home technology to support health and social care is acquiring an increasing global significance. Provision is framed within the context of a rapidly changing population profile, which is impacting on the number of people requiring health and social care, workforce availability and the funding of healthcare systems. OBJECTIVES: To explore the effectiveness of smart home technologies as an intervention for people with physical disability, cognitive impairment or learning disability, who are living at home, and to consider the impact on the individual's health status and on the financial resources of health care. SEARCH STRATEGY: We searched the following databases for primary studies: (a) the Cochrane Effective Practice and Organisation of Care (EPOC) Group Register, (b) the Cochrane Central Register of Controlled Trials (CENTRAL), (The Cochrane Library, issue 1, 2007), and (c) bibliographic databases, including MEDLINE (1966 to March 2007), EMBASE (1980 to March 2007) and CINAHL (1982 to March 2007). We also searched the Database of Abstracts of Reviews of Effectiveness (DARE). We searched the electronic databases using a strategy developed by the EPOC Trials Search Co-ordinator. SELECTION CRITERIA: We included randomised controlled trials (RCTs), quasi-experimental studies, controlled before and after studies (CBAs) and interrupted time series analyses (ITS). Participants included adults over the age of 18, living in their home in a community setting. Participants with a physical disability, dementia or a learning disability were included. The included interventions were social alarms, electronic assistive devices, telecare social alert platforms, environmental control systems, automated home environments and 'ubiquitous homes'. Outcome measures included any objective measure that records an impact on a participant's quality of life, healthcare professional workload, economic outcomes, costs to healthcare provider or costs to participant. We included measures of service satisfaction, device satisfaction and healthcare professional attitudes or satisfaction. DATA COLLECTION AND ANALYSIS: One review author completed the search strategy with the support of a life and health sciences librarian. Two review authors independently screened titles and abstracts of results. MAIN RESULTS: No studies were identified which met the inclusion criteria. AUTHORS' CONCLUSIONS: This review highlights the current lack of empirical evidence to support or refute the use of smart home technologies within health and social care, which is significant for practitioners and healthcare consumers.

Autres études

AlHazme, R. H., et al. (2016). "The impact of health information technologies on quality improvement methodologies' efficiency, throughput and financial outcomes: a retrospective observational study." BMC Med Inform Decis Mak **16**(1): 154.

BACKGROUND: To evaluate whether or not the utilization of Health Information Technologies (HITs) in Quality Improvement Methodologies (QIMs) has impacts on QIMs' efficiency, throughput and financial outcomes at healthcare organizations and physician practices in the United States. METHODS: This is a retrospective observational study that was conducted between the years of 2014 and 2015 and relied on two data sources: the Dorenfest Institute dataset and the Healthcare Information and Management Systems Society (HIMSS) Analytics data source. In addition, questionnaires were submitted to collect data about how healthcare settings in the United States had been utilizing QIMs in the last 10 years. The submitted questionnaire invitations yielded 144 responses from 134 hospitals and 10 physician practices. Descriptive statistics were used to assess the condition of the data. This involved the utilization of Box-Whisker plots to visualize the data shape, outliers and variation. The Gamma correlation analysis method was used to evaluate the statistical relationships between the QIM outcomes, efficiency, throughput and financial outcomes, and the employment of HIT systems in QIMs. RESULTS: The study found that 99.3% of the healthcare organizations and physician practices had implemented at least one QIM over the last 10 years. In the QIM implementations, the total numbers of reported utilization instances of manual data collection, electronic health records, lab information systems, pharmacy information systems, computerized provider order entry and radiology information systems were 387, 352, 205, 185, 180 and 158, respectively. Based on a 95% confidence limit, the Gamma statistical test has shown an inverse correlation between the exclusive

utilization of manual data collection and the overall QIM efficiency (p = 0.047, Gamma = -0.388) and throughput (p = 0.012, Gamma = -0.593) outcomes. However, the overall QIM financial outcomes were found to have a statistically insignificant correlation (p = 0.159). CONCLUSIONS: The study has revealed statistically significant negative impacts on QIMs' efficiency and throughput outcomes when the manual data collection is the sole method used in QIM implementations. This also indicates a positive correlation between the QIMs' efficiency and throughput outcomes and the HIT utilization in QIMs.

Aziz, H. A. et Alshekhabobakr, H. M. (2017). "Health Informatics Tools to Improve Utilization of Laboratory Tests." Lab Med **48**(2): e30-e35.

Herein, we discuss improper test utilization practices and their implications on delivery of health care, as well as providing a brief explanation of the means to reduce such practices by improvement of personnel factors, particularly involving physicians. The article also elaborates on ways to mitigate improperly utilized test practices using appropriate health informatics technologies to their maximum possible capacities.

Dikomitis, L., et al. (2015). "Embedding electronic decision-support tools for suspected cancer in primary care: a qualitative study of GPs' experiences." Prim Health Care Res Dev **16**(6): 548-555.

AIM: The purpose of this evaluation was to obtain views from general practitioners (GPs) who piloted the electronic risk assessment tools (eRATs) for suspected lung or colorectal cancer. We wanted to find out whether GPs were able to integrate these tools into their everyday practice. We were also keen to identify facilitators and barriers to their more widespread use. BACKGROUND: Cancer remains one of UK's biggest health problems, in terms of morbidity and mortality. Comparative European data show that five-year survival figures for many cancers are lower in the United Kingdom than in comparable European countries. eRATs are intended to aid recognition of symptoms of lung and colorectal cancers in patients aged 40 years and over. METHODS: This was a qualitative study; telephone interviews were conducted with 23 GPs who piloted the eRATs. A systematic qualitative analysis was applied to the data. The normalisation process model was used after data collection. This theory-driven conceptual framework was used to examine the operationalisation of this intervention in Primary Care. FINDINGS: Electronic decision-support tools appear to be useful additions to the resources available to GPs in order to assist them with recognizing potential cancer symptoms. However, the tools need to be refined in order to integrate them into GP practice. The tools raised GPs' awareness about cancer because of the prompt facility of the software, although this also raised the potential of 'prompt fatigue'. GPs constantly receive alerts via their clinical system, particularly related to the Quality and Outcomes Framework. The integration of eRATs into routine practice could be engendered by improvement to the training packages that accompany them, and by its delivery via a platform compatible with all GP clinical systems.

Gagnon, M. P., et al. (2011). "Supporting health professionals through information and communication technologies: a systematic review of the effects of information and communication technologies on recruitment and retention." Telemed J E Health **17**(4): 269-274.

UNLABELLED: Healthcare personnel shortage is a growing concern in many countries, especially in remote areas, where it has major consequences on the accessibility of health services. Information and communication technologies (ICTs) have often been proposed as having positive effects on certain dimensions of the recruitment and retention of professionals working in the healthcare sector. OBJECTIVE: This study aims to explore the impact of interventions using ICTs on recruitment and retention of healthcare professionals. MATERIALS AND METHODS: A systematic review of the literature was conducted, including the following steps: exploring scientific and gray literature through established criteria and data extraction of relevant information by two independent reviewers. RESULTS: Of the 2,225 screened studies, 13 were included. Nine studies showed a positive, often indirect, influence that ICTs may have on recruitment and retention. CONCLUSIONS: Despite the conclusions of 9 of 13 studies reporting a possible positive influence of ICTs on the recruitment and

retention of healthcare professionals, these results highlight the need of a deeper reflection on that topic. Therefore, more research is needed.

Jeffries, M., et al. (2017). "Understanding the implementation and adoption of a technological intervention to improve medication safety in primary care: a realist evaluation." BMC Health Serv Res **17**(1): 196.

BACKGROUND: Monitoring for potentially hazardous prescribing is increasingly important to improve medication safety. Healthcare information technology can be used to achieve this aim, for example by providing access to prescribing data through surveillance of patients' electronic health records. The aim of our study was to examine the implementation and adoption of an electronic medicines optimisation system that was intended to facilitate clinical audit in primary care by identifying patients at risk of an adverse drug event. We adopted a sociotechnical approach that focuses on how complex social, organisational and institutional factors may impact upon the use of technology within work settings. METHODS: We undertook a qualitative realist evaluation of the use of an electronic medicines optimisation system in one Clinical Commissioning Group in England. Five semi-structured interviews, four focus groups and one observation were conducted with a range of stakeholders. Consistent with a realist evaluation methodology, the analysis focused on exploring the links between context, mechanism and outcome to explain the ways the intervention might work, for whom and in what circumstances. RESULTS: Using the electronic medicines optimisation system could lead to a number of improved patient safety outcomes including pre-emptively reviewing patients at risk of adverse drug events. The effective use of the system depended upon engagement with the system, the flow of information between different health professionals centrally placed at the Clinical Commissioning Group and those locally placed at individual general practices, and upon variably adapting work practices to facilitate the use of the system. The use of the system was undermined by perceptions of ownership, lack of access, and lack of knowledge and awareness. CONCLUSIONS: The use of an electronic medicines optimisation system may improve medication safety in primary care settings by identifying those patients at risk of an adverse drug event. To fully realise the potential benefits for medication safety there needs to be better utilisation across primary care and with a wider range of stakeholders. Engaging with all potential stakeholders and users prior to implementation of such systems might allay perceptions that the system is owned centrally and increase knowledge of the potential benefits.

Li, S. X., et al. (2017). "Delivering High Value Inflammatory Bowel Disease Care Through Telemedicine Visits." Inflamm Bowel Dis **23**(10): 1678-1681.

BACKGROUND: Patients with inflammatory bowel disease (IBD) require regular follow-up to manage their care, which requires significant amount of time and out-of-pocket costs. Telemedicine in the form of video virtual visits could serve as an alternative to in-office visits. The aim of this project was to understand if telemedicine can provide high value care (defined as quality/cost) to outpatients with IBD. METHODS: Patients who participated in the IBD telemedicine clinic in the second half of 2015 were included. Patient-reported survey data before and after the virtual visit were collected. A retrospective review was performed on the study cohort for quality outcome measures a year before and after starting the telemedicine clinic. Outcomes were analyzed using simple descriptive statistics. Differences in quality outcomes were compared using odds ratios. RESULTS: Forty-eight patients were included in the analysis. Most patients travel more than 25 miles each way, take half a day off, and on average incur an additional out-of-pocket cost of $62 for an in-office visit. Most patients (98%) agreed that there was enough time spent with their physician, 91% agreed that they felt like the physician understood their disease state, and 78% reported that they clearly understood the follow-up plan after the visit. Analysis of quality outcome measures did not show any drop in the overall quality of care, after initiating the telemedicine program. CONCLUSIONS: Telemedicine offers a low cost and convenient alternative for patients with IBD without compromising quality of care.

Peiris, D., et al. (2015). "Effect of a computer-guided, quality improvement program for cardiovascular disease risk management in primary health care: the treatment of cardiovascular risk using electronic decision support cluster-randomized trial." Circ Cardiovasc Qual Outcomes **8**(1): 87-95.

BACKGROUND: Despite effective treatments to reduce cardiovascular disease risk, their translation into practice is limited. METHODS AND RESULTS: Using a parallel arm cluster-randomized controlled trial in 60 Australian primary healthcare centers, we tested whether a multifaceted quality improvement intervention comprising computerized decision support, audit/feedback tools, and staff training improved (1) guideline-indicated risk factor measurements and (2) guideline-indicated medications for those at high cardiovascular disease risk. Centers had to use a compatible software system, and eligible patients were regular attendees (Aboriginal and Torres Strait Islander people aged >/= 35 years and others aged >/= 45 years). Patient-level analyses were conducted using generalized estimating equations to account for clustering. Median follow-up for 38,725 patients (mean age, 61.0 years; 42% men) was 17.5 months. Mean monthly staff support was <1 hour/site. For the coprimary outcomes, the intervention was associated with improved overall risk factor measurements (62.8% versus 53.4% risk ratio; 1.25; 95% confidence interval, 1.04-1.50; P=0.02), but there was no significant differences in recommended prescriptions for the high-risk cohort (n=10,308; 56.8% versus 51.2%; P=0.12). There were significant treatment escalations (new prescriptions or increased numbers of medicines) for antiplatelet (17.9% versus 2.7%; P<0.001), lipid-lowering (19.2% versus 4.8%; P<0.001), and blood pressure-lowering medications (23.3% versus 12.1%; P=0.02). CONCLUSIONS: In Australian primary healthcare settings, a computer-guided quality improvement intervention, requiring minimal support, improved cardiovascular disease risk measurement but did not increase prescription rates in the high-risk group. Computerized quality improvement tools offer an important, albeit partial, solution to improving primary healthcare system capacity for cardiovascular disease risk management. CLINICAL TRIAL REGISTRATION URL: https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?id=336630. Australian New Zealand Clinical Trials Registry No. 12611000478910.

Sadowski, B. W., et al. (2017). "High-Value, Cost-Conscious Care: Iterative Systems-Based Interventions to Reduce Unnecessary Laboratory Testing." Am J Med **130**(9): 1112.e1111-1112.e1117.

BACKGROUND: Inappropriate testing contributes to soaring healthcare costs within the United States, and teaching hospitals are vulnerable to providing care largely for academic development. Via its "Choosing Wisely" campaign, the American Board of Internal Medicine recommends avoiding repetitive testing for stable inpatients. We designed systems-based interventions to reduce laboratory orders for patients admitted to the wards at an academic facility. METHODS: We identified the computer-based order entry system as an appropriate target for sustainable intervention. The admission order set had allowed multiple routine tests to be ordered repetitively each day. Our iterative study included interventions on the automated order set and cost displays at order entry. The primary outcome was number of routine tests controlled for inpatient days compared with the preceding year. Secondary outcomes included cost savings, delays in care, and adverse events. RESULTS: Data were collected over a 2-month period following interventions in sequential years and compared with the year prior. The first intervention led to 0.97 fewer laboratory tests per inpatient day (19.4%). The second intervention led to sustained reduction, although by less of a margin than order set modifications alone (15.3%). When extrapolating the results utilizing fees from the Centers for Medicare and Medicaid Services, there was a cost savings of $290,000 over 2 years. Qualitative survey data did not suggest an increase in care delays or near-miss events. CONCLUSIONS: This series of interventions targeting unnecessary testing demonstrated a sustained reduction in the number of routine tests ordered, without adverse effects on clinical care.

Signorelli, H., et al. (2015). "Benchmarking to Identify Practice Variation in Test Ordering: A Potential Tool for Utilization Management." Lab Med **46**(4): 356-364.

BACKGROUND: Appropriate test utilization is usually evaluated by adherence to published guidelines. In many cases, medical guidelines are not available. Benchmarking has been proposed as a method to identify practice variations that may represent inappropriate testing. This study investigated the use of benchmarking to identify sites with inappropriate utilization of testing for a particular analyte. METHODS: We used a Web-based survey to compare 2 measures of vitamin D utilization: overall

testing intensity (ratio of total vitamin D orders to blood-count orders) and relative testing intensity (ratio of 1,25(OH)2D to 25(OH)D test orders). RESULTS: A total of 81 facilities contributed data. The average overall testing intensity index was 0.165, or approximately 1 vitamin D test for every 6 blood-count tests. The average relative testing intensity index was 0.055, or one 1,25(OH)2D test for every 18 of the 25(OH)D tests. Both indexes varied considerably. CONCLUSIONS: Benchmarking can be used as a screening tool to identify outliers that may be associated with inappropriate test utilization.

Zhelev, Z., et al. (2016). "Effectiveness of interventions to reduce ordering of thyroid function tests: a systematic review." BMJ Open **6**(6): e010065.

OBJECTIVES: To evaluate the effectiveness of behaviour changing interventions targeting ordering of thyroid function tests. DESIGN: Systematic review. DATA SOURCES: MEDLINE, EMBASE and the Cochrane Database up to May 2015. ELIGIBILITY CRITERIA FOR SELECTING STUDIES: We included studies evaluating the effectiveness of behaviour change interventions aiming to reduce ordering of thyroid function tests. Randomised controlled trials (RCTs), non-randomised controlled studies and before and after studies were included. There were no language restrictions. STUDY APPRAISAL AND SYNTHESIS METHODS: 2 reviewers independently screened all records identified by the electronic searches and reviewed the full text of any deemed potentially relevant. Study details were extracted from the included papers and their methodological quality assessed independently using a validated tool. Disagreements were resolved through discussion and arbitration by a third reviewer. Meta-analysis was not used. RESULTS: 27 studies (28 papers) were included. They evaluated a range of interventions including guidelines/protocols, changes to funding policy, education, decision aids, reminders and audit/feedback; often intervention types were combined. The most common outcome measured was the rate of test ordering, but the effect on appropriateness, test ordering patterns and cost were also measured. 4 studies were RCTs. The majority of the studies were of poor or moderate methodological quality. The interventions were variable and poorly reported. Only 4 studies reported unsuccessful interventions but there was no clear pattern to link effect and intervention type or other characteristics. CONCLUSIONS: The results suggest that behaviour change interventions are effective particularly in reducing the volume of thyroid function tests. However, due to the poor methodological quality and reporting of the studies, the likely presence of publication bias and the questionable relevance of some interventions to current day practice, we are unable to draw strong conclusions or recommend the implementation of specific intervention types. Further research is thus justified. TRIAL REGISTRATION NUMBER: CRD42014006192.

Les outils d'aide à la prescription

Revues de littérature

De Oliveira, G. S., Jr., et al. (2017). "Effectiveness of Pharmacist Intervention to Reduce Medication Errors and Health-Care Resources Utilization After Transitions of Care: A Meta-analysis of Randomized Controlled Trials." J Patient Saf.

OBJECTIVES: Medication errors are common during transitions of care. The main objective of the current investigation was to examine the effectiveness of pharmacist-based transition of care interventions on the reduction of medication errors after hospital discharge. METHODS: A systematic search was conducted to detect published reports of randomized trials using the National Library of Medicine's PubMed database, the Cochrane Database of Systematic Reviews, and Google Scholar inclusive to July 1, 2015. Search terms included pharmacist, medication, errors, readmission, transition, and discharge. A priori main outcomes included medication errors and health-care resources utilization (hospital readmission and/or emergency room visits). Quantitative analysis was performed using a random effect method. RESULTS: Thirteen randomized trials examining 3503 patients were included in the final analysis. The aggregate effect of the 10 studies evaluating the effect of pharmacists intervention on the incidence of medication errors during transitions of care favored pharmacist over control with an odds ratio (95% confidence interval [CI]) of 0.44 (0.31-0.63). The

overall effect of 4 studies evaluating the effect of a pharmacist intervention on the incidence of emergency room visits compared with control favored the pharmacist intervention, odds ratio (95% CI) of 0.42 (0.22-0.78), number needed to treat (95% CI) of 6.2 (3.4-31.4). CONCLUSIONS: Pharmacist transition of care intervention is an effective strategy to reduce medication errors after hospital discharge. In addition, a pharmacist intervention also reduces subsequent emergency room visits. Hospitals should consider implementing this intervention to improve patient safety and quality during transitions of care.

Gillaizeau, F., et al. (2013). "Computerized advice on drug dosage to improve prescribing practice." Cochrane Database Syst Rev(11): Cd002894.

BACKGROUND: Maintaining therapeutic concentrations of drugs with a narrow therapeutic window is a complex task. Several computer systems have been designed to help doctors determine optimum drug dosage. Signi fi cant improvements in health care could be achieved if computer advice improved health outcomes and could be implemented in routine practice in a cost-effective fashion. This is an updated version of an earlier Cochrane systematic review, first published in 2001 and updated in 2008. OBJECTIVES: To assess whether computerized advice on drug dosage has beneficial effects on patient outcomes compared with routine care (empiric dosing without computer assistance). SEARCH METHODS: The following databases were searched from 1996 to January 2012: EPOC Group Specialized Register, Reference Manager; Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Ovid; EMBASE, Ovid; and CINAHL, EbscoHost. A "top up" search was conducted for the period January 2012 to January 2013; these results were screened by the authors and potentially relevant studies are listed in Studies Awaiting Classification. The review authors also searched reference lists of relevant studies and related reviews. SELECTION CRITERIA: We included randomized controlled trials, non-randomized controlled trials, controlled before-and-after studies and interrupted time series analyses of computerized advice on drug dosage. The participants were healthcare professionals responsible for patient care. The outcomes were any objectively measured change in the health of patients resulting from computerized advice (such as therapeutic drug control, clinical improvement, adverse reactions). DATA COLLECTION AND ANALYSIS: Two review authors independently extracted data and assessed study quality. We grouped the results from the included studies by drug used and the effect aimed at for aminoglycoside antibiotics, amitriptyline, anaesthetics, insulin, anticoagulants, ovarian stimulation, anti-rejection drugs and theophylline. We combined the effect sizes to give an overall effect for each subgroup of studies, using a random-effects model. We further grouped studies by type of outcome when appropriate (i.e. no evidence of heterogeneity). MAIN RESULTS: Forty-six comparisons (from 42 trials) were included (as compared with 26 comparisons in the last update) including a wide range of drugs in inpatient and outpatient settings. All were randomized controlled trials except two studies. Interventions usually targeted doctors, although some studies attempted to influence prescriptions by pharmacists and nurses. Drugs evaluated were anticoagulants, insulin, aminoglycoside antibiotics, theophylline, anti-rejection drugs, anaesthetic agents, antidepressants and gonadotropins. Although all studies used reliable outcome measures, their quality was generally low.This update found similar results to the previous update and managed to identify specific therapeutic areas where the computerized advice on drug dosage was beneficial compared with routine care:1. it increased target peak serum concentrations (standardized mean difference (SMD) 0.79, 95% CI 0.46 to 1.13) and the proportion of people with plasma drug concentrations within the therapeutic range after two days (pooled risk ratio (RR) 4.44, 95% CI 1.94 to 10.13) for aminoglycoside antibiotics;2. it led to a physiological parameter more often within the desired range for oral anticoagulants (SMD for percentage of time spent in target international normalized ratio +0.19, 95% CI 0.06 to 0.33) and insulin (SMD for percentage of time in target glucose range: +1.27, 95% CI 0.56 to 1.98);3. it decreased the time to achieve stabilization for oral anticoagulants (SMD -0.56, 95% CI -1.07 to -0.04);4. it decreased the thromboembolism events (rate ratio 0.68, 95% CI 0.49 to 0.94) and tended to decrease bleeding events for anticoagulants although the difference was not significant (rate ratio 0.81, 95% CI 0.60 to 1.08). It tended to decrease unwanted effects for aminoglycoside antibiotics (nephrotoxicity: RR 0.67, 95% CI 0.42 to 1.06) and anti-rejection drugs (cytomegalovirus infections: RR 0.90, 95% CI 0.58 to 1.40);5. it tended to reduce the length of time spent in the hospital although the difference was not significant (SMD -0.15, 95% CI

-0.33 to 0.02) and to achieve comparable or better cost-effectiveness ratios than usual care;6. there was no evidence of differences in mortality or other clinical adverse events for insulin (hypoglycaemia), anaesthetic agents, anti-rejection drugs and antidepressants.For all outcomes, statistical heterogeneity quantified by I(2) statistics was moderate to high. AUTHORS' CONCLUSIONS: This review update suggests that computerized advice for drug dosage has some benefits: it increases the serum concentrations for aminoglycoside antibiotics and improves the proportion of people for which the plasma drug is within the therapeutic range for aminoglycoside antibiotics.It leads to a physiological parameter more often within the desired range for oral anticoagulants and insulin. It decreases the time to achieve stabilization for oral anticoagulants. It tends to decrease unwanted effects for aminoglycoside antibiotics and anti-rejection drugs, and it significantly decreases thromboembolism events for anticoagulants. It tends to reduce the length of hospital stay compared with routine care while comparable or better cost-effectiveness ratios were achieved.However, there was no evidence that decision support had an effect on mortality or other clinical adverse events for insulin (hypoglycaemia), anaesthetic agents, anti-rejection drugs and antidepressants. In addition, there was no evidence to suggest that some decision support technical features (such as its integration into a computer physician order entry system) or aspects of organization of care (such as the setting) could optimize the effect of computerized advice.Taking into account the high risk of bias of, and high heterogeneity between, studies, these results must be interpreted with caution.

Khalil, H., et al. (2017). "Professional, structural and organisational interventions in primary care for reducing medication errors." Cochrane Database Syst Rev **10**: Cd003942.

BACKGROUND: Medication-related adverse events in primary care represent an important cause of hospital admissions and mortality. Adverse events could result from people experiencing adverse drug reactions (not usually preventable) or could be due to medication errors (usually preventable). OBJECTIVES: To determine the effectiveness of professional, organisational and structural interventions compared to standard care to reduce preventable medication errors by primary healthcare professionals that lead to hospital admissions, emergency department visits, and mortality in adults. SEARCH METHODS: We searched CENTRAL, MEDLINE, Embase, three other databases, and two trial registries on 4 October 2016, together with reference checking, citation searching and contact with study authors to identify additional studies. We also searched several sources of grey literature. SELECTION CRITERIA: We included randomised trials in which healthcare professionals provided community-based medical services. We also included interventions in outpatient clinics attached to a hospital where people are seen by healthcare professionals but are not admitted to hospital. We only included interventions that aimed to reduce medication errors leading to hospital admissions, emergency department visits, or mortality. We included all participants, irrespective of age, who were prescribed medication by a primary healthcare professional. DATA COLLECTION AND ANALYSIS: Three review authors independently extracted data. Each of the outcomes (hospital admissions, emergency department visits, and mortality), are reported in natural units (i.e. number of participants with an event per total number of participants at follow-up). We presented all outcomes as risk ratios (RRs) with 95% confidence intervals (CIs). We used the GRADE tool to assess the certainty of evidence. MAIN RESULTS: We included 30 studies (169,969 participants) in the review addressing various interventions to prevent medication errors; four studies addressed professional interventions (8266 participants) and 26 studies described organisational interventions (161,703 participants). We did not find any studies addressing structural interventions. Professional interventions included the use of health information technology to identify people at risk of medication problems, computer-generated care suggested and actioned by a physician, electronic notification systems about dose changes, drug interventions and follow-up, and educational interventions on drug use aimed at physicians to improve drug prescriptions. Organisational interventions included medication reviews by pharmacists, nurses or physicians, clinician-led clinics, and home visits by clinicians.There is a great deal of diversity in types of professionals involved and where the studies occurred. However, most (61%) of the interventions were conducted by pharmacists or a combination of pharmacists and medical doctors. The studies took place in many different countries; 65% took place in either the USA or the UK. They all ranged from three months to 4.7 years of follow-up, they all took place in primary care settings such as general practice, outpatients' clinics, patients' homes and aged-care facilities. The

participants in the studies were adults taking medications and the interventions were undertaken by healthcare professionals including pharmacists, nurses or physicians. There was also evidence of potential bias in some studies, with only 18 studies reporting adequate concealment of allocation and only 12 studies reporting appropriate protection from contamination, both of which may have influenced the overall effect estimate and the overall pooled estimate. Professional interventionsProfessional interventions probably make little or no difference to the number of hospital admissions (risk ratio (RR) 1.24, 95% confidence interval (CI) 0.79 to 1.96; 2 studies, 3889 participants; moderate-certainty evidence). Professional interventions make little or no difference to the number of participants admitted to hospital (adjusted RR 0.99, 95% CI 0.92 to 1.06; 1 study, 3661 participants; high-certainty evidence). Professional interventions may make little or no difference to the number of emergency department visits (adjusted RR 0.71, 95% CI 0.50 to 1.02; 2 studies, 1067 participants; low-certainty evidence). Professional interventions probably make little or no difference to mortality in the study population (adjusted RR 0.98, 95% CI 0.82 to 1.17; 1 study, 3538 participants; moderate-certainty evidence). Organisational interventionsOverall, it is uncertain whether organisational interventions reduce the number of hospital admissions (adjusted RR 0.85, 95% CI 0.71 to 1.03; 11 studies, 6203 participants; very low-certainty evidence). Overall, organisational interventions may make little difference to the total number of people admitted to hospital in favour of the intervention group compared with the control group (adjusted RR 0.92, 95% CI 0.86 to 0.99; 13 studies, 152,237 participants; low-certainty evidence. Overall, it is uncertain whether organisational interventions reduce the number of emergency department visits in favour of the intervention group compared with the control group (adjusted RR 0.75, 95% CI 0.49 to 1.15; 5 studies, 1819 participants; very low-certainty evidence. Overall, it is uncertain whether organisational interventions reduce mortality in favour of the intervention group (adjusted RR 0.94, 95% CI 0.85 to 1.03; 12 studies, 154,962 participants; very low-certainty evidence. AUTHORS' CONCLUSIONS: Based on moderate- and low-certainty evidence, interventions in primary care for reducing preventable medication errors probably make little or no difference to the number of people admitted to hospital or the number of hospitalisations, emergency department visits, or mortality. The variation in heterogeneity in the pooled estimates means that our results should be treated cautiously as the interventions may not have worked consistently across all studies due to differences in how the interventions were provided, background practice, and culture or delivery of the interventions. Larger studies addressing both professional and organisational interventions are needed before evidence-based recommendations can be made. We did not identify any structural interventions and only four studies used professional interventions, and so more work needs to be done with these types of interventions. There is a need for high-quality studies describing the interventions in more detail and testing patient-related outcomes.

Maaskant, J. M., et al. (2015). "Interventions for reducing medication errors in children in hospital." Cochrane Database Syst Rev(3): Cd006208.

BACKGROUND: Many hospitalised patients are affected by medication errors (MEs) that may cause discomfort, harm and even death. Children are at especially high risk of harm as the result of MEs because such errors are potentially more hazardous to them than to adults. Until now, interventions to reduce MEs have led to only limited improvements. OBJECTIVES: To determine the effectiveness of interventions aimed at reducing MEs and related harm in hospitalised children. SEARCH METHODS: The Effective Practice and Organisation of Care Group (EPOC) Trials Search Co-ordinator searched the following sources for primary studies: The Cochrane Library, including the Cochrane Central Register of Controlled Trials (CENTRAL), the Economic Evaluation Database (EED) and the Health Technology Assessments (HTA) database; MEDLINE, EMBASE, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO, Proquest Dissertations & Theses, Web of Science (citation indexes and conference proceedings) and the EPOC Register of Studies. Related reviews were identified by searching the Cochrane Database of Systematic Reviews and the Database of Abstracts of Reviews of Effects (DARE). Review authors searched grey literature sources and trial registries. They handsearched selected journals, contacted researchers in the field and scanned reference lists of relevant reviews. They conducted searches in November 2013 and November 2014. They applied neither language nor date limits. SELECTION CRITERIA: Randomised controlled trials, controlled

before-after studies and interrupted time series investigating interventions to improve medication safety in hospitalised children (</= 18 years). Participants were healthcare professionals authorised to prescribe, dispense or administer medications. Outcome measures included MEs, (potential) patient harm, resource utilisation and unintended consequences of the interventions. DATA COLLECTION AND ANALYSIS: Two review authors independently selected studies, extracted data and assessed study quality using the EPOC data collection checklist. We evaluated the risk of bias of included studies and used the GRADE (Grades of Recommendation, Assessment, Development and Evaluation) approach to assess the quality of the body of evidence. We described results narratively and presented them using GRADE tables. MAIN RESULTS: We included seven studies describing five different interventions: participation of a clinical pharmacist in a clinical team (n = 2), introduction of a computerised physician order entry system (n = 2), implementation of a barcode medication administration system (n = 1), use of a structured prescribing form (n = 1) and implementation of a check and control checklist in combination with feedback (n = 1).Clinical and methodological heterogeneity between studies precluded meta-analyses. Although some interventions described in this review show a decrease in MEs, the results are not consistent, and none of the studies resulted in a significant reduction in patient harm. Based on the GRADE approach, the overall quality and strengfh of the evidence are low. AUTHORS' CONCLUSIONS: Current evidence on effective interventions to prevent MEs in a paediatric population in hospital is limited. Comparative studies with robust study designs are needed to investigate interventions including components that focus on specific paediatric safety issues.

Zaugg, V., et al. (2018). "Providing physicians with feedback on medication adherence for people with chronic diseases taking long-term medication." Cochrane Database Syst Rev **1**: Cd012042.

BACKGROUND: Poor medication adherence decreases treatment efficacy and worsens clinical outcomes, but average rates of adherence to long-term pharmacological treatments for chronic illnesses are only about 50%. Interventions for improving medication adherence largely focus on patients rather than on physicians; however, the strategies shown to be effective are complex and difficult to implement in clinical practice. There is a need for new care models addressing the problem of medication adherence, integrating this problem into the patient care process. Physicians tend to overestimate how well patients take their medication as prescribed. This can lead to missed opportunities to change medications, solve adverse effects, or propose the use of reminders in order to improve patients' adherence. Thus, providing physicians with feedback on medication adherence has the potential to prompt changes that improve their patients' adherence to prescribed medications. OBJECTIVES: To assess the effects of providing physicians with feedback about their patients' medication adherence for improving adherence. We also assessed the effects of the intervention on patient outcomes, health resource use, and processes of care. SEARCH METHODS: We conducted a systematic search of the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, and Embase, all from database inception to December 2016 and without any language restriction. We also searched ISI Web of Science, two trials registers, and grey literature. SELECTION CRITERIA: We included randomised trials, controlled before-after studies, and interrupted time series studies that compared the effects of providing feedback to physicians about their patients' adherence to prescribed long-term medications for chronic diseases versus usual care. We included published or unpublished studies in any language. Participants included any physician and any patient prescribed with long-term medication for chronic disease. We included interventions providing the prescribing physician with information about patient adherence to medication. Only studies in which feedback to the physician was the sole intervention or the essential component of a multifaceted intervention were eligible. In the comparison groups, the physicians should not have had access to information about their patients' adherence to medication. We considered the following outcomes: medication adherence, patient outcomes, health resource use, processes of care, and adverse events. DATA COLLECTION AND ANALYSIS: Two independent review authors extracted and analysed all data using standard methodological procedures expected by Cochrane and the Effective Practice and Organisation of Care group. Due to heterogeneity in study methodology, comparison groups, intervention settings, and measurements of outcomes, we did not carry out meta-analysis. We describe the impact of interventions on outcomes in tabular form and make a qualitative assessment of the effects of studies. MAIN RESULTS: We included nine studies (23,255 patient participants): eight

randomised trials and one interrupted time series analysis. The studies took place in primary care and other outpatient settings in the USA and Canada. Seven interventions involved the systematic provision of feedback to physicians concerning all their patients' adherence to medication, and two interventions involved issuing an alert for non-adherent patients only. Seven studies used pharmacy refill data to assess medication adherence, and two used an electronic device or self-reporting. The definition of adherence differed across studies, making comparisons difficult. Eight studies were at high risk of bias, and one study was at unclear risk of bias. The most frequent source of bias was lack of protection against contamination.Providing physicians with feedback may lead to little or no difference in medication adherence (seven studies, 22,924 patients), patient outcomes (two studies, 1292 patients), or health resource use (two studies, 4181 patients). Providing physicians with feedback on medication adherence may improve processes of care (e.g. more medication changes, dialogue with patient, management of uncontrolled hypertension) compared to usual care (four studies, 2780 patients). None of the studies reported an adverse event due to the intervention. The certainty of evidence was low for all outcomes, mainly due to high risk of bias, high heterogeneity across studies, and indirectness of evidence. AUTHORS' CONCLUSIONS: Across nine studies, we observed little or no evidence that provision of feedback to physicians regarding their patients adherence to prescribed medication improved medication adherence, patient outcomes, or health resource use. Feedback about medication adherence may improve processes of care, but due to the small number of studies assessing this outcome and high risk of bias, we cannot draw firm conclusions on the effect of feedback on this outcome. Future research should use a clear, standardised definition of medication adherence and cluster-randomisation to avoid the risk of contamination.

Autres études

Awdishu, L., et al. (2016). "The impact of real-time alerting on appropriate prescribing in kidney disease: a cluster randomized controlled trial." J Am Med Inform Assoc **23**(3): 609-616.

BACKGROUND: Patients with kidney disease are at risk for adverse events due to improper medication prescribing. Few randomized controlled trials of clinical decision support (CDS) utilizing dynamic assessment of patients' kidney function to improve prescribing for patients with kidney disease have been published. METHODS: We developed a CDS tool for 20 medications within a commercial electronic health record. Our system detected scenarios in which drug discontinuation or dosage adjustment was recommended for adult patients with impaired renal function in the ambulatory and acute settings - both at the time of the initial prescription ("prospective" alerts) and by monitoring changes in renal function for patients already receiving one of the study medications ("look-back" alerts). We performed a prospective, cluster randomized controlled trial of physicians receiving clinical decision support for renal dosage adjustments versus those performing their usual workflow. The primary endpoint was the proportion of study prescriptions that were appropriately adjusted for patients' kidney function at the time that patients' conditions warranted a change according to the alert logic. We employed multivariable logistic regression modeling to adjust for glomerular filtration rate, gender, age, hospitalized status, length of stay, type of alert, time from start of study, and clustering within the prescribing physician on the primary endpoint. RESULTS: A total of 4068 triggering conditions occurred in 1278 unique patients; 1579 of these triggering conditions generated alerts seen by physicians in the intervention arm and 2489 of these triggering conditions were captured but suppressed, so as not to generate alerts for physicians in the control arm. Prescribing orders were appropriate adjusted in 17% of the time vs 5.7% of the time in the intervention and control arms, respectively (odds ratio: 1.89, 95% confidence interval, 1.45-2.47, P < .0001). Prospective alerts had a greater impact than look-back alerts (55.6% vs 10.3%, in the intervention arm). CONCLUSIONS: The rate of appropriate drug prescribing in kidney impairment is low and remains a patient safety concern. Our results suggest that CDS improves drug prescribing, particularly when providing guidance on new prescriptions.

Cantrill, J. A. (2000). "Measuring the appropriateness of long-term prescribing in United Kingdom general practice - is the British national formulary the "Gold standard" ?" Journal of Clinical Pharmacy and

Therapeutics(25): 341-346, 342 tabl.

Clyne, B., et al. (2016). "A process evaluation of a cluster randomised trial to reduce potentially inappropriate prescribing in older people in primary care (OPTI-SCRIPT study)." Trials **17**(1): 386.

BACKGROUND: The OPTI-SCRIPT cluster randomised controlled trial (RCT) found that a three-phase multifaceted intervention including academic detailing with a pharmacist, GP-led medicines reviews, supported by web-based pharmaceutical treatment algorithms, and tailored patient information leaflets, was effective in reducing potentially inappropriate prescribing (PIP) in Irish primary care. We report a process evaluation exploring the implementation of the intervention, the experiences of those participating in the study and lessons for future implementation. METHODS: The OPTI-SCRIPT trial included 21 GP practices and 196 patients. The process evaluation used mixed methods. Quantitative data were collected from all GP practices and semi-structured interviews were conducted with GPs from intervention and control groups, and a purposive sample of patients from the intervention group. All interviews were transcribed verbatim and analysed using a thematic analysis. RESULTS: Despite receiving a standardised academic detailing session, intervention delivery varied among GP practices. Just over 70 % of practices completed medicines review as recommended with the patient present. Only single-handed practices conducted reviews without patients present, highlighting the influence of practice characteristics and resources on variation. Medications were more likely to be completely stopped or switched to another more appropriate medication when reviews were conducted with patients present. The patient information leaflets were not used by any of the intervention practices. Both GP (32 %) and patient (40 %) recruitment rates were modest. For those who did participate, overall, the experience was positively viewed, with GPs and patients referring to the value of medication reviews to improve prescribing and reduce unnecessary medications. Lack of time in busy GP practices and remuneration were identified as organisational barriers to future implementation. CONCLUSIONS: The OPTI-SCRIPT intervention was positively viewed by both GPs and patients, both of whom valued the study's objectives. Patient information leaflets were not a successful component of the intervention. Academic detailing and medication reviews are important components in changing PIP, and having patients present during the review process seems to be a more effective approach for decreasing PIP. TRIAL REGISTRATION: Current controlled trials ISRCTN41694007 . Registered on 21 March 2012.

Croker, R., et al. (2018). "New mechanism to identify cost savings in English NHS prescribing: minimising 'price per unit', a cross-sectional study." BMJ Open **8**(2): e019643.

BACKGROUND: Minimising prescription costs while maintaining quality is a core element of delivering high-value healthcare. There are various strategies to achieve savings, but almost no research to date on determining the most effective approach. We describe a new method of identifying potential savings due to large national variations in drug cost, including variation in generic drug cost, and compare these with potential savings from an established method (generic prescribing). METHODS: We used English National Health Service (NHS) Digital prescribing data, from October 2015 to September 2016. Potential cost savings were calculated by determining the price per unit (eg, pill, millilitre) for each drug and dose within each general practice. This was compared against the same cost for the practice at the lowest cost decile to determine achievable savings. We compared these price-per-unit savings to the savings possible from generic switching and determined the chemicals with the highest savings nationally. A senior pharmacist manually assessed whether a random sample of savings were practically achievable. RESULTS: We identified a theoretical maximum of pound410 million of savings over 12 months. pound273 million of these savings were for individual prescribing changes worth over pound50 per practice per month (mean annual saving pound33 433 per practice); this compares favourably with generic switching, where only pound35 million of achievable savings were identified. The biggest savings nationally were on glucose blood testing reagents (pound12 million), fluticasone propionate (pound9 million) and venlafaxine (pound8 million). Approximately half of all savings were deemed practically achievable. DISCUSSION: We have developed a new method to identify and enable large potential cost savings within NHS community prescribing. Given the current pressures on the NHS, it is vital that these potential savings are realised. Our tool enabling

doctors to achieve these savings is now launched in pilot form at OpenPrescribing.net. However, savings could potentially be achieved more simply through national policy change.

Fayolle-Pivot, L., et al. (2013). "[Contribution of information technologies to assess and improve professional practice: example of management of surgical antibiotic prophylaxis]." Ann Fr Anesth Reanim **32**(4): 241-245.

INTRODUCTION: Information technologies appear to be interesting tools to assess and improve professional practices. In that setting, the management of surgical antibiotic prophylaxis represents an appropriate clinical area for using and evaluating such a tool. Despite the existence of guidelines in one hand and the demonstrated interest for a strict application of recommendations in the other hand, some irregularities in the management of surgical antibiotic prophylaxis remain in France in 2010. OBJECTIVES: Since we have had computer systems in our department for several years, we performed an evaluation of practice to assess the impact of both the computer-based help and the updating of knowledge in physicians as tools to improve the application of guidelines for surgical antibiotic prophylaxis. STUDY DESIGN: Clinical audits. METHODS: Three clinical audits have therefore been performed before an implementation of computer-based help for clinical decisions and a clinical update for physicians, immediately after, and two years after this combined procedure (2322, 2678 and 2863 patients, respectively). RESULTS: There was an enhancement of clinical practices and compliance to guidelines secondary to the beginning of computer-based prescription (55 to 81%, P<0.05). However, a weaning effect was observed with longer intervals between clinical update and surgical procedure, in association with increased omissions of antibiotic prophylaxis. CONCLUSION: Computer-based help for clinical decision and prescription seems to be a useful tool for surgical antibiotic prophylaxis but it should be accompanied by direct regular educational measures to update protocols and databases.

Frankenthal, D., et al. (2014). "Intervention with the screening tool of older persons potentially inappropriate prescriptions/screening tool to alert doctors to right treatment criteria in elderly residents of a chronic geriatric facility: a randomized clinical trial." J Am Geriatr Soc **62**(9): 1658-1665.

OBJECTIVES: To assess the effect of a Screening Tool of Older Persons potentially inappropriate Prescriptions/Screening Tool to Alert doctors to Right Treatment (STOPP/START) medication intervention on clinical and economic outcomes. DESIGN: Parallel-group randomized trial. SETTING: Chronic care geriatric facility. PARTICIPANTS: Residents aged 65 and older prescribed with at least one medication (N = 359) were randomized to receive usual pharmaceutical care or undergo medication intervention. INTERVENTION: Screening medications with STOPP/START criteria followed up with recommendations to the chief physician. MEASUREMENTS: The outcome measures assessed at the initiation of the intervention and 1 year later were number of hospitalizations and falls, Functional Independence Measure (FIM), quality of life (measured using the Medical Outcomes Study 12-item Short-Form Health Survey), and costs of medications. RESULTS: The average number of drugs prescribed was significantly lower in the intervention than in the control group after 1 year (P < .001). The average drug costs in the intervention group decreased by 103 shekels (US$29) per participant per month (P < .001). The average number of falls in the intervention group dropped significantly (P = .006). Rates of hospitalization, FIM scores, and quality of life measurements were similar for both groups. CONCLUSION: Implementation of STOPP/START criteria reduced the number of medications, falls, and costs in a geriatric facility. Their incorporation in those and similar settings is recommended.

Gillaizeau, F., et al. (2013). "Computerized advice on drug dosage to improve prescribing practice." Cochrane Database Syst Rev(11): Cd002894.

BACKGROUND: Maintaining therapeutic concentrations of drugs with a narrow therapeutic window is a complex task. Several computer systems have been designed to help doctors determine optimum drug dosage. Signi fi cant improvements in health care could be achieved if computer advice improved health outcomes and could be implemented in routine practice in a cost-effective fashion. This is an updated version of an earlier Cochrane systematic review, first published in 2001 and updated in

2008. OBJECTIVES: To assess whether computerized advice on drug dosage has beneficial effects on patient outcomes compared with routine care (empiric dosing without computer assistance). SEARCH METHODS: The following databases were searched from 1996 to January 2012: EPOC Group Specialized Register, Reference Manager; Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Ovid; EMBASE, Ovid; and CINAHL, EbscoHost. A "top up" search was conducted for the period January 2012 to January 2013; these results were screened by the authors and potentially relevant studies are listed in Studies Awaiting Classification. The review authors also searched reference lists of relevant studies and related reviews. SELECTION CRITERIA: We included randomized controlled trials, non-randomized controlled trials, controlled before-and-after studies and interrupted time series analyses of computerized advice on drug dosage. The participants were healthcare professionals responsible for patient care. The outcomes were any objectively measured change in the health of patients resulting from computerized advice (such as therapeutic drug control, clinical improvement, adverse reactions). DATA COLLECTION AND ANALYSIS: Two review authors independently extracted data and assessed study quality. We grouped the results from the included studies by drug used and the effect aimed at for aminoglycoside antibiotics, amitriptyline, anaesthetics, insulin, anticoagulants, ovarian stimulation, anti-rejection drugs and theophylline. We combined the effect sizes to give an overall effect for each subgroup of studies, using a random-effects model. We further grouped studies by type of outcome when appropriate (i.e. no evidence of heterogeneity). MAIN RESULTS: Forty-six comparisons (from 42 trials) were included (as compared with 26 comparisons in the last update) including a wide range of drugs in inpatient and outpatient settings. All were randomized controlled trials except two studies. Interventions usually targeted doctors, although some studies attempted to influence prescriptions by pharmacists and nurses. Drugs evaluated were anticoagulants, insulin, aminoglycoside antibiotics, theophylline, anti-rejection drugs, anaesthetic agents, antidepressants and gonadotropins. Although all studies used reliable outcome measures, their quality was generally low.This update found similar results to the previous update and managed to identify specific therapeutic areas where the computerized advice on drug dosage was beneficial compared with routine care:1. it increased target peak serum concentrations (standardized mean difference (SMD) 0.79, 95% CI 0.46 to 1.13) and the proportion of people with plasma drug concentrations within the therapeutic range after two days (pooled risk ratio (RR) 4.44, 95% CI 1.94 to 10.13) for aminoglycoside antibiotics;2. it led to a physiological parameter more often within the desired range for oral anticoagulants (SMD for percentage of time spent in target international normalized ratio +0.19, 95% CI 0.06 to 0.33) and insulin (SMD for percentage of time in target glucose range: +1.27, 95% CI 0.56 to 1.98);3. it decreased the time to achieve stabilization for oral anticoagulants (SMD -0.56, 95% CI -1.07 to -0.04);4. it decreased the thromboembolism events (rate ratio 0.68, 95% CI 0.49 to 0.94) and tended to decrease bleeding events for anticoagulants although the difference was not significant (rate ratio 0.81, 95% CI 0.60 to 1.08). It tended to decrease unwanted effects for aminoglycoside antibiotics (nephrotoxicity: RR 0.67, 95% CI 0.42 to 1.06) and anti-rejection drugs (cytomegalovirus infections: RR 0.90, 95% CI 0.58 to 1.40);5. it tended to reduce the length of time spent in the hospital although the difference was not significant (SMD -0.15, 95% CI -0.33 to 0.02) and to achieve comparable or better cost-effectiveness ratios than usual care;6. there was no evidence of differences in mortality or other clinical adverse events for insulin (hypoglycaemia), anaesthetic agents, anti-rejection drugs and antidepressants.For all outcomes, statistical heterogeneity quantified by I(2) statistics was moderate to high. AUTHORS' CONCLUSIONS: This review update suggests that computerized advice for drug dosage has some benefits: it increases the serum concentrations for aminoglycoside antibiotics and improves the proportion of people for which the plasma drug is within the therapeutic range for aminoglycoside antibiotics.It leads to a physiological parameter more often within the desired range for oral anticoagulants and insulin. It decreases the time to achieve stabilization for oral anticoagulants. It tends to decrease unwanted effects for aminoglycoside antibiotics and anti-rejection drugs, and it significantly decreases thromboembolism events for anticoagulants. It tends to reduce the length of hospital stay compared with routine care while comparable or better cost-effectiveness ratios were achieved. However, there was no evidence that decision support had an effect on mortality or other clinical adverse events for insulin (hypoglycaemia), anaesthetic agents, anti-rejection drugs and antidepressants. In addition, there was no evidence to suggest that some decision support technical features (such as its integration into a computer physician order entry system) or aspects of organization of care (such as

the setting) could optimize the effect of computerized advice.Taking into account the high risk of bias of, and high heterogeneity between, studies, these results must be interpreted with caution.

Gillespie, U., et al. (2013). "Effects of pharmacists' interventions on appropriateness of prescribing and evaluation of the instruments' (MAI, STOPP and STARTs') ability to predict hospitalization--analyses from a randomized controlled trial." PLoS One **8**(5): e62401.

BACKGROUND: Appropriateness of prescribing can be assessed by various measures and screening instruments. The aims of this study were to investigate the effects of pharmacists' interventions on appropriateness of prescribing in elderly patients, and to explore the relationship between these results and hospital care utilization during a 12-month follow-up period. METHODS: The study population from a previous randomized controlled study, in which the effects of a comprehensive pharmacist intervention on re-hospitalization was investigated, was used. The criteria from the instruments MAI, STOPP and START were applied retrospectively to the 368 study patients (intervention group (I) n = 182, control group (C) n = 186). The assessments were done on admission and at discharge to detect differences over time and between the groups. Hospital care consumption was recorded and the association between scores for appropriateness, and hospitalization was analysed. RESULTS: The number of Potentially Inappropriate Medicines (PIMs) per patient as identified by STOPP was reduced for I but not for C (1.42 to 0.93 vs. 1.46 to 1.66 respectively, p<0.01). The number of Potential Prescription Omissions (PPOs) per patient as identified by START was reduced for I but not for C (0.36 to 0.09 vs. 0.42 to 0.45 respectively, p<0.001). The summated score for MAI was reduced for I but not for C (8.5 to 5.0 and 8.7 to 10.0 respectively, p<0.001). There was a positive association between scores for MAI and STOPP and drug-related readmissions (RR 8-9% and 30-34% respectively). No association was detected between the scores of the tools and total re-visits to hospital. CONCLUSION: The interventions significantly improved the appropriateness of prescribing for patients in the intervention group as evaluated by the instruments MAI, STOPP and START. High scores in MAI and STOPP were associated with a higher number of drug-related readmissions.

Grant, A., et al. (2017). "Process evaluation of the data-driven quality improvement in primary care (DQIP) trial: active and less active ingredients of a multi-component complex intervention to reduce high-risk primary care prescribing." Implement Sci **12**(1): 4.

BACKGROUND: Two to 4% of emergency hospital admissions are caused by preventable adverse drug events. The estimated costs of such avoidable admissions in England were pound530 million in 2015. The data-driven quality improvement in primary care (DQIP) intervention was designed to prompt review of patients vulnerable from currently prescribed non-steroidal anti-inflammatory drugs (NSAIDs) and anti-platelets and was found to be effective at reducing this prescribing. A process evaluation was conducted parallel to the trial, and this paper reports the analysis which aimed to explore response to the intervention delivered to clusters in relation to participants' perceptions about which intervention elements were active in changing their practice. METHODS: Data generation was by in-depth interview with key staff exploring participant's perceptions of the intervention components. Analysis was iterative using the framework technique and drawing on normalisation process theory. RESULTS: All the primary components of the intervention were perceived as active, but at different stages of implementation: financial incentives primarily supported recruitment; education motivated the GPs to initiate implementation; the informatics tool facilitated sustained implementation. Participants perceived the primary components as interdependent. Intervention subcomponents also varied in whether and when they were active. For example, run charts providing feedback of change in prescribing over time were ignored in the informatics tool, but were motivating in some practices in the regular e-mailed newsletter. The high-risk NSAID and anti-platelet prescribing targeted was accepted as important by all interviewees, and this shared understanding was a key wider context underlying intervention effectiveness. CONCLUSIONS: This was a novel use of process evaluation data which examined whether and how the individual intervention components were effective from the perspective of the professionals delivering changed care to patients. These findings are important for reproducibility and roll-out of the intervention. TRIAL REGISTRATION: ClinicalTrials.gov, NCT01425502 .

Gupta, A., et al. (2017). "Drug shortage leading to serendipitous adoption of high-value care practice." BMJ Qual Saf **26**(10): 852-854.

Harris, A. M., et al. (2016). "Appropriate Antibiotic Use for Acute Respiratory Tract Infection in Adults: Advice for High-Value Care From the American College of Physicians and the Centers for Disease Control and Prevention." Ann Intern Med **164**(6): 425-434.

BACKGROUND: Acute respiratory tract infection (ARTI) is the most common reason for antibiotic prescription in adults. Antibiotics are often inappropriately prescribed for patients with ARTI. This article presents best practices for antibiotic use in healthy adults (those without chronic lung disease or immunocompromising conditions) presenting with ARTI. METHODS: A narrative literature review of evidence about appropriate antibiotic use for ARTI in adults was conducted. The most recent clinical guidelines from professional societies were complemented by meta-analyses, systematic reviews, and randomized clinical trials. To identify evidence-based articles, the Cochrane Library, PubMed, MEDLINE, and EMBASE were searched through September 2015 using the following Medical Subject Headings terms: "acute bronchitis," "respiratory tract infection," "pharyngitis," "rhinosinusitis," and "the common cold." HIGH-VALUE CARE ADVICE 1: Clinicians should not perform testing or initiate antibiotic therapy in patients with bronchitis unless pneumonia is suspected. HIGH-VALUE CARE ADVICE 2: Clinicians should test patients with symptoms suggestive of group A streptococcal pharyngitis (for example, persistent fevers, anterior cervical adenitis, and tonsillopharyngeal exudates or other appropriate combination of symptoms) by rapid antigen detection test and/or culture for group A Streptococcus. Clinicians should treat patients with antibiotics only if they have confirmed streptococcal pharyngitis. HIGH-VALUE CARE ADVICE 3: Clinicians should reserve antibiotic treatment for acute rhinosinusitis for patients with persistent symptoms for more than 10 days, onset of severe symptoms or signs of high fever (>39 degrees C) and purulent nasal discharge or facial pain lasting for at least 3 consecutive days, or onset of worsening symptoms following a typical viral illness that lasted 5 days that was initially improving (double sickening). HIGH-VALUE CARE ADVICE 4: Clinicians should not prescribe antibiotics for patients with the common cold.

Juszczyk, D., et al. (2016). "Electronically delivered, multicomponent intervention to reduce unnecessary antibiotic prescribing for respiratory infections in primary care: a cluster randomised trial using electronic health records-REDUCE Trial study original protocol." BMJ Open **6**(8): e010892.

INTRODUCTION: Respiratory tract infections (RTIs) account for about 60% of antibiotics prescribed in primary care. This study aims to test the effectiveness, in a cluster randomised controlled trial, of electronically delivered, multicomponent interventions to reduce unnecessary antibiotic prescribing when patients consult for RTIs in primary care. The research will specifically evaluate the effectiveness of feeding back electronic health records (EHRs) data to general practices. METHODS AND ANALYSIS: 2-arm cluster randomised trial using the EHRs of the Clinical Practice Research Datalink (CPRD). General practices in England, Scotland, Wales and Northern Ireland are being recruited and the general population of all ages represents the target population. Control trial arm practices will continue with usual care. Practices in the intervention arm will receive complex multicomponent interventions, delivered remotely to information systems, including (1) feedback of each practice's antibiotic prescribing through monthly antibiotic prescribing reports estimated from CPRD data; (2) delivery of educational and decision support tools; (3) a webinar to explain and promote effective usage of the intervention. The intervention will continue for 12 months. Outcomes will be evaluated from CPRD EHRs. The primary outcome will be the number of antibiotic prescriptions for RTIs per 1000 patient years. Secondary outcomes will be: the RTI consultation rate; the proportion of consultations for RTI with an antibiotic prescribed; subgroups of age; different categories of RTI and quartiles of intervention usage. There will be more than 80% power to detect an absolute reduction in antibiotic prescription for RTI of 12 per 1000 registered patient years. Total healthcare usage will be estimated from CPRD data and compared between trial arms. ETHICS AND DISSEMINATION: Trial protocol was approved by the National Research Ethics Service Committee (14/LO/1730). The pragmatic design of the trial will enable subsequent translation of effective interventions at scale in order to achieve

population impact. TRIAL REGISTRATION NUMBER: ISRCTN95232781; Pre-results.

Ketcham, J. et Ngai, J. K. (2008). "How Similar Are States' Medicaid Preferred Drug Lists?" Am J Manag Care: 46-52.

Lexchin, J. (1998). "Improving the appropriateness of physicians prescribing ?" International Journal of Health Services **28**(2): 253-267.

Lotfi, T., et al. (2015). "Validity of tools used for surveying physicians about their interactions with pharmaceutical company: a systematic review." BMC Res Notes **8**: 720.

BACKGROUND: There is evidence that physicians' prescription behavior is negatively affected by the extent of their interactions with pharmaceutical companies. In order to develop and implement policies and interventions for better management of interactions, we need to understand physicians' perspectives on this issue. Surveys addressing physicians' interactions with pharmaceutical companies need to use validated tools to ensure the validity of their findings. OBJECTIVE: To assess the validity of tools used in surveys of physicians about the extent and nature of their interactions with pharmaceutical companies, and about their knowledge, beliefs and attitudes towards such interactions; and to identify those tools that have been formally validated. METHODS: We developed a search strategy with the assistance of a medical librarian. We electronically searched MEDLINE and EMBASE databases in September 2015. Teams of two reviewers conducted data selection and data abstraction. They identified eligible studies in one table and then abstracted the relevant data from the studies with validated tools in another table. Tables were piloted and standardized. RESULTS: We identified one validated questionnaire out of the 11 assessing the nature and extent of the interaction, and three validated questionnaires out of the 47 assessing knowledge, beliefs and attitudes of physicians toward the interaction. None of these validated questionnaires were used in more than one survey. CONCLUSION: The available supporting evidence of the issue of physicians' interaction with pharmaceutical company is of low quality. There is a need for research to develop and validate tools to survey physicians about their interactions with pharmaceutical companies.

Murawski, M. et Abdelgawad, T. (2005). "Exploration of the Impact of Preferred Drug Lists on Hospital and Physician Visits and the Costs to Medicaid." American Journal of Managed Care **11**(Special): 35-42.

Ruhland, D. J., et al. (2017). "Implementation and Assessment of an Ambulatory Prescribing Guidance Tool to Improve Patient Safety in the Geriatric Population." Consult Pharm **32**(3): 169-174.

OBJECTIVE: The purpose of this study was to assess the effects of a clinical decision support (CDS) tool aimed at decreasing the prescribing of glyburide, a potentially inappropriate medication (PIM), in patients 65 years of age and older. DESIGN: Quasi-experimental, pre-post intervention study. SETTING: Ambulatory care clinics of an academic medical center. INTERVENTION: The tool appeared to providers when entering new prescriptions or refills for glyburide. Glimepiride, which is a more appropriate sulfonylurea, was suggested as an alternative at order entry. MAIN OUTCOME MEASURE(S): The primary outcome was the prescribing of glyburide orders, measured as a percentage of the total oral diabetic medications ordered in patients 65 years of age and older, during the study period. The secondary outcome measured was the response to the CDS tool (accept versus reject). RESULTS: The CDS tool alerted providers 101 times during the 90-day postimplementation period. When the tool appeared, patients were transitioned off of glyburide 17.8% of the time. Subanalysis found that when physicians viewed the alert, patients were transitioned off of glyburide 46.2% of the time. As a percentage of the total number of oral diabetic medications, glyburide prescribing was significantly decreased from pre- to postimplementation study period (3.3% vs. 1.2%; $P < 0.001$). CONCLUSIONS: A CDS tool can be used in the ambulatory care setting to influence prescribing and provide a safer alternative medication. Additional information is needed to test the use of a CDS tool in conjunction with education to ensure providers are comfortable with and understand implications of a CDS tool.

Siriwardena, A. N. et Balestracci, D. (2011). "Using a common cause strategy for quality improvement: improving hypnotic prescribing in general practice within a Quality Improvement Collaborative." Qual Prim Care **19**(5): 283-287.

A common cause strategy is an essential conceptual approach for understanding variation and what might be contributing to it as well as informing the redesign of processes and systems to reduce inappropriate and unintended variation. This article describes what a common cause strategy for improvement is and the steps required for this approach. We describe a practical example of how this is applied in a real-life situation. The first step in a common cause strategy is to look more deeply at this common cause variation to see whether special causes can be exposed using stratification. The second step is to seek to understand existing variation by understanding the processes and systems leading to the observed problem. Finally there is a need to redesign processes to reduce inappropriate and unintended variation in any agreed measures by agreeing and incorporating critical inputs and outputs from a provider-patient perspective in the context of systems thinking.

Spinewine, A., et al. (2005). "Appropriateness of use of medicines in elderly inpatients: qualitative study." British Medical Journal **33**(17522): 5.

Objectives : To explore the processes leading to inappropriate use of medicines for elderly patients admitted for acute care. Design : Qualitative study with semistructured interviews with doctors, nurses, and pharmacists; focus groups with inpatients; and observation on the ward by clinical pharmacists for one month. Setting : Five acute wards for care of the elderly in Belgium. Participants : 5 doctors, 4 nurses, and 3 pharmacists from five acute wards for the interviews; all professionals and patients on two acute wards for the observation and 17 patients (from the same two wards) for the focus groups. Results : Several factors contributed to inappropriate prescribing, counselling, and transfer of information on medicines to primary care. Firstly, review of treatment was driven by acute considerations, the transfer of information on medicines from primary to secondary care was limited, and prescribing was often not tailored to elderly patients. Secondly, some doctors had a passive attitude towards learning: they thought it would take too long to find the information they needed about medicines and lacked self directed learning. Finally, a paternalistic doctor-patient relationship and difficulties in sharing decisions about treatment between prescribers led to inappropriate use of medicines. Several factors, such as the input of geriatricians and good communication between members of the multidisciplinary geriatric team, led to better use of medicines. Conclusions In this setting, improvements targeted at the abilities of individuals, better doctor-patient and doctor-doctor relationships, and systems for transferring information between care settings will increase the appropriate use of medicines in elderly people.

Virabhak, S. et Shinogle, J. A. (2005). "Physicians' Prescribing Responses to a Restricted Formulary: The Impact of Medicaid Preferred Drug Lists in Illinois and Louisiana." Am J Manag Care **11**(Special): 14-20.

Modes remuneration et incitations financières

Revues de littérature

Brocklehurst, P., et al. (2013). "The effect of different methods of remuneration on the behaviour of primary care dentists." Cochrane Database Syst Rev(11): Cd009853.

BACKGROUND: Methods of remuneration have been linked with the professional behaviour of primary care physicians. In dentistry, this can be exacerbated as clinicians operate their practices as businesses and take the full financial risk of the provision of services. The main methods for remunerating primary care dentists include fee-for-service, fixed salary and capitation payments. The aim of this review was to determine the impact that these remuneration mechanisms have upon primary care dentists' behaviour. OBJECTIVES: To evaluate the effects of different methods of remuneration on the level and mix of activities provided by primary care dentists and the impact this has on patient outcomes.

SEARCH METHODS: We searched the Cochrane Effective Practice and Organisation of Care (EPOC) Group Specialised Register; the Cochrane Central Register of Controlled Trials (CENTRAL, The Cochrane Library, Issue 7, 2013); MEDLINE (Ovid) (1947 to 11 June 2013); EMBASE (Ovid) (1947 to 11 June 2013); EconLit (1969 to 11 June 2013); the NHS Economic Evaluation Database (EED) (11 June 2013); and the Health Economic Evaluations Database (HEED) (11 June 2013). We conducted cited reference searches for the included studies in ISI Web of Knowledge; searched grey literature sources; handsearched selected journals; and contacted authors of relevant studies. SELECTION CRITERIA: Primary care dentists were defined as clinicians that deliver routine or mainstream dental care in a primary care environment. We included randomised controlled trials (RCTs), non-randomised controlled clinical trials (NRCTs), controlled before-after (CBA) studies and interrupted time series (ITS) studies. The methods of remuneration that we considered were: fee-for-service, fixed salary and capitation payments. Primary outcome measures were: measures of clinical activity; volume of clinical activity undertaken; time taken and clinical session length, or both; clinician type utilised; measures of health service utilisation; access and attendance as a proportion of the population; re-attendance rates; recall frequency; levels of oral health inequalities; non-attendance rates; healthcare costs; measures of patient outcomes; disease reduction; health maintenance; and patient satisfaction. We also considered measures of practice profitability/income and any reported unintended effects of the included methods of remuneration. DATA COLLECTION AND ANALYSIS: Three of the review authors (PRB, JP, AMG) independently reviewed titles and abstracts and resolved disagreements by discussion. The same three review authors undertook data extraction and assessed the quality of the evidence from all the studies that met the selection criteria, according to Cochrane Collaboration procedures. MAIN RESULTS: Two cluster-RCTs, with data from 503 dental practices, representing 821 dentists and 4771 patients, met the selection criteria. We judged the risk of bias to be high for both studies and the overall quality of the evidence was low/very low for all outcomes, as assessed using the GRADE approach.One study used a factorial design to investigate the impact of fee-for-service and an educational intervention on the placement of fissure sealants in permanent molar teeth. The authors reported a statistically significant increase in clinical activity in the arm that was incentivised with a fee-for-service payment. However, the study was conducted in the four most deprived areas of Scotland, so the applicability of the findings to other settings may be limited. The study did not report data on measures of health service utilisation or measures of patient outcomes.The second study used a parallel group design undertaken over a three-year period to compare the impact of capitation payments with fee-for-service payments on primary care dentists' clinical activity. The study reported on measures of clinical activity (mean percentage of children receiving active preventive advice, health service utilisation (mean number of visits), patient outcomes (mean number of filled teeth, mean percentage of children having one or more teeth extracted and the mean number of decayed teeth) and healthcare costs (mean expenditure). Teeth were restored at a later stage in the disease process in the capitation system and the clinicians tended to see their patients less frequently and tended to carry out fewer fillings and extractions, but also tended to give more preventive advice.There was insufficient information regarding the cost-effectiveness of the different remuneration methods. AUTHORS' CONCLUSIONS: Financial incentives within remuneration systems may produce changes to clinical activity undertaken by primary care dentists. However, the number of included studies is limited and the quality of the evidence from the two included studies was low/very low for all outcomes. Further experimental research in this area is highly recommended given the potential impact of financial incentives on clinical activity, and particular attention should be paid to the impact this has on patient outcomes.

Chen, C. S., et al. (2014). "The failure of financial incentive? The seemingly inexorable rise of cesarean section." Soc Sci Med **101**: 47-51.

Two policy interventions in Taiwan aiming to slow the growth of cesarean delivery utilization were respectively implemented in 2005 and 2006. The first policy provided financial incentives to encourage vaginal delivery by setting a global fee for obstetric services and in essence increasing the reimbursement for vaginal delivery up to the same level of cesarean section. The second policy aimed to reduce the demand for elective cesarean procedure by employing a copayment when cesarean section is not medically indicated. This paper examines the impact of financial incentives of both the supply and the demand side on the use of utilization of cesarean section using data from the 2003-2008 National

Health Insurance Research Database. We found that while the overall trend of cesarean utilization did not seem to respond to the interventions, the policies did have significant impact on its elective use. Financial incentives for the providers do matter, and policy interventions, such as a fee change, are still important strategies to consider in reducing the over-utilization of cesarean section.

Flodgren, G., et al. (2011). "An overview of reviews evaluating the effectiveness of financial incentives in changing healthcare professional behaviours and patient outcomes." Cochrane Database Syst Rev(7): Cd009255.

BACKGROUND: There is considerable interest in the effectiveness of financial incentives in the delivery of health care. Incentives may be used in an attempt to increase the use of evidence-based treatments among healthcare professionals or to stimulate health professionals to change their clinical behaviour with respect to preventive, diagnostic and treatment decisions, or both. Financial incentives are an extrinsic source of motivation and exist when an individual can expect a monetary transfer which is made conditional on acting in a particular way. Since there are numerous reviews performed within the healthcare area describing the effects of various types of financial incentives, it is important to summarise the effectiveness of these in an overview to discern which are most effective in changing health professionals' behaviour and patient outcomes. OBJECTIVES: To conduct an overview of systematic reviews that evaluates the impact of financial incentives on healthcare professional behaviour and patient outcomes. METHODS: We searched the Cochrane Database of Systematic Reviews (CDSR) (The Cochrane Library); Database of Abstracts of Reviews of Effectiveness (DARE); TRIP; MEDLINE; EMBASE; Science Citation Index; Social Science Citation Index; NHS EED; HEED; EconLit; and Program in Policy Decision-Making (PPd) (from their inception dates up to January 2010). We searched the reference lists of all included reviews and carried out a citation search of those papers which cited studies included in the review. We included both Cochrane and non-Cochrane reviews of randomised controlled trials (RCTs), controlled clinical trials (CCTs), interrupted time series (ITSs) and controlled before and after studies (CBAs) that evaluated the effects of financial incentives on professional practice and patient outcomes, and that reported numerical results of the included individual studies. Two review authors independently extracted data and assessed the methodological quality of each review according to the AMSTAR criteria. We included systematic reviews of studies evaluating the effectiveness of any type of financial incentive. We grouped financial incentives into five groups: payment for working for a specified time period; payment for each service, episode or visit; payment for providing care for a patient or specific population; payment for providing a pre-specified level or providing a change in activity or quality of care; and mixed or other systems. We summarised data using vote counting. MAIN RESULTS: We identified four reviews reporting on 32 studies. Two reviews scored 7 on the AMSTAR criteria (moderate, score 5 to 7, quality) and two scored 9 (high, score 8 to 11, quality). The reported quality of the included studies was, by a variety of methods, low to moderate. Payment for working for a specified time period was generally ineffective, improving 3/11 outcomes from one study reported in one review. Payment for each service, episode or visit was generally effective, improving 7/10 outcomes from five studies reported in three reviews; payment for providing care for a patient or specific population was generally effective, improving 48/69 outcomes from 13 studies reported in two reviews; payment for providing a pre-specified level or providing a change in activity or quality of care was generally effective, improving 17/20 reported outcomes from 10 studies reported in two reviews; and mixed and other systems were of mixed effectiveness, improving 20/31 reported outcomes from seven studies reported in three reviews. When looking at the effect of financial incentives overall across categories of outcomes, they were of mixed effectiveness on consultation or visit rates (improving 10/17 outcomes from three studies in two reviews); generally effective in improving processes of care (improving 41/57 outcomes from 19 studies in three reviews); generally effective in improving referrals and admissions (improving 11/16 outcomes from 11 studies in four reviews); generally ineffective in improving compliance with guidelines outcomes (improving 5/17 outcomes from five studies in two reviews); and generally effective in improving prescribing costs outcomes (improving 28/34 outcomes from 10 studies in one review). AUTHORS' CONCLUSIONS: Financial incentives may be effective in changing healthcare professional practice. The evidence has serious methodological limitations and is also very limited in its completeness and generalisability. We found no evidence from reviews that examined the effect of financial incentives on patient outcomes.

Giuffrida, A., et al. (2000). "Target payments in primary care: effects on professional practice and health care outcomes." Cochrane Database Syst Rev(3): Cd000531.

BACKGROUND: The method by which physicians are paid may affect their professional practice. Although payment systems may be used to achieve policy objectives (e.g. improving quality of care, cost containment and recruitment to under-served areas), little is known about the effects of different payment systems in achieving these objectives. Target payments are a payment system which remunerate professionals only if they provide a minimum level of care. OBJECTIVES: To evaluate the impact of target payments on the professional practice of primary care physicians (PCPs) and health care outcomes. SEARCH STRATEGY: We searched the Cochrane Effective Practice and Organisation of Care Group specialised register; the Cochrane Controlled Trials Register; MEDLINE (1966 to October 1997); BIDS EMBASE (1980 to October 1997); BIDS ISI (1981 to October 1997); EconLit (1969 to October 1997); HealthStar (1975 to October 1997) Helmis (1984 to October 1997); health economics discussion paper series of the Universities of York, Aberdeen, Sheffield, Bristol, Brunel, and McMaster; Swedish Institute of Health Economics; RAND corporation; and reference lists of articles. SELECTION CRITERIA: Randomised trials, controlled before and after studies and interrupted time series analyses of interventions comparing the impact of target payments to primary care professionals with alternative methods of payment, on patient outcomes, health services utilisation, health care costs, equity of care, and PCP satisfaction with working environment. DATA COLLECTION AND ANALYSIS: Two reviewers independently extracted data and assessed study quality. MAIN RESULTS: Two studies were included involving 149 practices. The use of target payments in the remuneration of PCPs was associated with improvements in immunisation rates, but the increase was statistically significant in only one of the two studies. REVIEWER'S CONCLUSIONS: The evidence from the studies identified in this review is not of sufficient quality or power to obtain a clear answer to the question as to whether target payment remuneration provides a method of improving primary health care. Additional efforts should be directed in evaluating changes in physicians' remuneration systems. Although it would not be difficult to design a randomised controlled trial to evaluate the impact of such payment systems, it would be difficult politically to conduct such trials.

Gosden, T., et al. (2000). "Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians." Cochrane Database Syst Rev(3): Cd002215.

BACKGROUND: It is widely believed that the method of payment of physicians may affect their clinical behaviour. Although payment systems may be used to achieve policy objectives (e.g. cost containment or improved quality of care), little is known about the effects of different payment systems in achieving these objectives. OBJECTIVES: To evaluate the impact of different methods of payment (capitation, salary, fee for service and mixed systems of payment) on the clinical behaviour of primary care physicians (PCPs). SEARCH STRATEGY: We searched the Cochrane Effective Practice and Organisation of Care Group specialised register; the Cochrane Controlled Trials Register; MEDLINE (1966 to October 1997); BIDS EMBASE (1980 to October 1997); BIDS ISI (1981 to October 1997); EconLit (1969 to October 1997); HealthStar (1975 to October 1997) Helmis (1984 to October 1997); health economics discussion paper series of the Universities of York, Aberdeen, Sheffield, Bristol, Brunel, and McMaster; Swedish Institute of Health Economics; RAND corporation; and reference lists of articles. SELECTION CRITERIA: Randomised trials, controlled before and after studies and interrupted time series analyses of interventions comparing the impact of capitation, salary, fee for service (FFS) and mixed systems of payment on primary care physician satisfaction with working environment; cost and quantity of care; type and pattern of care; equity of care; and patient health status and satisfaction. DATA COLLECTION AND ANALYSIS: Two reviewers independently extracted data and assessed study quality. MAIN RESULTS: Four studies were included involving 640 primary care physicians and more than 6400 patients. There was considerable variation in study setting and the range of outcomes measured. FFS resulted in more primary care visits/contacts, visits to specialists and diagnostic and curative services but fewer hospital referrals and repeat prescriptions compared with capitation. Compliance with a recommended number of visits was higher under FFS compared with capitation payment. FFS resulted in more patient visits, greater continuity of care, higher

compliance with a recommended number of visits, but patients were less satisfied with access to their physician compared with salaried payment. REVIEWER'S CONCLUSIONS: It is noteworthy that so few studies met the inclusion criteria. There is some evidence to suggest that the method of payment of primary care physicians affects their behaviour, but the findings' generalisability is unknown. More evaluations of the effect of payment systems on PCP behaviour are needed, especially in terms of the relative impact of salary versus capitation payments.

Grant, D. (2009). "Physician financial incentives and cesarean delivery: new conclusions from the healthcare cost and utilization project." J Health Econ **28**(1): 244-250.

This paper replicates Gruber et al.'s [Gruber, J., Kim, J., Mayzlin, D., 1999. Physician fees and procedure intensity: the case of cesarean delivery. Journal of Health Economics, 18 (4), 473-490] analysis of the effect of physician financial incentives on cesarean delivery rates, using their data, sample selection criteria, and specification. Coincident trends explain much of their estimated positive relation between fees and cesarean utilization, which also falls somewhat upon the inclusion of several childbirth observations that had been inadvertently excluded from their estimation sample. The data ultimately indicate that a $1000 increase, in current dollars, in the reimbursement for a cesarean section increases cesarean delivery rates by about one percentage point, one-quarter of the effect estimated originally.

Gruber, J., et al. (1999). "Physician fees and procedure intensity: the case of cesarean delivery." J Health Econ **18**(4): 473-490.

While there is a large literature investigating the response of treatment intensity to Medicare reimbursement differentials, there is much less work on this question for the Medicaid program. The answers for Medicare may not apply in the Medicaid context, since a smaller share of a physician's patients will be Medicaid insured, so that income effects from fee changes may be dominated by substitution effects. We investigate the effect of Medicaid fee differentials on the use of cesarean delivery over the period 1988-1992. We find, in contrast to the backward-bending supply curve implied by the Medicare literature, that larger fee differentials between cesarean and normal childbirth for the Medicaid program leads to higher cesarean delivery rates. In particular, we find that the lower fee differentials between cesarean and normal childbirth under the Medicaid program than under private insurance can explain between one half and three-quarters of the difference between Medicaid and private cesarean delivery rates. Our results suggest that Medicaid reimbursement reductions can cause real reductions in the intensity with which Medicaid patients are treated.

Gruber, J. et Owings, M. (1996). "Physician financial incentives and cesarean section delivery." Rand J Econ **27**(1): 99-123.

The "induced-demand" model states that in the face of negative income shocks, physicians may exploit their agency relationship with patients by providing excessive care. We test this model using an exogenous change in the financial environment facing obstetrician/gynecologists: declining fertility in the United States. We argue that the 13.5% fall in fertility over the 1970-1982 period led ob/gyns to substitute from normal childbirth toward a more highly reimbursed alternative, cesarean delivery. Using a nationally representative microdata set for this period, we show that there is a strong correlation between within-state declines in fertility and within-state increases in cesarean utilization.

Lo, J. C. (2008). "Financial incentives do not always work: an example of cesarean sections in Taiwan." Health Policy **88**(1): 121-129.

OBJECTIVES: To test the hypothesis that cesarean sections are less likely to be performed after equalizing the fees for vaginal births and cesarean sections. METHODS: Population-based National Health Insurance inpatient claims in Taiwan are used. Pre-periods and post-periods are identified to investigate the impact of the policy changes. Logistic regressions are employed. RESULTS: The cesarean section rates for the first, second and higher-order births are 29, 37.4 and 39.3%, while the primary cesarean section rates are 29, 11.8 and 12.1%, respectively. After taking into consideration the case-mix and birth order, the second and higher-order births were approximately 60% less likely to be cesarean deliveries compared to the

first births and the increase in the VBAC fee had an additional negative effect on them. A fee equalization policy was not found to influence the cesarean delivery. The total cesarean section rate was primarily determined by the cesarean section rate for the first birth. CONCLUSIONS: Cesarean section rates are greater for the higher-order births because of the practice "once a cesarean section, always a cesarean section". Against the background of a rapidly declining fertility rate, females play a more important role in the mode of delivery than ever before. As such, financial incentives designed specifically for obstetricians do not have the desired impact. Policies that are aimed at altering behavior should be designed within the social context.

Mitchell, J. M., et al. (2000). "Physicians' responses to Medicare fee schedule reductions." Med Care **38**(10): 1029-1039.

BACKGROUND: Relatively little empirical research has addressed physicians' responses to fee changes under the Medicare Fee Schedule. OBJECTIVES: We analyzed Medicare claims data for ophthalmologists and orthopedic surgeons for the years 1991 through 1994 to evaluate the relative importance of profit-maximizing and target-income theories in determining physicians' supply responses to specific Medicare fee reductions. RESEARCH DESIGN: This study was designed to estimate the impact of fee reductions for cataract extractions and major joint repair/replacement procedures through pooled cross-section time series data. RESULTS: The supply function for cataract extractions has both strong own-price and cross-price effects, as well as a highly significant negative income effect. Yet, the magnitude of the income effect is small; thus, the substitution effect dominates the income effect. Similarly, in the supply functions for joint procedures, the own price has the expected positive sign, implying that as the fee declines, orthopedic surgeons will perform fewer joint surgeries. However, the cross-price variable has the correct sign only if treated as exogenous, and the variables measuring the income effect have the wrong sign, although their magnitude is small. CONCLUSIONS: These results suggest that the Medicare Fee Schedule does have the potential to influence physicians' supply decisions, but these effects may vary by specialty and service.

Scott, A., et al. (2011). "The effect of financial incentives on the quality of health care provided by primary care physicians." Cochrane Database Syst Rev(9): Cd008451.

BACKGROUND: The use of blended payment schemes in primary care, including the use of financial incentives to directly reward 'performance' and 'quality' is increasing in a number of countries. There are many examples in the US, and the Quality and Outcomes Framework (QoF) for general practitioners (GPs) in the UK is an example of a major system-wide reform. Despite the popularity of these schemes, there is currently little rigorous evidence of their success in improving the quality of primary health care, or of whether such an approach is cost-effective relative to other ways to improve the quality of care. OBJECTIVES: The aim of this review is to examine the effect of changes in the method and level of payment on the quality of care provided by primary care physicians (PCPs) and to identify:i) the different types of financial incentives that have improved quality;ii) the characteristics of patient populations for whom quality of care has been improved by financial incentives; andiii) the characteristics of PCPs who have responded to financial incentives. SEARCH STRATEGY: We searched the Cochrane Effective Practice and Organisation of Care (EPOC) Trials Register, Cochrane Central Register of Controlled Trials (CENTRAL) and Cochrane Database of Systematic Reviews (CDSR) (The Cochrane Library), MEDLINE, HealthSTAR, EMBASE, CINAHL, PsychLIT, and ECONLIT. Searches of Internet-based economics and health economics working paper collections were also conducted. Finally, studies were identified through the reference lists of retrieved articles, websites of key organisations, and from direct contact with key authors in the field. Articles were included if they were published from 2000 to August 2009. SELECTION CRITERIA: Randomised controlled trials (RCT), controlled before and after studies (CBA), and interrupted time series analyses (ITS) evaluating the impact of different financial interventions on the quality of care delivered by primary healthcare physicians (PCPs). Quality of care was defined as patient reported outcome measures, clinical behaviours, and intermediate clinical and physiological measures. DATA COLLECTION AND ANALYSIS: Two review authors independently extracted data and assessed study quality, in consultation with two other review authors where there was disagreement. For each included study, we reported the estimated effect sizes and confidence intervals. MAIN RESULTS: Seven

studies were included in this review. Three of the studies evaluated single-threshold target payments, one examined a fixed fee per patient achieving a specified outcome, one study evaluated payments based on the relative ranking of medical groups' performance (tournament-based pay), one study examined a mix of tournament-based pay and threshold payments, and one study evaluated changing from a blended payments scheme to salaried payment. Three cluster RCTs examined smoking cessation; one CBA examined patients' assessment of the quality of care; one CBA examined cervical screening, mammography screening, and HbA1c; one ITS focused on four outcomes in diabetes; and one controlled ITS (a difference-in-difference design) examined cervical screening, mammography screening, HbA1c, childhood immunisation, chlamydia screening, and appropriate asthma medication. Six of the seven studies showed positive but modest effects on quality of care for some primary outcome measures, but not all. One study found no effect on quality of care. Poor study design led to substantial risk of bias in most studies. In particular, none of the studies addressed issues of selection bias as a result of the ability of primary care physicians to select into or out of the incentive scheme or health plan. AUTHORS' CONCLUSIONS: The use of financial incentives to reward PCPs for improving the quality of primary healthcare services is growing. However, there is insufficient evidence to support or not support the use of financial incentives to improve the quality of primary health care. Implementation should proceed with caution and incentive schemes should be more carefully designed before implementation. In addition to basing incentive design more on theory, there is a large literature discussing experiences with these schemes that can be used to draw out a number of lessons that can be learned and that could be used to influence or modify the design of incentive schemes. More rigorous study designs need to be used to account for the selection of physicians into incentive schemes. The use of instrumental variable techniques should be considered to assist with the identification of treatment effects in the presence of selection bias and other sources of unobserved heterogeneity. In randomised trials, care must be taken in using the correct unit of analysis and more attention should be paid to blinding. Studies should also examine the potential unintended consequences of incentive schemes by having a stronger theoretical basis, including a broader range of outcomes, and conducting more extensive subgroup analysis. Studies should more consistently describe i) the type of payment scheme at baseline or in the control group, ii) how payments to medical groups were used and distributed within the groups, and iii) the size of the new payments as a percentage of total revenue. Further research comparing the relative costs and effects of financial incentives with other behaviour change interventions is also required.

Autres études

Chen, L. M., et al. (2018). "Medicare's Acute Care Episode Demonstration: Effects of Bundled Payments on Costs and Quality of Surgical Care." Health Services Research **53**(2): 632-648.
https://onlinelibrary.wiley.com/doi/abs/10.1111/1475-6773.12681

Objective To evaluate whether participation in Medicare's Acute Care Episode (ACE) Demonstration Program—an early, small, voluntary episode-based payment program—was associated with a change in expenditures or quality of care. Data Sources/Study Setting Medicare claims for patients who underwent cardiac or orthopedic surgery from 2007 to 2012 at ACE or control hospitals. Study Design We used a difference-in-differences approach, matching on baseline and pre-enrollment volume, risk-adjusted Medicare payments, and clinical outcomes to identify controls. Principal Findings Participation in the ACE Demonstration was not significantly associated with 30-day Medicare payments (for orthopedic surgery: −$358 with 95 percent CI: −$894, +$178; for cardiac surgery: +$514 with 95 percent CI: −$1,517, +$2,545), or 30-day mortality (for orthopedic surgery: −0.10 with 95 percent CI: −0.50, 0.31; for cardiac surgery: −0.27 with 95 percent CI: −1.25, 0.72). Program participation was associated with a decrease in total 30-day post-acute care payments (for cardiac surgery: −$718; 95 percent CI: −$1,431, −$6; and for orthopedic surgery: −$591; 95 percent CI: $-$1,161, −$22). Conclusions Participation in Medicare's ACE Demonstration Program was not associated with a change in 30-day episode-based Medicare payments or 30-day mortality for cardiac or orthopedic surgery, but it was associated with lower total 30-day post-acute care payments

.Ellegard, L. M., et al. (2017). "Can pay-for-performance to primary care providers stimulate appropriate use of antibiotics?" Health Econ(Ahead of print).

Antibiotic resistance is a major threat to public health worldwide. As the healthcare sector's use of antibiotics is an important contributor to the development of resistance, it is crucial that physicians only prescribe antibiotics when needed and that they choose narrow-spectrum antibiotics, which act on fewer bacteria types, when possible. Inappropriate use of antibiotics is nonetheless widespread, not least for respiratory tract infections (RTI), a common reason for antibiotics prescriptions. We examine if pay-for-performance (P4P) presents a way to influence primary care physicians' choice of antibiotics. During 2006-2013, 8 Swedish healthcare authorities adopted P4P to make physicians select narrow-spectrum antibiotics more often in the treatment of children with RTI. Exploiting register data on all purchases of RTI antibiotics in a difference-in-differences analysis, we find that P4P significantly increased the share of narrow-spectrum antibiotics. There are no signs that physicians gamed the system by issuing more prescriptions overall.

Hardin, L., et al. (2017). "Bundled Payments for Care Improvement: Preparing for the Medical Diagnosis-Related Groups." J Nurs Adm **47**(6): 313-319.

BACKGROUND: The Centers for Medicare and Medicaid Services Innovation Center introduced the Bundled Payments for Care Improvement (BPCI) initiative in 2011 as 1 strategy to encourage healthcare organizations and clinicians to improve healthcare delivery for patients, both when they are in the hospital and after they are discharged. Mercy Health Saint Mary's, a large urban academic medical center, engaged in BPCI primarily with a group of medical diagnosis-related groups (DRGs). OBJECTIVES: In this article, we describe our experience creating a system of response for the diverse people and diagnoses that fall into the medical DRG bundles and specifically identify organizational factors for enabling successful implementation of bundled payments. RESULTS: Our experience suggests that interprofessional collaboration enabled program success. CONCLUSIONS: Although still in its early phases, observations from our program's strategies and tactics may provide potential insights for organizations considering engagement in the BPCI initiative.

Iorio, R., et al. (2017). "Single Institution Early Experience with the Bundled Payments for Care Improvement Initiative." J Bone Joint Surg Am **99**(1): e2.

The Centers for Medicare & Medicaid Services (CMS) implemented the Bundled Payments for Care Improvement (BPCI) initiative in 2011. Through BPCI, organizations enlisted into payment agreements that include both performance and financial accountability for episodes of care. To succeed, BPCI requires quality maintenance and care delivery at lower costs. This necessitates physicians and hospitals to merge interests. Orthopaedic surgeons must assume leadership roles in cost containment, surgical safety, and quality assurance to deliver cost-effective care. Because most orthopaedic surgeons practice independently and are not employed by hospitals, models of physician-hospital alignment (e.g., physician-hospital organizations) or contracted gainsharing arrangements between practices and hospitals may be necessary for successful bundled pricing. Under BPCI, hospitals, surgeons, or third parties share rewards but assume risks for the bundle.For patients, cost savings must be associated with maintenance or improvement in quality metrics. However, the definition of quality can vary, as can the rewards for processes and outcomes. Risk stratification for potential complications should be considered in bundled pricing agreements to prevent the exclusion of patients with substantial comorbidities and higher care costs (e.g., hip fractures treated with prostheses). Bundled pricing depends on economies of scale for success; smaller institutions must be cautious, as 1 costly patient could substantially impact the finances of its entire program. CMS recommends a minimum of 100 to 200 cases yearly. We also suggest that participants utilize technologies to maximize efficiency and provide the best possible environment for implementation of bundled payments. Substantial investment in infrastructure is required to develop programs to improve coordination of care, manage quality data, and distribute payments. Smaller institutions may have difficulty devoting resources to these infrastructural changes, although changes may be

implemented more thoroughly once initiated. Herein, we discuss our early total joint arthroplasty BPCI experience at our tertiary-care academic medical center.

Ju Kim, S., et al. (2017). "Pay-for-performance reduces healthcare spending and improves quality of care: Analysis of target and non-target obstetrics and gynecology surgeries." Int J Qual Health Care **29**(2): 222-227.

Objective: In Korea, the Value Incentive Program (VIP) was first applied to selected clinical conditions in 2007 to evaluate the performance of medical institutes. We examined whether the condition-specific performance of the VIP resulted in measurable improvement in quality of care and in reduced medical costs. Design: Population-based retrospective observational study. Setting: We used two data set including the results of quality assessment and hospitalization data from National Health Claim data from 2011 to 2014. Participants: Participants who were admitted to the hospital for obstetrics and gynecology were included. A total of 535 289 hospitalizations were included in our analysis. Methods: We used a generalized estimating equation (GEE) model to identify associations between the quality assessment and length of stay (LOS). A GEE model based on a gamma distribution was used to evaluate medical cost. The Poisson regression analysis was used to evaluate readmission. Main Outcome Measures: The outcome variables included LOS, medical costs and readmission within 30 days. Results: Higher condition-specific performance by VIP participants was associated with shorter LOSs, decreases in medical cost, and lower within 30-day readmission rates for target and non-target surgeries. LOS and readmission within 30 days were different by change in quality assessment at each medical institute. Conclusions: Our findings contribute to the body of evidence used by policy-makers for expansion and development of the VIP. The study revealed the positive effects of quality assessment on quality of care. To reduce the between-institute quality gap, alternative strategies are needed for medical institutes that had low performance.

Markovitz, A. A., et al. (2017). "Risk Adjustment May Lessen Penalties On Hospitals Treating Complex Cardiac Patients Under Medicare's Bundled Payments." Health Aff (Millwood) **36**(12): 2165-2174.

To reduce variation in spending, Medicare has considered implementing a cardiac bundled payment program for acute myocardial infarction and coronary artery bypass graft. Because the proposed program does not account for patient risk factors when calculating hospital penalties or rewards ("reconciliation payments"), it might unfairly penalize certain hospitals. We estimated the impact of adjusting for patients' medical complexity and social risk on reconciliation payments for Medicare beneficiaries hospitalized for the two conditions in the period 2011-13. Average spending per episode was $29,394. Accounting for medical complexity substantially narrowed the gap in reconciliation payments between hospitals with high medical severity (from a penalty of $1,809 to one of $820, or a net reduction of $989), safety-net hospitals (from a penalty of $217 to one of $87, a reduction of $130), and minority-serving hospitals (from a penalty of $70 to a reward of $56, an improvement of $126) and their counterparts. Accounting for social risk alone narrowed these gaps but had minimal incremental effects after medical complexity was accounted for. Risk adjustment may preserve incentives to care for patients with complex conditions under Medicare bundled payment programs.

Porter, M. Z. et al., (2015). OrthoChoice: Bundled Payments in the County of Stockholm (A). Harvard : Harvard Business School.
Voir : http://www.senat.fr/rap/r16-668/r16-6685.html

It was the waiting that drew the attention of the Stockholm County Council. In 2008, patients seeking a hip or knee replacement in Stockholm County faced wait times of up to two years of sometimes debilitating pain, intermittent missed work and income, and the trials of disability. Seeking a new model to lower wait times, but also improve patient choice of care, County Council Senior Medical Adviser, Dr. Holger Stalberg, set out to create a bundled payment system for hip and knee replacements in the County. The new model, called OrthoChoice, was set to go into operation on January 1, 2009.

Roberts, E. T., et al. (2017). "High-Price And Low-Price Physician Practices Do Not Differ Significantly On Care Quality Or Efficiency." Health Aff (Millwood) **36**(5): 855-864.

> Consolidation of physician practices has intensified concerns that providers with greater market power may be able to charge higher prices without having to deliver better care, compared to providers with less market power. Providers have argued that higher prices cover the costs of delivering higher-quality care. We examined the relationship between physician practice prices for outpatient services and practices' quality and efficiency of care. Using commercial claims data, we classified practices as being high- or low-price. We used national data from the Consumer Assessment of Healthcare Providers and Systems survey and linked claims for Medicare beneficiaries to compare high- and low-price practices in the same geographic area in terms of care quality, utilization, and spending. Compared with low-price practices, high-price practices were much larger and received 36 percent higher prices. Patients of high-price practices reported significantly higher scores on some measures of care coordination and management but did not differ meaningfully in their overall care ratings, other domains of patient experiences (including physician ratings and access to care), receipt of preventive services, acute care use, or total Medicare spending. This suggests an overall weak relationship between practice prices and the quality and efficiency of care and calls into question claims that high-price providers deliver substantially higher-value care.

Sadowski, B. W., et al. (2017). "High-Value, Cost-Conscious Care: Iterative Systems-Based Interventions to Reduce Unnecessary Laboratory Testing." Am J Med **130**(9): 1112.e1111-1112.e1117.

> BACKGROUND: Inappropriate testing contributes to soaring healthcare costs within the United States, and teaching hospitals are vulnerable to providing care largely for academic development. Via its "Choosing Wisely" campaign, the American Board of Internal Medicine recommends avoiding repetitive testing for stable inpatients. We designed systems-based interventions to reduce laboratory orders for patients admitted to the wards at an academic facility. METHODS: We identified the computer-based order entry system as an appropriate target for sustainable intervention. The admission order set had allowed multiple routine tests to be ordered repetitively each day. Our iterative study included interventions on the automated order set and cost displays at order entry. The primary outcome was number of routine tests controlled for inpatient days compared with the preceding year. Secondary outcomes included cost savings, delays in care, and adverse events. RESULTS: Data were collected over a 2-month period following interventions in sequential years and compared with the year prior. The first intervention led to 0.97 fewer laboratory tests per inpatient day (19.4%). The second intervention led to sustained reduction, although by less of a margin than order set modifications alone (15.3%). When extrapolating the results utilizing fees from the Centers for Medicare and Medicaid Services, there was a cost savings of $290,000 over 2 years. Qualitative survey data did not suggest an increase in care delays or near-miss events. CONCLUSIONS: This series of interventions targeting unnecessary testing demonstrated a sustained reduction in the number of routine tests ordered, without adverse effects on clinical care.

Tung, Y. C., et al. (2017). "Impact of bundled payments on hip fracture outcomes: a nationwide population-based study." Int J Qual Health Care: 1-9.

> Objective: Establishing one price for all bundled services for a particular illness, which has become the key to healthcare reform efforts, is designed to encourage health professionals to coordinate their care for patients. Limited information is available, however, concerning whether bundled payments are associated with changes in patient outcomes. Nationwide longitudinal population-based data were used to examine the effect of bundled payments on hip fracture outcomes. Design: An interrupted time series design with a comparison group. Setting: General acute care hospitals throughout Taiwan. Participants: A total of 178 586 hip fracture patients admitted over the period 2007-12 identified from the Taiwan's National Health Insurance Research Database. Intervention: Bundled payments for hip fractures were implemented in Taiwan in January 2010. Main Outcome Measures: The 30-day unplanned readmission and postdischarge mortality. Segmented generalized estimating equation regression models were used after adjustment for trends, patient, physician and hospital

characteristics to assess the effect of bundled payments on 30-day outcomes for hip fracture compared with a reference condition. Results: The 30-day unplanned readmission rate for hip fracture showed a relative decreasing trend after the implementation of bundled payments compared with the trend before the implementation relative to that of the reference condition. Conclusions: This finding might imply that the implementation of bundled payments encourages health professionals to coordinate their care, leading to reduced readmission for hip fracture.

Weeks, W. B., et al. (2017). "Episode-of-Care Characteristics and Costs for Hip and Knee Replacement Surgery in Hospitals Belonging to the High Value Healthcare Collaborative Compared With Similar Hospitals in the Same Health Care Markets." Med Care **55**(6): 583-589.

BACKGROUND: To inform consumers and restrain health care cost growth, efforts to promote transparency and to reimburse for care episodes are accelerating in the United States. OBJECTIVE: To compare characteristics and costs of 30-day episode of care for hip and knee replacement occurring in High Value Healthcare Collaborative (HVHC)-member hospitals to those occurring in like non-HVHC-member hospitals in the same 15 health care markets before interventions by HVHC members to improve health care value for those interventions. RESEARCH DESIGN: This is a retrospective analysis of fee-for-service Medicare data from 2012 and 2013. SUBJECTS: For hip arthroplasty, 4030 HVHC-member and 7572 non-HVHC-member, and for knee arthroplasty, 6542 HVHC-member and 13,900 non-HVHC-member fee-for-service Medicare patients aged 65 and older. MEASURES: Volumes, patient demographics, hospital stay characteristics, and acute and postacute care standardized costs for a 30-day episode of care. RESULTS: HVHC-member hospitals differed from similar non-HVHC-member hospitals in the same health care markets when considering volumes of surgeries, patient demographics, Charlson scores, and patient distance to care during the index admission. There was little variation in acute care costs of hip or knee replacement surgery across health care markets; however, there was substantial variation in postacute care costs across those same markets. We saw less variation in postacute care costs within markets than across markets. Regression analyses showed that HVHC-member status was not associated with shorter lengths of stay, different complication rates, or lower total or postacute care costs for hip or knee replacement. CONCLUSIONS: Health care regions appear to be a more important predictor of episode costs of care than HVHC status.

LES OUTILS D'AMELIORATION DE LA PERTINENCE ORIENTES VERS LES PATIENTS

Audit feedback

Revues de littérature

Baldie, D. J., et al. (2018). "Exploring the impact and use of patients' feedback about their care experiences in general practice settings-a realist synthesis." Fam Pract **35**(1): 13-21.

Background: Policy encourages health care providers to listen and respond to feedback from patients, expecting that it will enhance care experiences. Enhancement of patients' experiences may not yet be a reality, particularly in primary health care settings. Objective: To identify the issues that influence the use and impact of feedback in this context. Design and Setting: A realist synthesis of studies of the use of patient feedback within primary health care settings. Methods: Structured review of published studies between 1971 and January 2015. Results: Eighteen studies were reported in 20 papers. Eleven studies reported patient survey scores as a primary outcome. There is little evidence that formal patient feedback led to enhanced experiences. The likelihood of patient feedback to health care staff stimulating improvements in future patients' experiences appears to be influenced predominantly by staff perceptions of the purpose of such feedback; the validity and type of data that is collected; and where, when and how it is presented to primary health care teams or practitioners and teams' capacity to change. Conclusions: There is limited research into how patient feedback has been used in primary health care practices or its usefulness as a stimulant to improve health care experience. Using a realist synthesis approach, we have identified a number of contextual and intervention-related

factors that appear to influence the likelihood that practitioners will listen to, act on and achieve improvements in patient experience. Consideration of these may support research and improvement work in this area.

Ivers, N., et al. (2012). "Audit and feedback: effects on professional practice and healthcare outcomes." Cochrane Database Syst Rev(6): Cd000259.

BACKGROUND: Audit and feedback is widely used as a strategy to improve professional practice either on its own or as a component of multifaceted quality improvement interventions. This is based on the belief that healthcare professionals are prompted to modify their practice when given performance feedback showing that their clinical practice is inconsistent with a desirable target. Despite its prevalence as a quality improvement strategy, there remains uncertainty regarding both the effectiveness of audit and feedback in improving healthcare practice and the characteristics of audit and feedback that lead to greater impact. OBJECTIVES: To assess the effects of audit and feedback on the practice of healthcare professionals and patient outcomes and to examine factors that may explain variation in the effectiveness of audit and feedback. SEARCH METHODS: We searched the Cochrane Central Register of Controlled Trials (CENTRAL) 2010, Issue 4, part of The Cochrane Library. www.thecochranelibrary.com, including the Cochrane Effective Practice and Organisation of Care (EPOC) Group Specialised Register (searched 10 December 2010); MEDLINE, Ovid (1950 to November Week 3 2010) (searched 09 December 2010); EMBASE, Ovid (1980 to 2010 Week 48) (searched 09 December 2010); CINAHL, Ebsco (1981 to present) (searched 10 December 2010); Science Citation Index and Social Sciences Citation Index, ISI Web of Science (1975 to present) (searched 12-15 September 2011). SELECTION CRITERIA: Randomised trials of audit and feedback (defined as a summary of clinical performance over a specified period of time) that reported objectively measured health professional practice or patient outcomes. In the case of multifaceted interventions, only trials in which audit and feedback was considered the core, essential aspect of at least one intervention arm were included. DATA COLLECTION AND ANALYSIS: All data were abstracted by two independent review authors. For the primary outcome(s) in each study, we calculated the median absolute risk difference (RD) (adjusted for baseline performance) of compliance with desired practice compliance for dichotomous outcomes and the median percent change relative to the control group for continuous outcomes. Across studies the median effect size was weighted by number of health professionals involved in each study. We investigated the following factors as possible explanations for the variation in the effectiveness of interventions across comparisons: format of feedback, source of feedback, frequency of feedback, instructions for improvement, direction of change required, baseline performance, profession of recipient, and risk of bias within the trial itself. We also conducted exploratory analyses to assess the role of context and the targeted clinical behaviour. Quantitative (meta-regression), visual, and qualitative analyses were undertaken to examine variation in effect size related to these factors. MAIN RESULTS: We included and analysed 140 studies for this review. In the main analyses, a total of 108 comparisons from 70 studies compared any intervention in which audit and feedback was a core, essential component to usual care and evaluated effects on professional practice. After excluding studies at high risk of bias, there were 82 comparisons from 49 studies featuring dichotomous outcomes, and the weighted median adjusted RD was a 4.3% (interquartile range (IQR) 0.5% to 16%) absolute increase in healthcare professionals' compliance with desired practice. Across 26 comparisons from 21 studies with continuous outcomes, the weighted median adjusted percent change relative to control was 1.3% (IQR = 1.3% to 28.9%). For patient outcomes, the weighted median RD was -0.4% (IQR -1.3% to 1.6%) for 12 comparisons from six studies reporting dichotomous outcomes and the weighted median percentage change was 17% (IQR 1.5% to 17%) for eight comparisons from five studies reporting continuous outcomes. Multivariable meta-regression indicated that feedback may be more effective when baseline performance is low, the source is a supervisor or colleague, it is provided more than once, it is delivered in both verbal and written formats, and when it includes both explicit targets and an action plan. In addition, the effect size varied based on the clinical behaviour targeted by the intervention. AUTHORS' CONCLUSIONS: Audit and feedback generally leads to small but potentially important improvements in professional practice. The effectiveness of audit and feedback seems to depend on baseline performance and how

the feedback is provided. Future studies of audit and feedback should directly compare different ways of providing feedback.

Jamtvedt, G., et al. (2006). "Audit and feedback: effects on professional practice and health care outcomes." Cochrane Database Syst Rev(2): Cd000259.

BACKGROUND: Audit and feedback continues to be widely used as a strategy to improve professional practice. It appears logical that healthcare professionals would be prompted to modify their practice if given feedback that their clinical practice was inconsistent with that of their peers or accepted guidelines. Yet, audit and feedback has not consistently been found to be effective. OBJECTIVES: To assess the effects of audit and feedback on the practice of healthcare professionals and patient outcomes. SEARCH STRATEGY: We searched the Cochrane Effective Practice and Organisation of Care Group's register and pending file up to January 2004. SELECTION CRITERIA: Randomised trials of audit and feedback (defined as any summary of clinical performance over a specified period of time) that reported objectively measured professional practice in a healthcare setting or healthcare outcomes. DATA COLLECTION AND ANALYSIS: Two reviewers independently extracted data and assessed study quality. Quantitative (meta-regression), visual and qualitative analyses were undertaken. For each comparison we calculated the risk difference (RD) and risk ratio (RR), adjusted for baseline compliance when possible, for dichotomous outcomes and the percentage and the percent change relative to the control group average after the intervention, adjusted for baseline performance when possible, for continuous outcomes. We investigated the following factors as possible explanations for the variation in the effectiveness of interventions across comparisons: the type of intervention (audit and feedback alone, audit and feedback with educational meetings, or multifaceted interventions that included audit and feedback), the intensity of the audit and feedback, the complexity of the targeted behaviour, the seriousness of the outcome, baseline compliance and study quality. MAIN RESULTS: Thirty new studies were added to this update, and a total of 118 studies are included. In the primary analysis 88 comparisons from 72 studies were included that compared any intervention in which audit and feedback is a component compared to no intervention. For dichotomous outcomes the adjusted risk difference of compliance with desired practice varied from - 0.16 (a 16 % absolute decrease in compliance) to 0.70 (a 70% increase in compliance) (median = 0.05, inter-quartile range = 0.03 to 0.11) and the adjusted risk ratio varied from 0.71 to 18.3 (median = 1.08, inter-quartile range = 0.99 to 1.30). For continuous outcomes the adjusted percent change relative to control varied from -0.10 (a 10 % absolute decrease in compliance) to 0.68 (a 68% increase in compliance) (median = 0.16, inter-quartile range = 0.05 to 0.37). Low baseline compliance with recommended practice and higher intensity of audit and feedback were associated with larger adjusted risk ratios (greater effectiveness) across studies. AUTHORS' CONCLUSIONS: Audit and feedback can be effective in improving professional practice. When it is effective, the effects are generally small to moderate. The relative effectiveness of audit and feedback is likely to be greater when baseline adherence to recommended practice is low and when feedback is delivered more intensively.

Jamtvedt, G., et al. (2006). "Does telling people what they have been doing change what they do? A systematic review of the effects of audit and feedback." Qual Saf Health Care **15**(6): 433-436.

BACKGROUND: Many people advocate audit and feedback as a strategy for improving professional practice. The main results of an update of a Cochrane review on the effects of audit and feedback are reported. DATA SOURCES: The Cochrane Effective Practice and Organisation of Care Group's register up to January 2004 was searched. Randomised trials of audit and feedback that reported objectively measured professional practice in a healthcare setting or healthcare outcomes were included. REVIEW METHODS: Data were independently extracted and the quality of studies were assessed by two reviewers. Quantitative, visual and qualitative analyses were undertaken. MAIN RESULTS: 118 trials are included in the review. In the primary analysis, 88 comparisons from 72 studies were included that compared any intervention in which audit and feedback was a component to no intervention. For dichotomous outcomes, the median-adjusted risk difference of compliance with desired practice was 5% (interquartile range 3-11). For continuous outcomes, the median-adjusted percentage change relative to control was 16% (interquartile range 5-37). Low baseline compliance with recommended

practice and higher intensity of audit and feedback appeared to predict the effectiveness of audit and feedback. CONCLUSIONS: Audit and feedback can be effective in improving professional practice. The effects are generally small to moderate. The absolute effects of audit and feedback are likely to be larger when baseline adherence to recommended practice is low and intensity of audit and feedback is high.

O'Brien, M. A., et al. (2007). "WITHDRAWN: Audit and feedback versus alternative strategies: effects on professional practice and health care outcomes." Cochrane Database Syst Rev(1): Cd000260.

BACKGROUND: Audit and feedback has been identified as having the potential to change the practice of health care professionals. OBJECTIVES: To assess the effects of audit and feedback compared with other interventions in changing health professional practice and to assess whether the effectiveness of audit and feedback can be improved by modifying how it is done. SEARCH STRATEGY: We searched MEDLINE up to June 1997, the Research and Development Resource Base in Continuing Medical Education, and reference lists of related systematic reviews and articles. SELECTION CRITERIA: Randomised trials of audit and feedback (defined as any summary of clinical performance of health care over a specified period of time) compared with other interventions. The participants were health care providers responsible for patient care. DATA COLLECTION AND ANALYSIS: Two reviewers independently extracted data and assessed study quality. MAIN RESULTS: Twelve studies were included involving more than 2194 physicians. Seven trials with direct comparisons were included. The targeted behaviours were the management of low haemoglobin, the delivery of preventive care services (two studies), the management of high cholesterol, the performance of cervical smears, and the ordering of diagnostic tests (two studies). From the results of four trials, there is little evidence of a measurable effect of adding a complementary intervention such as a local consensus process to audit and feedback compared to audit and feedback alone. Two of three trials that compared audit and feedback to reminders reported that reminders were more effective in improving the delivery of some preventive services. AUTHORS' CONCLUSIONS: It is not possible to recommend a complementary intervention to enhance the effectiveness of audit and feedback. Reminders might be more effective than audit and feedback to improve the delivery of some preventive services but the results are not striking. Few trials have investigated the effect of varying different characteristics of the audit and feedback process. Consideration should be given to testing the effects of modifying important characteristics such as the content, source, timing, recipient and format.

Zaugg, V., et al. (2018). "Providing physicians with feedback on medication adherence for people with chronic diseases taking long-term medication." Cochrane Database Syst Rev **1**: Cd012042.

BACKGROUND: Poor medication adherence decreases treatment efficacy and worsens clinical outcomes, but average rates of adherence to long-term pharmacological treatments for chronic illnesses are only about 50%. Interventions for improving medication adherence largely focus on patients rather than on physicians; however, the strategies shown to be effective are complex and difficult to implement in clinical practice. There is a need for new care models addressing the problem of medication adherence, integrating this problem into the patient care process. Physicians tend to overestimate how well patients take their medication as prescribed. This can lead to missed opportunities to change medications, solve adverse effects, or propose the use of reminders in order to improve patients' adherence. Thus, providing physicians with feedback on medication adherence has the potential to prompt changes that improve their patients' adherence to prescribed medications. OBJECTIVES: To assess the effects of providing physicians with feedback about their patients' medication adherence for improving adherence. We also assessed the effects of the intervention on patient outcomes, health resource use, and processes of care. SEARCH METHODS: We conducted a systematic search of the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, and Embase, all from database inception to December 2016 and without any language restriction. We also searched ISI Web of Science, two trials registers, and grey literature. SELECTION CRITERIA: We included randomised trials, controlled before-after studies, and interrupted time series studies that compared the effects of providing feedback to physicians about their patients' adherence to prescribed long-term medications for chronic diseases versus usual care. We included published or

unpublished studies in any language. Participants included any physician and any patient prescribed with long-term medication for chronic disease. We included interventions providing the prescribing physician with information about patient adherence to medication. Only studies in which feedback to the physician was the sole intervention or the essential component of a multifaceted intervention were eligible. In the comparison groups, the physicians should not have had access to information about their patients' adherence to medication. We considered the following outcomes: medication adherence, patient outcomes, health resource use, processes of care, and adverse events. DATA COLLECTION AND ANALYSIS: Two independent review authors extracted and analysed all data using standard methodological procedures expected by Cochrane and the Effective Practice and Organisation of Care group. Due to heterogeneity in study methodology, comparison groups, intervention settings, and measurements of outcomes, we did not carry out meta-analysis. We describe the impact of interventions on outcomes in tabular form and make a qualitative assessment of the effects of studies. MAIN RESULTS: We included nine studies (23,255 patient participants): eight randomised trials and one interrupted time series analysis. The studies took place in primary care and other outpatient settings in the USA and Canada. Seven interventions involved the systematic provision of feedback to physicians concerning all their patients' adherence to medication, and two interventions involved issuing an alert for non-adherent patients only. Seven studies used pharmacy refill data to assess medication adherence, and two used an electronic device or self-reporting. The definition of adherence differed across studies, making comparisons difficult. Eight studies were at high risk of bias, and one study was at unclear risk of bias. The most frequent source of bias was lack of protection against contamination.Providing physicians with feedback may lead to little or no difference in medication adherence (seven studies, 22,924 patients), patient outcomes (two studies, 1292 patients), or health resource use (two studies, 4181 patients). Providing physicians with feedback on medication adherence may improve processes of care (e.g. more medication changes, dialogue with patient, management of uncontrolled hypertension) compared to usual care (four studies, 2780 patients). None of the studies reported an adverse event due to the intervention. The certainty of evidence was low for all outcomes, mainly due to high risk of bias, high heterogeneity across studies, and indirectness of evidence. AUTHORS' CONCLUSIONS: Across nine studies, we observed little or no evidence that provision of feedback to physicians regarding their patients adherence to prescribed medication improved medication adherence, patient outcomes, or health resource use. Feedback about medication adherence may improve processes of care, but due to the small number of studies assessing this outcome and high risk of bias, we cannot draw firm conclusions on the effect of feedback on this outcome. Future research should use a clear, standardised definition of medication adherence and cluster-randomisation to avoid the risk of contamination.

Autres études

Costa, M. L., et al. (2009). "Audit and feedback: effects on professional obstetrical practice and healthcare outcomes in a university hospital." Acta Obstet Gynecol Scand **88**(7): 793-800.

OBJECTIVE: To assess the effects of audit and feedback on the practice of professionals in obstetrics. DESIGN: Before-after intervention study. SETTING: Obstetric unit of a university hospital in Brazil. METHODS: Before the intervention the prevalence rates of six evidence-based interventions were assessed. Seminars and workshops were administered, with the baseline results and also the main contents from systematic reviews on the topics studied, followed by detailed discussion of each topic, based on the Reproductive Health Library. After four months, the same practices were measured again and compared with the pre-intervention period. MAIN OUTCOME MEASURES: Selective episiotomy; continuous electronic fetal monitoring (EFM) during labor of low-risk pregnant women; antibiotic prophylaxis in cesarean section; active management of third stage of labor; routine induction of labor at 41 weeks for uncomplicated pregnancies; and continuous support for women during childbirth. RESULTS: Both periods showed a similar number and mode of deliveries. There was a significant reduction in episiotomies (RR = 0.84; 0.73-0.97) and an increase in continuous support for women during childbirth by a companion (RR = 1.42; 1.24-1.63). Although there was not a significant

change in the use of oxytocin during the third stage of labor, there was a shift to the internationally recommended dosage of 10 IU (p<0.0001). There was no significant change in the use of antibiotic prophylaxis for cesarean section, continuous EFM, or routine induction of labor at 41 weeks for uncomplicated pregnancies. CONCLUSION: Audit and feedback can be used as a tool to improve obstetrical practice, at least for some interventions and when the medical staff is open and receptive to change.

Dulko, D. (2007). "Audit and feedback as a clinical practice guideline implementation strategy: a model for acute care nurse practitioners." Worldviews Evid Based Nurs **4**(4): 200-209.

BACKGROUND: The transfer of research evidence into practice and changing provider behavior is challenging, even when the advantages are strong. Despite the availability of supportive care clinical practice guidelines (CPG), consistent integration of these principles into practice has not been achieved. The failure of dissemination strategies has been identified as a key barrier to successful implementation. A potentially effective approach to facilitating the transfer of research evidence into practice is audit and feedback. Audit and feedback is a summary of provider performance over a specified period of time, with or without recommendations to improve practice. RATIONALE: Cancer pain is an optimal symptom to examine when studying the effect of an audit and feedback intervention. It is a common condition with important consequences, established CPG are available, measurable outcomes are defined, and there is potential for improvement in current practice. Acute care nurse practitioners (NPs) are often responsible for overseeing and directly managing symptoms such as pain and are well positioned to implement CPG and study the effects of adherence to guidelines on patients' pain outcomes. METHODOLOGY: A systematic review of published articles, MEDLINE, the Cumulative Index to Nursing and Allied Health Literature, and the Cochrane Library computerized databases was performed to evaluate the state of the science on audit and feedback as a professional practice change strategy. A behavior change model is proposed for its application to advanced practice nursing. IMPLICATIONS FOR PRACTICE: Recognized in medicine as a valuable intervention to improve healthcare quality, audit and feedback is a strategy that has not been widely studied in nursing. Although cancer pain cannot always be entirely eliminated, appropriate use of available therapies can effectively relieve pain in a majority of patients. This article is a review of the literature on audit and feedback as a professional practice change strategy and indicates a model for operationalizing the intervention.

Gude, W. T., et al. (2017). "How does audit and feedback influence intentions of health professionals to improve practice? A laboratory experiment and field study in cardiac rehabilitation." BMJ Qual Saf **26**(4): 279-287.

OBJECTIVE: To identify factors that influence the intentions of health professionals to improve their practice when confronted with clinical performance feedback, which is an essential first step in the audit and feedback mechanism. METHODS: We conducted a theory-driven laboratory experiment with 41 individual professionals, and a field study in 18 centres in the context of a cluster-randomised trial of electronic audit and feedback in cardiac rehabilitation. Feedback reports were provided through a web-based application, and included performance scores and benchmark comparisons (high, intermediate or low performance) for a set of process and outcome indicators. From each report participants selected indicators for improvement into their action plan. Our unit of observation was an indicator presented in a feedback report (selected yes/no); we considered selecting an indicator to reflect an intention to improve. RESULTS: We analysed 767 observations in the laboratory experiment and 614 in the field study, respectively. Each 10% decrease in performance score increased the probability of an indicator being selected by 54% (OR, 1.54; 95% CI 1.29% to 1.83%) in the laboratory experiment, and 25% (OR, 1.25; 95% CI 1.13% to 1.39%) in the field study. Also, performance being benchmarked as low and intermediate increased this probability in laboratory settings. Still, participants ignored the benchmarks in 34% (laboratory experiment) and 48% (field study) of their selections. CONCLUSIONS: When confronted with clinical performance feedback, performance scores and benchmark comparisons influenced health professionals' intentions to improve practice. However, there was substantial variation in these intentions, because professionals disagreed with

benchmarks, deemed improvement unfeasible or did not consider the indicator an essential aspect of care quality. These phenomena impede intentions to improve practice, and are thus likely to dilute the effects of audit and feedback interventions. TRIAL REGISTRATION NUMBER: NTR3251, pre-results.

Guthrie, B., et al. (2016). "Data feedback and behavioural change intervention to improve primary care prescribing safety (EFIPPS): multicentre, three arm, cluster randomised controlled trial." Bmj **354**: i4079.

OBJECTIVE: To evaluate the effectiveness of feedback on safety of prescribing compared with moderately enhanced usual care. DESIGN: Three arm, highly pragmatic cluster randomised trial. SETTING AND PARTICIPANTS: 262/278 (94%) primary care practices in three Scottish health boards. INTERVENTIONS: Practices were randomised to: "usual care," consisting of emailed educational material with support for searching to identify patients (88 practices at baseline, 86 analysed); usual care plus feedback on practice's high risk prescribing sent quarterly on five occasions (87 practices, 86 analysed); or usual care plus the same feedback incorporating a behavioural change component (87 practices, 86 analysed). MAIN OUTCOME MEASURES: The primary outcome was a patient level composite of six prescribing measures relating to high risk use of antipsychotics, non-steroidal anti-inflammatories, and antiplatelets. Secondary outcomes were the six individual measures. The primary analysis compared high risk prescribing in the two feedback arms against usual care at 15 months. Secondary analyses examined immediate change and change in trend of high risk prescribing associated with implementation of the intervention within each arm. RESULTS: In the primary analysis, high risk prescribing as measured by the primary outcome fell from 6.0% (3332/55 896) to 5.1% (2845/55 872) in the usual care arm, compared with 5.9% (3341/56 194) to 4.6% (2587/56 478) in the feedback only arm (odds ratio 0.88 (95% confidence interval 0.80 to 0.96) compared with usual care; P=0.007) and 6.2% (3634/58 569) to 4.6% (2686/58 582) in the feedback plus behavioural change component arm (0.86 (0.78 to 0.95); P=0.002). In the pre-specified secondary analysis of change in trend within each arm, the usual care educational intervention had no effect on the existing declining trend in high risk prescribing. Both types of feedback were associated with significantly more rapid decline in high risk prescribing after the intervention compared with before. CONCLUSIONS: Feedback of prescribing safety data was effective at reducing high risk prescribing. The intervention would be feasible to implement at scale in contexts where electronic health records are in general use.Trial registration Clinical trials NCT01602705.

Raja, A. S., et al. (2015). "Effects of Performance Feedback Reports on Adherence to Evidence-Based Guidelines in Use of CT for Evaluation of Pulmonary Embolism in the Emergency Department: A Randomized Trial." AJR Am J Roentgenol **205**(5): 936-940.

OBJECTIVE: The purpose of this study was to assess whether implementing emergency department (ED) physician performance feedback reports improves adherence to evidence-based guidelines for use of CT for evaluation of pulmonary embolism (PE) beyond that achieved with clinical decision support (CDS) alone. SUBJECTS AND METHODS: This prospective randomized controlled trial was conducted from January 1, 2012, to December 31, 2013, at an urban level 1 adult trauma center ED. Attending physicians were stratified into quartiles by use of CT for evaluation of PE in 2012 and were randomized to receive quarterly feedback reporting or not, beginning January 2013. Reports consisted of individual and anonymized group data on guideline adherence (using the Wells criteria), use of CT for PE (number of CT examinations for PE per 1000 patients), and yield (percentage of CT examinations for PE with positive findings). We compared guideline adherence (primary outcome) and use and yield (secondary outcomes) of CT for PE between the control and intervention groups in 2013 and with historical imaging data from 2012. RESULTS: Of 109,793 ED patients during the control and intervention periods, 2167 (2.0%) underwent CT for evaluation of PE. In the control group, guideline adherence remained unchanged between 2012 (78.8% [476/604]) and 2013 (77.2% [421/545]) ($p = 0.5$); in the intervention group, guideline adherence increased 8.8% after feedback report implementation, from 78.3% (426/544) to 85.2% (404/474) ($p < 0.05$). Use and yield were unchanged in both groups. CONCLUSION: Implementation of quarterly feedback reporting resulted in a modest but significant increase in adherence to evidence-based guidelines for use of CT for evaluation of PE in

ED patients, enhancing the impact of CDS alone. These results suggest potentially synergistic effects of traditional performance improvement tools with CDS to improve guideline adherence.

Trietsch, J., et al. (2017). "Effect of audit and feedback with peer review on general practitioners' prescribing and test ordering performance: a cluster-randomized controlled trial." BMC Fam Pract **18**(1): 53.

BACKGROUND: Much research worldwide is focussed on cost containment and better adherence to guidelines in healthcare. The research focussing on professional behaviour is often performed in a well-controlled research setting. In this study a large-scale implementation of a peer review strategy was tested on both test ordering and prescribing behaviour in primary care in the normal quality improvement setting. METHODS: We planned a cluster-RCT in existing local quality improvement collaboratives (LQICs) in primary care. The study ran from January 2008 to January 2011. LQICs were randomly assigned to one of two trial arms, with each arm receiving the same intervention of audit and feedback combined with peer review. Both arms were offered five different clinical topics and acted as blind controls for the other arm. The differences in test ordering rates and prescribing rates between both arms were analysed in an intention-to-treat pre-post analysis and a per-protocol analysis. RESULTS: Twenty-one LQIC groups, including 197 GPs working in 88 practices, entered the trial. The intention-to-treat analysis did not show a difference in the changes in test ordering or prescribing performance between intervention and control groups. The per-protocol analysis showed positive results for half of the clinical topics. The increase in total tests ordered was 3% in the intervention arm and 15% in the control arm. For prescribing the increase in prescriptions was 20% in the intervention arm and 66% in the control group. It was observed that the groups with the highest baseline test ordering and prescription volumes showed the largest improvements. CONCLUSIONS: Our study shows that the results from earlier work could not be confirmed by our attempt to implement the strategy in the field. We did not see a decrease in the volumes of tests ordered or of the drugs prescribed but were able to show a lesser increase instead. Implementing the peer review with audit and feedback proved to be not feasible in primary care in the Netherlands. TRIAL REGISTRATION: This trial was registered at the Dutch trial register under number ISRCTN40008171 on August 7(th) 2007.

van Overveld, L. F. J., et al. (2017). "Feedback preferences of patients, professionals and health insurers in integrated head and neck cancer care." Health Expect **20**(6): 1275-1288.

BACKGROUND: Audit and feedback on professional practice and health care outcomes are the most often used interventions to change behaviour of professionals and improve quality of health care. However, limited information is available regarding preferred feedback for patients, professionals and health insurers. OBJECTIVE: Investigate the (differences in) preferences of receiving feedback between stakeholders, using the Dutch Head and Neck Audit as an example. METHODS: A total of 37 patients, medical specialists, allied health professionals and health insurers were interviewed using semi-structured interviews. Questions focussed on: "Why," "On what aspects" and "How" do you prefer to receive feedback on professional practice and health care outcomes? RESULTS: All stakeholders mentioned that feedback can improve health care by creating awareness, enabling self-reflection and reflection on peers or colleagues, and by benchmarking to others. Patients prefer feedback on the actual professional practice that matches the health care received, whereas medical specialists and health insurers are interested mainly in health care outcomes. All stakeholders largely prefer a bar graph. Patients prefer a pie chart for patient-reported outcomes and experiences, while Kaplan-Meier survival curves are preferred by medical specialists. Feedback should be simple with firstly an overview, and 1-4 times a year sent by e-mail. Finally, patients and health professionals are cautious with regard to transparency of audit data. CONCLUSIONS: This exploratory study shows how feedback preferences differ between stakeholders. Therefore, tailored reports are recommended. Using this information, effects of audit and feedback can be improved by adapting the feedback format and contents to the preferences of stakeholders.

Diffusion des informations

Revues de littérature

Gagnon, M. P., et al. (2009). "Interventions for promoting information and communication technologies adoption in healthcare professionals." Cochrane Database Syst Rev(1): Cd006093.

BACKGROUND: Information and communication technologies (ICT) are defined as digital and analogue technologies that facilitate the capturing, processing, storage and exchange of information via electronic communication. ICTs have the potential to improve information management, access to health services, quality of care, continuity of services, and cost containment. Knowledge is lacking on conditions for successful ICT integration into practice. OBJECTIVES: To carry out a systematic review of the effectiveness of interventions to promote the adoption of ICT by healthcare professionals. SEARCH STRATEGY: Specific strategies, defined with the help of an information specialist, were used to search the Cochrane Effective Practice and Organisation of Care Group (EPOC) register and additional relevant databases. We considered studies published from January 1990 until October 2007. SELECTION CRITERIA: Randomised controlled trials (RCTs), controlled clinical trials (CCTs), controlled before/after studies (CBAs), and interrupted time series (ITS) that reported objectively measured outcomes concerning the effect of interventions to promote adoption of ICT in healthcare professionals' practices. DATA COLLECTION AND ANALYSIS: Two reviewers independently assessed each potentially relevant study for inclusion. We resolved discrepancies by discussion or a third reviewer. Two teams of two reviewers independently extracted data and assessed the quality of included studies. A meta-analysis of study outcomes was not possible, given the small number of included studies and the heterogeneity of intervention and outcomes measures. We conducted qualitative analyses, and have presented the results in a narrative format. MAIN RESULTS: Ten studies met the inclusion criteria. Nine of them were RCTs. All studies involved physicians as participants (including postgraduate trainees), and one study also included other participants. Only two studies measured patient outcomes. Searching skills and/or frequency of use of electronic databases, mainly MEDLINE, were targeted in eight studies. Use of Internet for audit and feedback, and email for provider-patient communication, were targeted in two studies. Four studies showed small to moderate positive effects of the intervention on ICT adoption. Four studies were unable to demonstrate significant positive effects, and the two others showed mixed effects. No studies looked at the long-term effect or sustainability of the intervention. AUTHORS' CONCLUSIONS: There is very limited evidence on effective interventions promoting the adoption of ICTs by healthcare professionals. Small effects have been reported for interventions targeting the use of electronic databases and digital libraries. The effectiveness of interventions to promote ICT adoption in healthcare settings remains uncertain, and more well designed trials are needed.

Groene, O., et al. (2014). "Involvement of patients or their representatives in quality management functions in EU hospitals: implementation and impact on patient-centred care strategies." International Journal for Quality in Health Care **26**(suppl 1): 81-91.
http://intqhc.oxfordjournals.org/content/26/suppl_1/81.abstract

Objective The objective of this study was to describe the involvement of patients or their representatives in quality management (QM) functions and to assess associations between levels of involvement and the implementation of patient-centred care strategies.Design A cross-sectional, multilevel study design that surveyed quality managers and department heads and data from an organizational audit.Setting Randomly selected hospitals (n = 74) from seven European countries (The Czech Republic, France, Germany, Poland, Portugal, Spain and Turkey).Participants Hospital quality managers (n = 74) and heads of clinical departments (n = 262) in charge of four patient pathways (acute myocardial infarction, stroke, hip fracture and deliveries) participated in the data collection between May 2011 and February 2012.Main Outcome Measures Four items reflecting essential patient-centred care strategies based on an on-site hospital visit: (1) formal survey seeking views of patients and carers, (2) written policies on patients' rights, (3) patient information literature including guidelines and (4) fact sheets for post-discharge care. The main predictors were patient involvement

in QM at the (i) hospital level and (ii) pathway level.Results Current levels of involving patients and their representatives in QM functions in European hospitals are low at hospital level (mean score 1.6 on a scale of 0 to 5, SD 0.7), but even lower at departmental level (mean 0.6, SD 0.7). We did not detect associations between levels of involving patients and their representatives in QM functions and the implementation of patient-centred care strategies; however, the smallest hospitals were more likely to have implemented patient-centred care strategies.Conclusions There is insufficient evidence that involving patients and their representatives in QM leads to establishing or implementing strategies and procedures that facilitate patient-centred care; however, lack of evidence should not be interpreted as evidence of no effect

Ketelaar, N. A., et al. (2011). "Public release of performance data in changing the behaviour of healthcare consumers, professionals or organisations." Cochrane Database Syst Rev(11): Cd004538.

BACKGROUND: It is becoming increasingly common to release information about the performance of hospitals, health professionals or providers, and healthcare organisations into the public domain. However, we do not know how this information is used and to what extent such reporting leads to quality improvement by changing the behaviour of healthcare consumers, providers and purchasers, or to what extent the performance of professionals and providers can be affected. OBJECTIVES: To determine the effectiveness of the public release of performance data in changing the behaviour of healthcare consumers, professionals and organisations. SEARCH METHODS: We searched the Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Effective Practice and Organisation of Care (EPOC) Trials Register, MEDLINE Ovid (from 1966), EMBASE Ovid (from 1979), CINAHL, PsycINFO Ovid (from 1806) and DARE up to 2011. SELECTION CRITERIA: We searched for randomised or quasi-randomised trials, interrupted time series and controlled before-after studies of the effects of publicly releasing data regarding any aspect of the performance of healthcare organisations or individuals. The papers had to report at least one main outcome related to selecting or changing care. Other outcome measures were awareness, attitude, views and knowledge of performance data and costs. DATA COLLECTION AND ANALYSIS: Two review authors independently screened studies for eligibility and extracted data. For each study, we extracted data about the target groups (healthcare consumers, healthcare providers and healthcare purchasers), performance data, main outcomes (choice of healthcare provider and improvement by means of changes in care) and other outcomes (awareness, attitude, views, knowledge of performance data and costs). MAIN RESULTS: We included four studies containing more than 35,000 consumers, and 1560 hospitals. Three studies were conducted in the USA and examined consumer behaviour after the public release of performance data. Two studies found no effect of Consumer Assessment of Healthcare Providers and Systems information on health plan choice in a Medicaid population. One interrupted time series study found a small positive effect of the publishing of data on patient volumes for coronary bypass surgery and low-complication outliers for lumbar discectomy, but these effects did not persist longer than two months after each public release. No effects on patient volumes for acute myocardial infarction were found.One cluster-randomised controlled trial, conducted in Canada, studied improvement changes in care after the public release of performance data for patients with acute myocardial infarction and congestive heart failure. No effects for the composite process-of-care indicators for either condition were found, but there were some improvements in the individual process-of-care indicators. There was an effect on the mortality rates for acute myocardial infarction. More quality improvement activities were initiated in response to the publicly-released report cards. No secondary outcomes were reported. AUTHORS' CONCLUSIONS: The small body of evidence available provides no consistent evidence that the public release of performance data changes consumer behaviour or improves care. Evidence that the public release of performance data may have an impact on the behaviour of healthcare professionals or organisations is lacking.

Autres études

Hibbard, J. H., et al. (2012). "An experiment shows that a well-designed report on costs and quality can help consumers choose high-value health care." Health Aff (Millwood) **31**(3): 560-568.

Advocates of health reform continue to pursue policies and tools that will make information about comparative costs and resource use available to consumers. Reformers expect that consumers will use the data to choose high-value providers-those who offer higher quality and lower prices-and thus contribute to the broader goal of controlling national health care spending. However, communicating this information effectively is more challenging than it might first appear. For example, consumers are more interested in the quality of health care than in its cost, and many perceive a low-cost provider to be substandard. In this study of 1,421 employees, we examined how different presentations of information affect the likelihood that consumers will make high-value choices. We found that a substantial minority of the respondents shied away from low-cost providers, and even consumers who pay a larger share of their health care costs themselves were likely to equate high cost with high quality. At the same time, we found that presenting cost data alongside easy-to-interpret quality information and highlighting high-value options improved the likelihood that consumers would choose those options. Reporting strategies that follow such a format will help consumers understand that a doctor who provides higher-quality care than other doctors does not necessarily cost more.

Safavi, K. C., et al. (2014). "Variation in Surgical Quality Measure Adherence within Hospital Referral Regions: Do Publicly Reported Surgical Quality Measures Distinguish among Hospitals That Patients Are Likely to Compare?" Health Services Research: n/a-n/a.
http://dx.doi.org/10.1111/1475-6773.12164

Objective To determine whether surgical quality measures that Medicare publicly reports provide a basis for patients to choose a hospital from within their geographic region. Data Source The Department of Health and Human Services' public reporting website, http://www.medicare.gov/hospitalcompare. Study Design We identified hospitals (n- =- 2,953) reporting adherence rates to the quality measures intended to reduce surgical site infections (Surgical Care Improvement Project, 1â€“3) in 2012. We defined regions within which patients were likely to compare hospitals using the hospital referral regions (HRRs) from the Dartmouth Atlas of Health Care Project. We described distributions of reported SCIP adherence within each HRR, including medians, interquartile ranges (IQRs), skewness, and outliers. Principal Findings Ninety-seven percent of HRRs had median SCIP-1 scores â‰¥95 percent. In 93 percent of HRRs, half of the hospitals in the HRR were within 5 percent of the median hospital's score. In 62 percent of HRRs, hospitals were skewed toward the higher rates (negative skewness). Seven percent of HRRs demonstrated positive skewness. Only 1 percent had a positive outlier. SCIP-2 and SCIP-3 demonstrated similar distributions. Conclusions Publicly reported quality measures for surgical site infection prevention do not distinguish the majority of hospitals that patients are likely to choose from when selecting a surgical provider. More studies are needed to improve public reporting's ability to positively impact patient decision making

Seroussi, B., et al. (2013). "Which patients may benefit from the use of a decision support system to improve compliance of physician decisions with clinical practice guidelines: a case study with breast cancer involving data mining." Stud Health Technol Inform **192**: 534-538.

OncoDoc2 is a guideline-based clinical decision support system (CDSS) for breast cancer management. It has been used as an intervention in a randomized controlled trial carried out to evaluate the impact of using a CDSS upon the compliance with clinical practice guidelines (CPGs) of multidisciplinary staff meeting decisions. Data mining was used to discover multi-criteria regularities as "emerging patterns" (EPs) associated with compliance and non-compliance with CPGs when using and not using OncoDoc2 and to assess which patients may benefit from the use of the CDSS. Decision data was collected from all participating centers. The number of EPs associated with non-compliance is smaller in the intervention arm, which suggests a practice harmonization effect of OncoDoc2. EPs associated with compliant decisions in both arms of the trial correspond to situations well identified in CPGs. EPs associated with non-compliant decisions when the system is not used are associated with compliance when the system is used except in clinical situations where evidence is lacking.

The Choosing Wisely Initiative

The Choosing Wisely Intitiative
http://www.choosingwisely.org/
https://choisiravecsoin.org

Lancée en 2012, aux Etats-Unis, à l'initiative d'une société savante, la fondation American Board of Internal Medicine, avec le soutien de la revue de consommateurs « Consumer Reports », la campagne « Choosing Wisely » vise à informer les patients et les médecins afin qu'ils puissent dialoguer en toute connaissance de cause sur la pertinence de tels ou tels traitements ou examens. Grâce à des sites Internet et à des applications pour smartphones dédiés, il s'agit de permettre aux patients et aux soignants de disposer d'une information fiable et validée, indépendante des laboratoires pharmaceutiques ou des fabricants de dispositifs ou de matériels médicaux. « Choisir avec soin »[19], version francophone a été mise en ligne par des sociétés savantes et des associations canadiennes. 250 recommandations de bonne pratique, élaborées par des sociétés savantes d'après les dernières données de la littérature – mais n'ayant pas toujours prouvé leur efficacité – se trouvent ainsi en ligne sur ce site, classées par spécialité médicale. En France, quelques associations de soignants, l'Association Mieux Prescrire, le Formindep et le réseau Princeps militent contre la surmédicalisation[20]. La Fédération hospitalière de France a signé récemment une charte d'engagement dans cette campagne[21], mais la campagne « Choosing Wisely » n'est pas encore lancée officiellement. Seul le CHU de Nantes semble avoir mis un programme pour sensibiliser médecins et patients à la surmédicalisation.

Voir communication du congrès HAS sur la pertinence de soins 2017
Coordinatrice internationale : Docteur Wendy Levinson – University of Toronto

(2016). "Choisir avec soins : mode ou pertinence ? La réforme Obama de la santé va-t-elle contribuer à diminuer la surmédicalisation ?" Medecine : De La Medecine Factuelle a Nos Pratiques **12**(4): 182-185.

> Les États-Unis sont à l'aube d'une réforme de leur « système de santé ». Cette réforme apporte avec elle des changements de pratique médicale, initiée par les sociétés savantes, les assureurs privés à but non lucratif, et les associations de consommateurs : la campagne « Choosing Wisely ». Le Canada a repris cette recherche d'un soin avisé. La décision partagée pourrait enrichir cette réflexion. Cependant, devant une demande des patients qui leur semble injustifiée, le temps nécessaire à sa mise en pratique fait souvent baisser les bras aux médecins, surtout s'il s'agit de dire non, et sans réponse alternative à apporter à la plainte. Associer à l'information cohérente issue des professionnels eux-mêmes des compétences en communication et en psychothérapie pour répondre aux patients anxieux et une reconnaissance du temps passé pourraient être source d'économie et de qualité en santé.

Admon, A. J. et Cooke, C. R. (2014). "Will Choosing Wisely(R) improve quality and lower costs of care for patients with critical illness?" Ann Am Thorac Soc **11**(5): 823-827.

> In 2009, a group of experts convened by the Institute of Medicine estimated that 30% of health care costs amounted to waste, including a substantial share from nonbeneficial and often harmful services. Professional organizations and medical ethicists subsequently called on specialty groups to generate "top five" lists of expensive tests or treatments without known benefits. Responding to this call, the American Board of Internal Medicine launched its Choosing Wisely campaign, with the top-five Choosing Wisely lists for pulmonary medicine and critical care released in 2014. In order for the critical care list to have an impact on costs and quality, two things must occur: providers whose practice is discordant with the list must adhere to the list when making decisions, and those decisions must lead to improvements in the quality of care at lower costs. Although the campaign addresses some

[19] [19] Cauterman, M., et al. (2015). "Choisir avec soin, pertinence et professionnalisme. ." Actualite Et Dossier En Sante Publique(92): 46-47.
[20] [20] Maraschini ? J. (2018). Lutte contre les actes inutiles. Que Choisir santé (125)
[21] Site de la FHF

limitations of past efforts to improve quality and reduce waste, we believe it will do little to change provider behavior. Even if the top-five list for critical care were to change the behavior of providers, its ultimate impact on costs and quality will be lower than anticipated. Here we suggest several strategies for stakeholders to increase the impact of the critical care top-five list, and further discuss that despite limitations of the campaign it is still imperative for advancing best practice in critical care.

Battegay, E. J. et Cheetham, M. (2017). "Choosing Wisely - An international and multimorbid perspective." Z Evid Fortbild Qual Gesundhwes **129**: 27-30.

Some medical diagnostic and therapeutic interventions are non-beneficial or even harmful. The Choosing Wisely campaign has encouraged the generation of "top five" lists of unnecessary low-value services in different specialist areas. In the USA alone, where the campaign was launched, these lists include a total of 450 evidence-based recommendations. Medical scientific societies in further countries such as Canada, Australia, New Zealand, England, Switzerland and Germany have since initiated Choosing Wisely campaigns. Besides implementing top five lists, these aim to change attitudes, expectations and practices in the culture of medicine. The field of internal medicine has initiated change in Switzerland (Swiss Society of General Internal Medicine: Smarter Medicine) and Germany (German Society of Internal Medicine: Klug entscheiden). Formulating Choosing Wisely principles in managing complex patients with multiple concurrent acute or chronic diseases, i. e., multimorbidity (MM), will present a particular challenge. Research is needed to determine the primary sources of overuse in specific combinations of diseases (i. e., MM clusters) and spearhead corresponding recommendations. National Choosing Widely campaigns may serve as a forerunner to a more global initiative.

Bernardini, R., et al. (2016). "Beyond the "Choosing wisely": a possible attempt." Ital J Pediatr **42**(1): 55.

Since the fundamental principles of the medical profession were clearly defined in a physician charter in 2002, special considerations have been expressed about the adequate distribution of health care resources taking in account the individual patient needs to optimize the health care service. The correct application of procedures represents a key point in order to reach the appropriateness of care, that means to avoid unnecessary or inappropriate procedures as well as the underutilization of the necessary procedures. In this context, the Choosing wisely campaign have been widely used and disclosed and even the Italian Society of Pediatric Allergology and Immunology - SIAIP has been working to make recommendations in order to ensure the appropriateness of care in the field of allergy and optimize the use of health care resources.

Bhatia, R. S., et al. (2015). "Measuring the effect of Choosing Wisely: an integrated framework to assess campaign impact on low-value care." BMJ Qual Saf **24**(8): 523-531.

The Choosing Wisely campaign began in the USA in 2012 to encourage physicians and patients to discuss inappropriate and potentially harmful tests, treatments and procedures. Since its inception, the campaign has grown substantially and has been adopted by 12 countries around the world. Of great interest to countries implementing the campaign, is the effectiveness of Choosing Wisely to reduce overutilisation. This article presents an integrated measurement framework that may be used to assess the impact of a Choosing Wisely campaign on physician and provider awareness and attitudes on low-value care, provider practice behaviour and overuse of low-value services.

Bishop, T. F., et al. (2017). "Academic physicians' views on low-value services and the choosing wisely campaign: A qualitative study." Healthc (Amst) **5**(1-2): 17-22.

BACKGROUND: In 2012, the American Board of Internal Medicine (ABIM) Foundation launched a campaign called Choosing Wisely which was intended to start a national dialogue on services that are not medically necessary. More research is needed on the in-depth reasons why doctors overuse low-value services, their views on Choosing Wisely specifically, and ways to help them change their practice patterns. METHODS: We performed a qualitative study of focus groups with physicians to

explore their views on the problem of overuse of low-value services, the reasons why they overuse, and ways that they think could be effective at curbing overuse. Participants were attendings in the fields of emergency medicine, internal medicine, hospital medicine, and cardiology. RESULTS: All physicians felt that overuse of low-value services was a significant problem. Physicians frequently cited that patient expectations drove the use of low-value services and lack of time was the most cited reason why behavior change was difficult. Facilitators that could promote behavior change included decision support through the electronic medical record, motivation to maintain their reputation among their colleagues, internal motivation to be a good doctor, objective data showing their rates of overuse, alignment of institutional goals, and forums to discuss evidence and new research. CONCLUSIONS AND IMPLICATIONS: In focus groups with physicians, we found that physicians perceived that overuse of low-value services was a problem. Participants cited many barriers to behavior change. Methods that help address patient expectations, physician time, and social norms may help physicians reduce their use of low-value services.

Blumenthal-Barby, J. S. (2013). ""Choosing wisely" to reduce low-value care: a conceptual and ethical analysis." J Med Philos **38**(5): 559-580.

The American Board of Internal Medicine (ABIM) Foundation has recently initiated a campaign called "Choosing Wisely," which is aimed at reducing "low-value" care services. Lists of low-value care services are being developed and the ABIM Foundation is urging the American Medical Association and other organizations to get behind the lists, disseminate them, and implement them. Yet, there are many ethical questions that remain about the development, dissemination, and implementation of these low-value care lists. In this paper I argue for conceptual clarity with respect to the label "low-value care." Thus far it has not been precisely defined, and I argue that there are actually 10 distinct categories of low-value care. I discuss the ethical challenges and considerations associated with each category. I also provide arguments that can be used to justify the reduction of some of these categories of low-value care. These arguments rely on Rawlsian and Hegelian notions of justice, as well as on concepts about the fiduciary obligations of physicians. Finally, I outline the various mechanisms that could be utilized for the reduction of low-value care (i.e., incentives, punishments, nonrational influences such as appeals to social norms, emotions, or ego, and creation of conditions that make avoidance easy such as defaults and reminders). I provide normative guidelines for the use of each.

Born, K. B. et Levinson, W. (2017). "Response to 'Choosing Wisely should bring the cost of unnecessary care back into the discussion'; Choosing Wisely': a growing international campaign." BMJ Qual Saf **26**(9): 777-778.

Brandt Vegas, D., et al. (2015). "Readiness of hospital-based internists to embrace and discuss high-value care with patients and family members: a single-centre cross-sectional survey study." CMAJ Open **3**(4): E382-386.

BACKGROUND: Choosing Wisely Canada is a campaign that fosters conversations between physicians and patients about high-value health care. However, little is known about physicians' readiness to have these conversations. Our objective was to determine how ready practising internists were to embrace and openly address high-value care during conversations with patients or their families. METHODS: Practising internists in hospitals affiliated with McMaster University, Hamilton, Ontario, were invited to complete an electronic survey with 3 clinical scenarios: each had 3 low-value interventions that had been requested by the patient or family member. For each request, participants chose 1 of 3 statements reflecting how they would respond: a low-value statement agreeing to provide the intervention, an implicit high-value statement declining to provide the intervention without mentioning value or an explicit high-value statement declining to provide the intervention with mention of value. RESULTS: Forty-four of 62 eligible physicians (71.0% response rate) participated in the survey. High-value statements were selected in 91% of cases. The implicit high-value statement was chosen more often than the explicit high-value statement (65.7% v. 25.5% of all responses, respectively; chi2 range 4.46-56.23, $p < 0.05$). INTERPRETATION: Physicians favoured high-value care but frequently chose not to explicitly address value in their statements. Physicians seemed ready to embrace high-value health care practice, although they were not ready to openly discuss it with patients and their families.

Buist, D. S., et al. (2016). "Primary Care Clinicians' Perspectives on Reducing Low-Value Care in an Integrated Delivery System." Perm J **20**(1): 41-46.

CONTEXT: Perceptions about low-value care (eg, medical tests and procedures that may be unnecessary and/or harmful) among clinicians with capitated salaries are unknown. OBJECTIVE: Explore clinicians' perceived use of and responsibility for reducing low-value care by focusing on barriers to use, awareness of the Choosing Wisely campaign, and response to reports of peer-comparison resource use and practice patterns. METHODS: Electronic, cross-sectional survey, distributed in 2013, to 304 salaried primary care physicians and physician assistants at Group Health Cooperative. MAIN OUTCOME MEASURES: Attitudes, awareness, and barriers of low-value care strategies and initiatives. RESULTS: A total of 189 clinicians responded (62% response rate). More than 90% believe cost is important to various stakeholders and believe it is fair to ask clinicians to be cost-conscious. Most found peer-comparison resource-use reports useful for understanding practice patterns and prompting peer discussions. Two-thirds of clinicians were aware of the Choosing Wisely campaign; among them, 97% considered it a legitimate information source. Although 88% reported being comfortable discussing low-value care with patients, 80% reported they would order tests or procedures when a patient insisted. As key barriers in reducing low-value care, clinicians identified time constraints (45%), overcoming patient preferences/values (44%), community standards (43%), fear of patients' dissatisfaction (41%), patients' knowledge about the harms of low-value care (38%), and availability of tools to support shared decision making (37%). CONCLUSIONS: Salaried clinicians are aware of rising health care costs and want to be stewards of limited health care resources. Evidence-based initiatives such as the Choosing Wisely campaign may help motivate clinicians to be conscientious stewards of limited health care resources.

Bulger, J., et al. (2013). "Choosing wisely in adult hospital medicine: five opportunities for improved healthcare value." J Hosp Med **8**(9): 486-492.

BACKGROUND: In an effort to lead physicians in addressing the problem of overuse of medical tests and treatments, the American Board of Internal Medicine Foundation developed the Choosing Wisely campaign. The Society of Hospital Medicine (SHM) joined the initiative to highlight the need to critically appraise resource utilization in hospitals. METHODS: The SHM employed a staged methodology to develop the adult Choosing Wisely list. This included surveys of the organization's leaders and general membership, a review of the literature, and Delphi panel voting. RESULTS: The 5 recommendations that were subsequently approved by the SHM Board are: (1) Do not place, or leave in place, urinary catheters for incontinence or convenience or monitoring of output for non-critically ill patients (acceptable indications: critical illness, obstruction, hospice, perioperatively for <2 days for urologic procedures; use weights instead to monitor diuresis). (2) Do not prescribe medications for stress ulcer prophylaxis to medical inpatients unless at high risk for gastrointestinal complications. (3) Avoid transfusions of red blood cells for arbitrary hemoglobin or hematocrit thresholds and in the absence of symptoms or active coronary disease, heart failure, or stroke. (4) Do not order continuous telemetry monitoring outside of the intensive care unit without using a protocol that governs continuation. (5) Do not perform repetitive complete blood count and chemistry testing in the face of clinical and lab stability. CONCLUSIONS: Hospitalists have many opportunities to impact overutilization of care. The adult hospital medicine Choosing Wisely recommendations offer an explicit starting point for eliminating waste in the hospital.

Camerini, F., et al. (2017). "[Appropriateness and surroundings: "Doing more does not mean doing better". Choosing Wisely, an unfulfilled commitment?]." G Ital Cardiol (Rome) **18**(12): 824-831.

The attention of the medical community to the appropriateness of diagnostic and therapeutic procedures has increased in recent years, recognizing the need for a careful use of resources and for avoiding unnecessary and sometimes harmful medical tests, procedures and therapies. Not only healthcare providers, but also public, patients and politicians, should know the consequences of inappropriate decisions and behaviors. Indeed, inappropriateness has clinical (risks), economic (waste

of resources), but also ethical implications (i.e. the use of unnecessary tests and treatments in a system characterized by limited resources).Inappropriateness is a complex entity and it may vary widely: in fact, it may be influenced by different clinical settings, techniques used, but also by data collection methods, size of the population considered, and the professional background of the physicians requesting a specific test or procedure.Various initiatives have been proposed with the aim at reducing the use of unnecessary tests and procedures but imposed rules appear to be of dubious effectiveness. On the contrary, the medical community needs more in-depth knowledge of the problem and an active commitment for reducing the waste of resources, especially because unnecessary or sometimes harmful interventions subtract resources where they are useful or necessary.Recently, the "Choosing Wisely" campaign, which has involved 18 countries and more than 70 scientific societies, has been one of the most well-known initiatives, launched in Italy by the "Slow Medicine" movement. The purpose is to disseminate the recommendations of scientific societies with the aim to promote processes of care based on appropriateness, but within a relation of dialogue and decision sharing with the patient and public.The Choosing Wisely campaign is certainly important and innovative. However, there are open and unsolved issues such as the lack of rigorous and systematic methods for the evaluation of the results of the proposed initiatives and the need for more widespread interventions both at the medical and community level.

Cardone, F., et al. (2017). "Choosing Wisely Canada Students and Trainees Advocating for Resource Stewardship (STARS) campaign: a descriptive evaluation." CMAJ Open **5**(4): E864-e871.

BACKGROUND: Resource stewardship is being increasingly recognized as an essential competency for physicians, but medical schools are just beginning to integrate this into education. We describe the evaluation of Choosing Wisely Canada's Students and Trainees Advocating for Resource Stewardship (STARS) campaign, a student-led campaign to advance resource stewardship education in medical schools across Canada. METHODS: We evaluated the campaign 6 months after its launch, in November 2015. STARS students were administered a telephone survey eliciting a description of the initiatives that they had implemented or planned to implement at their schools to promote resource stewardship, and exploring their perceptions of facilitators of and barriers to successful implementation of their initiatives. We used a mixed-methods approach to analyze and summarize the data. RESULTS: Twenty-seven (82%) of the 33 eligible students representing all 17 medical schools responded. In 14 schools (82%), students led various local activities (e.g., interest groups, campaign weeks) to raise awareness about resource stewardship among medical students and faculty. Students contributed to curriculum change (both planned and implemented) at 10 schools (59%). Thematic analysis revealed key program characteristics that facilitated success (e.g., pan-Canadian student network, local faculty champion) as well as barriers to implementing change (e.g., complex processes to change curriculum, hierarchical nature of medical school). INTERPRETATION: This student-led campaign, with support from local faculty and Choosing Wisely Canada staff, led to awareness-building activities and early curricula change at medical schools across Canada. Future plans will build on the initial momentum created by the STARS campaign to sustain and spread local initiatives.

Cauterman, M., et al. (2015). "Choisir avec soin, pertinence et professionnalisme. ." Actualite Et Dossier En Sante Publique(92): 46-47.
http://www.hcsp.fr/Explore.cgi/Adsp?clef=149

[BDSP. Notice produite par EHESP 78R0xIAp. Diffusion soumise à autorisation]. La pertinence (en prévention, diagnostique, thérapeutique, réadaptation) contribue fortement au respect du premier principe de l'exercice médical : primum non nocere. La sous-utilisation des soins, définie comme la non-réalisation d'actes médicalement justifiés, est en grande partie la cause des dommages pour les patients associés aux soins. Les retards et absence de diagnostic et de traitement concernent une proportion élevée des prises en charge de patients porteurs de maladie chronique. Le chiffre de 50% est souvent 1. "D'abord ne pas nuire" avancé dans les pays développés. Cette sous-utilisation est la conséquence d'erreurs par omission qui sont à peu près aussi fréquentes que les erreurs par commission. Les conséquences en termes de perte de chance et de dommage pour les patients n'ont pas été estimées à large échelle. La surutilisation des soins, définie comme la réalisation d'actes non médicalement justifiés, peut également créer des dommages aux patients, soit directement par les complications des tests

diagnostiques ou des traitements, soit indirectement en générant des résultats positifs (vrais positifs ou faux-positifs) nécessitant la poursuite d'explorations, voire des diagnostics en excès, conduisant à terme à des erreurs et des événements indésirables associés aux soins. De surcroît, l'annonce de résultats faussement positifs peut avoir des conséquences psychologiques importantes pour les patients. Enfin, sont inclues dans cette liste les prises en charge agressives au regard des effets attendus, dans les maladies graves comme en fin de vie, qui détériorent la qualité de vie des patients, ou plus simplement qui ne tiennent pas compte des préférences de patients.

Colla, C. H., et al. (2016). "Physician perceptions of Choosing Wisely and drivers of overuse." Am J Manag Care **22**(5): 337-343.

OBJECTIVES: Little is known regarding physicians' views on health service overuse or their awareness of the American Board of Internal Medicine Foundation's Choosing Wisely campaign. Through the Survey on Overuse and Knowledge of Choosing Wisely, we assessed physician views on hypothesized drivers of overuse and Choosing Wisely. STUDY DESIGN: We designed the survey to investigate physicians' knowledge of, awareness of, and feelings toward Choosing Wisely, along with their concerns about malpractice, perception of patient demand, discomfort with uncertainty, and cost-consciousness. Where possible, we used pre-validated survey instruments. METHODS: We distributed the survey to clinicians practicing at Atrius Health, the largest ambulatory care provider in Massachusetts. We analyzed 584 responses (72% response rate) and calculated 3 previously validated scales. RESULTS: Primary care physicians reported significantly greater awareness of Choosing Wisely (47.2%) than medical specialists (37.4%) and surgical specialists (27%). A majority (62%) of all respondents reported they found uncertainty involved in providing care disconcerting. Approximately one-third felt it unfair to ask physicians to be both cost-conscious and concerned with welfare, thought too much emphasis was placed on costs, and thought doctors were too busy to worry about costs. Surgical specialists were more concerned about malpractice, whereas primary care physicians reported feeling significantly more pressure from patients for tests and procedures. CONCLUSIONS: Knowledge of Choosing Wisely is limited, but primary care physicians are more aware of the campaign than specialists. Although hypothesized drivers of overuse are prevalent, most physicians support cost-consciousness in medicine and embrace their responsibility in reducing costs.

Colla, C. H. et Mainor, A. J. (2017). "Choosing Wisely Campaign: Valuable For Providers Who Knew About It, But Awareness Remained Constant, 2014-17." Health Aff (Millwood) **36**(11): 2005-2011.

Together with physician specialty societies, the Choosing Wisely(R) campaign has codified recommendations of which health care services' use should be questioned and discussed with patients. The ABIM Foundation administered surveys in 2014 and 2017 to examine physicians' attitudes toward and awareness of the use of low-value care. The surveys included questions on the factors driving that use, physicians' comfort in having conversations with patients about that use, and physicians' exposure to the Choosing Wisely campaign. Despite continued publicity and physician outreach efforts, there were no significant changes between 2014 and 2017 in awareness of the campaign among physicians (awareness increased from 21 percent to 25 percent) or physician-reported difficulty in talking to patients about avoiding a low-value service (42 percent reported that such conversations had gotten harder in 2014, and 46 percent did so in 2017). Barriers to the adoption of recommendations included malpractice concerns, patient demand and satisfaction, and physicians' desire for more information to reduce uncertainty. Multifaceted interventions that reinforce guidelines through personalized education, follow-up, and feedback, as well as aligned financial incentives, should be pursued to reduce the use of low-value services.

Colla, C. H., et al. (2015). "Choosing Wisely: Prevalence and Correlates of Low-Value Health Care Services in the United States." J Gen Intern Med **30**(2): 221-228.
https://doi.org/10.1007/s11606-014-3070-z

Specialty societies in the United States identified low-value tests and procedures that contribute to waste and poor health care quality via implementation of the American Board of Internal Medicine Foundation's Choosing Wisely initiative.

Dovjak, P. (2016). "Choosing wisely in case of hypertension, diabetes and hyperlipidemia in older patients." Wien Med Wochenschr **166**(5-6): 166-172.

> BACKGROUND: The Choosing Wisely campaign was created by the American Board of Internal Medicine, it asks medical specialty societies to indicate five diagnostic and/or therapeutic interventions in their specialty to be avoided in specific cases. The aim of this campaign is to stimulate discussion between patients and their doctors about the usefulness of each procedure and also to avoid unnecessary, possibly wasteful measures. Hypertension, diabetes and hyperlipidemia are the most common conditions seen in primary care. The feasibility of applying the principles of Choosing Wisely in these cases was the target of this mini-review. METHODS: A PUBMED query based on entering the terms "choosing wisely", "elderly", "hypertension", "diabetes" and "hyperlipidemia" was performed. The search was limited to studies in human subjects using original articles and reviews in English and German that were published in the period of 1982-2015. In addition, a manual search from all relevant references and screened articles was performed. CONCLUSION: Using the up to date knowledge of precise indication for the pharmacological treatment of hypertension, diabetes and hyperlipidemia in older patients protects them from adverse effects and avoids interventions of low value. Additional tests of functionality like a frailty score or the comprehensive geriatric assessment can improve decision making for starting of medical interventions and for adjusting the intensity of treatment. Based on current literature they can help to withdraw or to abstain from unnecessary medical interventions.

Fleck, L. M. (2016). "Choosing Wisely." Camb Q Healthc Ethics **25**(3): 366-376.

> The American College of Physicians in its ethics manual endorsed the idea that physicians ought to improve their ability to provide care to their patients more parsimoniously. This elicited a critical backlash; critics essentially claimed that what was being endorsed was a renamed form of rationing. In a recent article, Tilburt and Cassel argued that parsimonious care and rationing are ethically distinct practices. In this essay I critically assess that claim. I argue that in practice there is considerable overlap between what they term parsimonious care and what they define as rationing. The same is true of the Choosing Wisely campaign endorsed by the American Board of Internal Medicine. In both cases, if the goal is to control healthcare costs by reducing the use of marginally beneficial care that is not cost effective, then a public conversation about the justness of specific choices is essential.

Friedman, J. N. et Mahant, S. (2017). "Making it easier to 'choose wisely'." Paediatr Child Health **22**(2): 66-67.

> The Choosing Wisely campaign has stimulated many clinicians to think about the appropriateness of various tests and treatments. Most of the recommendations published thus far are adult-focused. In this commentary, we discuss the development and early implementation of a Choosing Wisely 'top 5' list specifically aimed at children being cared for at our tertiary care children's hospital. We hope that this will encourage others involved in the health care of infants and children to engage in further thought and discussion about the appropriateness of current tests and therapies. Despite often focusing on the deficiencies, we are privileged to have a highly developed and well-resourced health care system in Canada which allows us tremendous freedom to order tests and treatments. It is incumbent on us as health care providers to exercise that privilege with the utmost responsibility and strive to choose wisely and thoughtfully when selecting tests and therapies for our patients.

Gogol, M. (2014). "[Choosing Wisely. A model for the German health care system?]." Z Gerontol Geriatr **47**(1): 23-26.

> BACKGROUND: In 2011 the American Board of Internal Medicine (ABIM) started the Choosing Wisely campaign. MATERIALS AND METHODS: The goal was to establish top 5 lists by the medical societies to reduce diagnostic and therapeutic procedures which are not necessary or are potentially harmful, and thereby lower health care costs. The lists contributed by the American Geriatric Society and the American Medical Director Association in 2013 will be discussed. CONCLUSION: At first glance, the idea seems simple, but numerous questions remain. Transferring this process to Germany appears

theoretically possible, but various aspects of the health care system should be taken into consideration.

Gogol, M. et Siebenhofer, A. (2016). "[Choosing wisely--against overuse in healthcare systems--activities in Germany and Austria in geriatric medicine]." Wien Med Wochenschr **166**(5-6): 155-160.

In 2012, the American Board of Internal Medicine (ABIM) Foundation initiated the Choosing Wisely campaign to promote discussion between physicians and patients (or proxies) on decision-making in medicine, and to reduce the use of procedures and therapies which are not necessary, or harmful to patients. The American Geriatrics Society (AGS), the American Medical Directors Association and the Society of Post-Acute and Long-Term Medicine (AMDA) participated in this initiative and both published 10 recommendations on procedures that should be discussed and avoided. Furthermore, some scientific societies have also published recommendations concerning elderly patients. As the campaign attracted considerable international attention, an International Roundtable was established in 2014. In Germany a similar initiative to address overuse and underuse was established by the German Society of Internal Medicine (DGIM) in 2015. The German Society of Geriatrics (DGG) was invited to address subjects affecting elderly patients that are of relevance to the German health care system. As a member of the Commission of the Association of the Scientific Medical Societies in Germany (AWMF), it also participated actively in the development of a methods paper on how to prepare recommendations. The German College of General Practitioners and Family Physicians (DEGAM) has developed a new guideline on this topic and in Austria preliminary activities are already underway. A clear, transparent, structured and evidence-based approach may help avoid some of the methodological weaknesses to be found in the development of the U.S. recommendations. Whereas the U.S. campaign only addresses overuse, the German campaign will also address underuse and misuse.

Goldbach, P. (2018). "The Choosing Wisely Campaign." Health Aff (Millwood) **37**(2): 335.

Gottheil, S., et al. (2016). "Reducing inappropriate ESR testing with computerized clinical decision support." BMJ Qual Improv Rep **5**(1).

Laboratory test overutilization increases health care costs, leads to unwarranted investigations, and may have a negative impact on health outcomes. The American Society of Clinical Pathology, in its Choosing Wisely Campaign, advocates that inflammation be investigated with C-reactive protein (CRP) instead of Erythrocyte Sedimentation Rate (ESR). London Health Sciences Centre (LHSC), a tertiary care hospital organization in Ontario, Canada, set a goal to reduce inappropriate ESR orders by 50%. After developing appropriateness criteria for ESR, we used a series of PDSA cycles to reduce inappropriate ESR ordering and analyzed our results with an interrupted time series design. Our intervention began with an educational bulletin and moved to city-wide implementation of computerized Clinical Decision Support (CDS). After implementation, ESR orders decreased by 40% from 386 orders per week to 241 orders per week. Our results are supported by previous literature on the effectiveness of CDS in reducing overutilization and suggest that provider habit is a significant contributor to inappropriate ordering.

Grad, R., et al. (2015). "Patient-oriented evidence that matters (POEMs) suggest potential clinical topics for the Choosing Wisely campaign." J Am Board Fam Med **28**(2): 184-189.

OBJECTIVE: We propose a method of identifying clinical topics for campaigns like Choosing Wisely. METHODS: In the context of an ongoing continuing medication education program, we analyzed ratings on every patient-oriented evidence that matters (POEM) synopsis delivered in 2012 and 2013. Given the objective of the Choosing Wisely campaign, we focused this analysis on 1 specific item in the validated questionnaire used by physicians to rate POEMs. This questionnaire item is about "avoiding an unnecessary diagnostic test or treatment." For each POEM, we calculated frequencies and proportions for this item, then we identified the 20 POEMs that were most commonly associated with this item in 2012 and 2013. Finally, we determined whether the clinical topic of each of these POEMs

was mentioned in the Choosing Wisely master list. RESULTS: In 2012 and 2013 we received 506,809 completed questionnaires (or ratings) linked to 530 POEMs, for an average of 956 ratings per POEM. In 59% of these POEMs (n = 312), the most commonly expected type of health benefit was "avoiding an unnecessary diagnostic test or treatment." We then identified the top 20 POEMs most commonly associated with this item in each year by ranking all 312 POEMs from the top down. The clinical topic addressed by 29 of these 40 POEMs was not addressed in the Choosing Wisely master list. These topics fell into 3 categories: diagnostic tests, medical interventions, and surgical interventions. CONCLUSION: "Big data" can identify clinical topics relevant to campaigns such as Choosing Wisely. This process represents a new way to inform the expert panel approach.

Halpern, S. D., et al. (2014). "An official American Thoracic Society/American Association of Critical-Care Nurses/American College of Chest Physicians/Society of Critical Care Medicine policy statement: the Choosing Wisely(R) Top 5 list in Critical Care Medicine." Am J Respir Crit Care Med **190**(7): 818-826.

RATIONALE: The high costs of health care in the United States and other developed nations are attributable, in part, to overuse of tests, treatments, and procedures that provide little to no benefit for patients. To improve the quality of care while also combating this problem of cost, the American Board of Internal Medicine Foundation developed the Choosing Wisely Campaign, tasking professional societies to develop lists of the top five medical services that patients and physicians should question. OBJECTIVES: To present the Critical Care Societies Collaborative's Top 5 list in Critical Care Medicine and describe its development. METHODS: Each professional society in the Collaborative nominated members to the Choosing Wisely task force, which established explicit criteria for evaluating candidate items, generated lists of items, performed literature reviews on each, and sought external input from content experts. Task force members narrowed the list to the Top 5 items using a standardized scoring system based on each item's likely overall impact and merits on the five explicit criteria. MEASUREMENTS AND MAIN RESULTS: From an initial list of 58 unique recommendations, the task force proposed a Top 5 list that was ultimately endorsed by each Society within the Collaborative. The five recommendations are: (1) do not order diagnostic tests at regular intervals (such as every day), but rather in response to specific clinical questions; (2) do not transfuse red blood cells in hemodynamically stable, nonbleeding ICU patients with an Hb concentration greater than 7 g/dl; (3) do not use parenteral nutrition in adequately nourished critically ill patients within the first 7 days of an ICU stay; (4) do not deeply sedate mechanically ventilated patients without a specific indication and without daily attempts to lighten sedation; and (5) do not continue life support for patients at high risk for death or severely impaired functional recovery without offering patients and their families the alternative of care focused entirely on comfort. CONCLUSIONS: These five recommendations provide a starting point for clinicians and patients to make decisions leading to higher-quality, lower-cost care. Future work is needed to promote adherence to these recommendations and to develop additional ways for intensive care clinicians to take leadership in reining in health-care costs.

Hong, A. S., et al. (2017). "Small Decline In Low-Value Back Imaging Associated With The 'Choosing Wisely' Campaign, 2012-14." Health Aff (Millwood) **36**(4): 671-679.

Choosing Wisely was launched by the American Board of Internal Medicine in April 2012 as a patient- and clinician-targeted campaign to reduce potentially unnecessary "low-value" medical services. The campaign's impact on low- and high-value care beyond its first year is unknown; furthermore, it is unknown whether some patients such as members of consumer-directed health plans and people residing in different US regions have responded more than others. To evaluate the impact of Choosing Wisely, we used commercial insurance claims to track changes in the use of low-value imaging (x-ray, computed tomography, and magnetic resonance imaging) for back pain before and after the campaign began, a period running from 2010 to 2014. We selected back pain imaging because it is a prominent target of Choosing Wisely, which considers it low value except in a minority of cases, because of its relatively high out-of-pocket expense, and the large volume of low back pain visits nationally. We found only a 4 percent relative reduction in low-value back imaging 2.5 years after the start of the campaign and some differences in regional trends, but no differences associated with enrollment in

consumer-directed health plans. Our findings highlight the ongoing challenge of reducing unnecessary medical care, even when patients have "skin in the game" under consumer-directed health plans.

Horvath, K., et al. (2016). "Choosing Wisely: assessment of current US top five list recommendations' trustworthiness using a pragmatic approach." BMJ Open **6**(10): e012366.

OBJECTIVES: Identification of sufficiently trustworthy top 5 list recommendations from the US Choosing Wisely campaign. SETTING: Not applicable. PARTICIPANTS: All top 5 list recommendations available from the American Board of Internal Medicine Foundation website. MAIN OUTCOME MEASURES/INTERVENTIONS: Compilation of US top 5 lists and search for current German highly trustworthy (S3) guidelines. Extraction of guideline recommendations, including grade of recommendation (GoR), for suggestions comparable to top 5 list recommendations. For recommendations without guideline equivalents, the methodological quality of the top 5 list development process was assessed using criteria similar to that used to judge guidelines, and relevant meta-literature was identified in cited references. Judgement of sufficient trustworthiness of top 5 list recommendations was based either on an 'A' GoR of guideline equivalents or on high methodological quality and citation of relevant meta-literature. RESULTS: 412 top 5 list recommendations were identified. For 75 (18%), equivalents were found in current German S3 guidelines. 44 of these recommendations were associated with an 'A' GoR, or a strong recommendation based on strong evidence, and 26 had a 'B' or a 'C' GoR. No GoR was provided for 5 recommendations. 337 recommendations had no equivalent in the German S3 guidelines. The methodological quality of the development process was high and relevant meta-literature was cited for 87 top 5 list recommendations. For a further 36, either the methodological quality was high without any meta-literature citations or meta-literature citations existed but the methodological quality was lacking. For the remaining 214 recommendations, either the methodological quality was lacking and no literature was cited or the methodological quality was generally unsatisfactory. CONCLUSIONS: 131 of current US top 5 list recommendations were found to be sufficiently trustworthy. For a substantial number of current US top 5 list recommendations, their trustworthiness remains unclear. Methodological requirements for developing top 5 lists are recommended.

Horvath, K. et Siebenhofer, A. (2017). "The Choosing Wisely Initiative: A critical analysis with a special focus on primary care." Z Evid Fortbild Qual Gesundhwes **129**: 31-36.

The Choosing Wisely initiative (CWI), a campaign led by the American Board of Internal Medicine (ABIM) Foundation, promotes doctor-patient communication and reducing waste in healthcare. At present, many of the top 5 lists from the Choosing Wisely Initiative appear to be primarily eminence-based and influenced by self-interest. The implementation of recommendations from these lists may mean taking a step backwards to the time before evidence-based medicine. On the other hand, despite all the challenges that the Choosing Wisely initiatives are currently facing, it is difficult to deny that they also hold great potential in terms of making healthcare systems more efficient and beneficial to patients. The aim of the ongoing work in Germany and Austria is to create conditions that are necessary if CW initiatives are to evolve into a model tool that will help introduce the principles of evidence-based medicine into daily practice.

Kerr, E. A., et al. (2017). "Choosing Wisely: How To Fulfill The Promise In The Next 5 Years." Health Aff (Millwood) **36**(11): 2012-2018.

Low-value care-the use of unnecessary and potentially harmful health care services-accounted for roughly $200 billion in wasteful spending in the United States in 2011. In 2012 the ABIM Foundation and Consumer Reports launched the Choosing Wisely(R) campaign, inspired by the idea that professional societies and health care providers should take the lead in defining and motivating efforts to reduce the use of low-value care. But decreases in that use have been slow in coming. We discuss the campaign's significant accomplishments in the past five years and summarize the work that is needed to fulfill the promise of Choosing Wisely. We focus on innovations in three main areas:

identifying high-priority clinical targets, developing theory-based interventions, and evaluating interventions in ways that are clinically meaningful.

Kline, K. P., et al. (2017). "Perceptions of patients and providers on myocardial perfusion imaging for asymptomatic patients, choosing wisely, and professional liability." BMC Health Serv Res **17**(1): 553.

BACKGROUND: Despite efforts by professional societies to reduce low value care, many reports indicate that unnecessary tests, such as nuclear myocardial perfusion imaging (MPI), are commonly used in contemporary practice. The degree to which lack of awareness and professional liability concerns drive these behaviors warrants further study. We sought to investigate patient and provider perceptions about MPI in asymptomatic patients, the Choosing Wisely (CW) campaign, and professional liability concerns. METHODS: We administered an anonymous, paper-based survey with both discrete and open-response queries to subjects in multiple outpatient settings at our facilities. The survey was completed by 456 respondents including 342 patients and 114 physicians and advanced practice providers between May and August 2014. Our outcome was to compare patient and provider perceptions about MPI in asymptomatic patients and related factors. RESULTS: Patients were more likely than providers to report that MPI was justified for asymptomatic patients (e.g. asymptomatic with family history of heart disease 75% versus 9.2%, $p < 0.0001$). In free responses to the question "What would be an inappropriate reason for MPI?" many responses echoed the goals of CW (for example, "If you don't have symptoms", "If the test is too risky", "For screening or in asymptomatic patients"). A minority of providers were aware of CW while even fewer patients were aware (37.2% versus 2.7%, $p < 0.0001$). Over one third of providers (38.9%) admitted to ordering MPI out of concern for professional liability including 48.3% of VA affiliated providers. CONCLUSIONS: While some patients and providers are aware of the low value of MPI in patients without symptoms, others are enthusiastic to use it for a variety of scenarios. Concerns about professional liability likely contribute, even in the VA setting. Awareness of the Choosing Wisely campaign is low in both groups.

Kost, A., et al. (2015). "Clinical Decisions Made in Primary Care Clinics Before and After Choosing Wisely." J Am Board Fam Med **28**(4): 471-474.

BACKGROUND: The Choosing Wisely campaign encourages physicians to avoid low-value care. Although widely lauded, no study has examined its impact on clinical decisions made in primary care settings. METHODS: We compared clinical decisions made for 5 Choosing Wisely recommendations over two 6-month time periods before and after the campaign launch and an educational intervention to promote it at 3 primary care residency clinics. RESULTS: The rate of recommendations adherence was high (93.2%) at baseline but did significantly increase to 96.5% after the launch. These findings suggest primary care physicians respond to training and publicity in low-value care, though further research is needed. CONCLUSION: Given that even small decreases of physician test ordering can produce large cost savings, the Choosing Wisely project may help achieve the health care triple aim.

Legare, F., et al. (2016). "Do choosing wisely tools meet criteria for patient decision aids? A descriptive analysis of patient materials." BMJ Open **6**(8): e011918.

OBJECTIVES: Choosing Wisely is a remarkable physician-led campaign to reduce unnecessary or harmful health services. Some of the literature identifies Choosing Wisely as a shared decision-making approach. We evaluated the patient materials developed by Choosing Wisely Canada to determine whether they meet the criteria for shared decision-making tools known as patient decision aids. DESIGN: Descriptive analysis of all Choosing Wisely Canada patient materials. DATA SOURCE: In May 2015, we selected all Choosing Wisely Canada patient materials from its official website. MAIN OUTCOMES AND MEASURES: Four team members independently extracted characteristics of the English materials using the International Patient Decision Aid Standards (IPDAS) modified 16-item minimum criteria for qualifying and certifying patient decision aids. The research team discussed discrepancies between data extractors and reached a consensus. Descriptive analysis was conducted. RESULTS: Of the 24 patient materials assessed, 12 were about treatments, 11 were about screening and 1 was about prevention. The median score for patient materials using IPDAS criteria was 10/16

(range: 8-11) for screening topics and 6/12 (range: 6-9) for prevention and treatment topics. Commonly missed criteria were stating the decision (21/24 did not), providing balanced information on option benefits/harms (24/24 did not), citing evidence (24/24 did not) and updating policy (24/24 did not). Out of 24 patient materials, only 2 met the 6 IPDAS criteria to qualify as patient decision aids, and neither of these 2 met the 6 certifying criteria. CONCLUSIONS: Patient materials developed by Choosing Wisely Canada do not meet the IPDAS minimal qualifying or certifying criteria for patient decision aids. Modifications to the Choosing Wisely Canada patient materials would help to ensure that they qualify as patient decision aids and thus as more effective shared decision-making tools.

Levinson, W., et al. (2015). "'Choosing Wisely': a growing international campaign." BMJ Qual Saf **24**(2): 167-174.

Much attention has been paid to the inappropriate underuse of tests and treatments but until recently little attention has focused on the overuse that does not add value for patients and may even cause harm. Choosing Wisely is a campaign to engage physicians and patients in conversations about unnecessary tests, treatments and procedures. The campaign began in the United States in 2012, in Canada in 2014 and now many countries around the world are adapting the campaign and implementing it. This article describes the present status of Choosing Wisely programs in 12 countries. It articulates key elements, a set of five principles, and describes the challenges countries face in the early phases of Choosing Wisely. These countries plan to continue collaboration including developing metrics to measure overuse.

Livingston, C. J., et al. (2016). "Choosing Wisely(R) in Preventive Medicine: The American College of Preventive Medicine's Top 5 List of Recommendations." Am J Prev Med **51**(1): 141-149.

The Choosing Wisely((R)) initiative is a national campaign led by the American Board of Internal Medicine Foundation, focused on quality improvement and advancing a dialogue on avoiding wasteful or unnecessary medical tests, procedures, and treatments. The American College of Preventive Medicine (ACPM) Prevention Practice Committee is an active participant in the Choosing Wisely project. The committee created the ACPM Choosing Wisely Task Force to lead the development of ACPM's recommendations with the intention of facilitating wise decisions about the appropriate use of preventive care. After utilizing an iterative process that involved reviewing evidence-based literature, the ACPM Choosing Wisely Task Force developed five recommendations targeted toward overused services within the field of preventive medicine. These include: (1) don't take a multivitamin, vitamin E, or beta carotene to prevent cardiovascular disease or cancer; (2) don't routinely perform prostate-specific antigen-based screening for prostate cancer; (3) don't use whole-body scans for early tumor detection in asymptomatic patients; (4) don't use expensive medications when an equally effective and lower-cost medication is available; and (5) don't perform screening for cervical cancer in low-risk women aged 65 years or older and in women who have had a total hysterectomy for benign disease. The Task Force also reviewed some of the barriers to implementing these recommendations, taking into account the interplay between system and environmental characteristics, and identified specific strategies necessary for timely utilization of these recommendations.

Makarov, D. V., et al. (2015). "Regional-Level Correlations in Inappropriate Imaging Rates for Prostate and Breast Cancers: Potential Implications for the Choosing Wisely Campaign." JAMA Oncol **1**(2): 185-194.

IMPORTANCE: The association between regional norms of clinical practice and appropriateness of care is incompletely understood. Understanding regional patterns of care across diseases might optimize implementation of programs like Choosing Wisely, an ongoing campaign to decrease wasteful medical expenditures. OBJECTIVE: To determine whether regional rates of inappropriate prostate and breast cancer imaging were associated. DESIGN, SETTING, AND PARTICIPANTS: Retrospective cohort study using the the Surveillance, Epidemiology, and End Results-Medicare linked database. We identified patients diagnosed from 2004 to 2007 with low-risk prostate (clinical stage T1c/T2a; Gleason score, </=6; and prostate-specific antigen level, <10 ng/mL) or breast cancer (in situ, stage I, or stage II disease), based on Choosing Wisely definitions. MAIN OUTCOMES AND MEASURES: In a hospital referral region (HRR)-level analysis, our dependent variable was HRR-level imaging rate among

patients with low-risk prostate cancer. Our independent variable was HRR-level imaging rate among patients with low-risk breast cancer. In a subsequent patient-level analysis we used multivariable logistic regression to model prostate cancer imaging as a function of regional breast cancer imaging and vice versa. RESULTS: We identified 9219 men with prostate cancer and 30,398 women with breast cancer residing in 84 HRRs. We found high rates of inappropriate imaging for both prostate cancer (44.4%) and breast cancer (41.8%). In the first, second, third, and fourth quartiles of breast cancer imaging, inappropriate prostate cancer imaging was 34.2%, 44.6%, 41.1%, and 56.4%, respectively. In the first, second, third, and fourth quartiles of prostate cancer imaging, inappropriate breast cancer imaging was 38.1%, 38.4%, 43.8%, and 45.7%, respectively. At the HRR level, inappropriate prostate cancer imaging rates were associated with inappropriate breast cancer imaging rates (rho = 0.35; P < .01). At the patient level, a man with low-risk prostate cancer had odds ratios (95% CIs) of 1.72 (1.12-2.65), 1.19 (0.78-1.81), or 1.76 (1.15-2.70) for undergoing inappropriate prostate imaging if he lived in an HRR in the fourth, third, or second quartiles, respectively, of inappropriate breast cancer imaging, compared with the lowest quartile. CONCLUSIONS AND RELEVANCE: At a regional level, there is an association between inappropriate prostate and breast cancer imaging rates. This finding suggests the existence of a regional-level propensity for inappropriate imaging utilization, which may be considered by policymakers seeking to improve quality of care and reduce health care spending in high-utilization areas.

McCarthy, M. (2015). "US Choosing Wisely campaign has had only modest success, study finds." Bmj **351**: h5437.

Modes, M., et al. (2016). "Ordering Wisely: Engaging Faculty to Champion High-Value Care Initiatives." Am J Med Qual **31**(4): 380-381.

Neuner-Jehle, S., et al. (2016). "[New "choosing wisely" recommendations of inappropriate interventions: the perspective of general practioners in Switzerland]." Z Evid Fortbild Qual Gesundhwes **118-119**: 82-86.

AIM: As part of the "Choosing wisely" campaign expert-driven recommendations of inappropriate interventions which lead to overdiagnosis and overtreatment are being published. The aim of our work was to describe an innovative method for developing recommendations together with general practitioners (GPs) and to compare the results with the "Choosing wisely" campaign lists as well as with the Swiss "Smarter medicine" shortlist. METHODS: We asked 109 GPs who attended a medical education conference to form groups (of 5 to 7 GPs each) and develop three interventions that are relevant to their work and should be avoided. We then compared the most frequently suggested interventions with those of the "Choosing wisely" campaign list and the "Smarter medicine" campaign shortlist. Finally, we asked the Swiss Young GPs Association (JHaS) members for additional suggestions. RESULTS: Five groups suggested avoidance of check-up examinations, especially in younger or asymptomatic individuals. Further unnecessary interventions, which were mentioned with similar frequency, included resting or exercise electrocardiography in asymptomatic individuals and cholesterol analysis in individuals older than 75 years, or statin therapy in primary prevention and/or high age. Four groups suggested avoiding arthroscopy or magnetic resonance imaging of the knee joint after an injury (in the absence of joint instability or blockade), and three groups recommended to avoid imaging diagnostic procedures in patients with unspecific headache (in the absence of red flags). There was no consistency between interventions of the GPs' list and the list of the Swiss "Smarter medicine" official campaign. The interventions that were most frequently mentioned by the GPs are also present on the lists issued by are present on lists of medical societies that have joined the "Choosing wisely" campaign. The response rate from the Swiss Young GPs association members was impressively low. CONCLUSION: The perspective of users (GPs) is crucial for the development of lists of potentially inappropriate interventions. In order to enhance the degree of identification with and adherence to the recommendations. The interventions suggested in our study could lead to further recommendations on interventions to be avoided in primary care, ideally in collaboration with the "Smarter medicine" campaign. Empathic communication with patients about harms and benefits of potentially inappropriate interventions is crucial for the implementation of this policy.

Palazzo, S., et al. (2016). "[Value-based cancer care. From traditional evidence-based decision making to balanced decision making within frameworks of shared values]." Recenti Prog Med **107**(4): 175-180.

> Clinical decision making in oncology is based so far on the evidence of efficacy from high-quality clinical research. Data collection and analysis from experimental studies provide valuable insight into response rates and progression-free or overall survival. Data processing generates valuable information for medical professionals involved in cancer patient care, enabling them to make objective and unbiased choices. The increased attention of many scientific associations toward a more rational resource consumption in clinical decision making is mirrored in the Choosing Wisely campaign against the overuse or misuse of exams and procedures of little or no benefit for the patient. This cultural movement has been actively promoting care solutions based on the concept of "value". As a result, the value-based decision-making process for cancer care should not be dissociated from economic sustainability and from ethics of the affordability, also given the growing average cost of the most recent cancer drugs. In support of this orientation, the National Comprehensive Cancer Network (NCCN) has developed innovative and "complex" guidelines based on values, defined as "evidence blocks", with the aim of assisting the medical community in making overall sustainable choices.

Prochaska, M. T., et al. (2017). "Trends in Troponin-Only Testing for AMI in Academic Teaching Hospitals and the Impact of Choosing Wisely(R)." J Hosp Med **12**(12): 957-962.

> BACKGROUND: Identifying hospitals that are both early and consistent adopters of high-value care can help shed light on the culture and practices at those institutions that are necessary to promote high-value care nationwide. The use of troponin to diagnose acute myocardial infarction (AMI), and not to test for myoglobin or creatine kinase-MB (CK-MB), is a high-value recommendation of the Choosing Wisely(R) campaign. OBJECTIVE: To examine the variation in cardiac biomarker testing and the effect of the Choosing Wisely(R) troponin-only recommendation for the diagnosis of AMI. DESIGN: A retrospective observational study using administrative ordering data from Vizient's Clinical Database/Resource Manager. SETTING: Ninety-one academic medical centers from the fourth quarter of 2013 through the third quarter of 2016. PATIENTS: Hospitalized patients with a principal discharge diagnosis of AMI. INTERVENTION: The Choosing Wisely(R) recommendation to order troponin-only testing to diagnose AMI was released during the first quarter of 2015. RESULTS: In 19 hospitals, troponin-only testing was consistently ordered to diagnose AMI before the Choosing Wisely(R) recommendation and throughout the study period. In 34 hospitals, both troponin and myoglobin/CK-MB were ordered to diagnose AMI even after the Choosing Wisely(R) recommendation. In 26 hospitals with low rates of troponin-only testing before the Choosing Wisely(R) recommendation, the release of the recommendation was associated with a statistically significant increase in the rate of troponin-only testing to diagnose AMI. CONCLUSIONS: In institutions with low rates of troponin-only testing prior to the Choosing Wisely(R) recommendation, the recommendation was associated with a significant increase in the rate of troponin-only testing.

Raspe, H. (2017). "[The Choosing Wisely Initiative (CWI): Background, aims and problems of a professional campaign against oversupply]." Z Evid Fortbild Qual Gesundhwes **129**: 12-17.

> The Choosing Wisely Initiative (CWI) started in 2012 follows a proposal by Howard Brody (2010). Using CWI, the US ABIM Foundation continued its work to strengthen medical professionalism. The text describes CWI's development, aims, mission, and dissemination. It discusses some of its limits and problems. An appendix tabulates similarities and differences between CWI and a (2016) subsequent initiative from the German Society of Internal Medicine (DGIM: Klug Entscheiden Empfehlungen/decide wisely recommendations).

Reyes, M., et al. (2017). "Choosing Wisely Campaign: Report Card and Achievable Benchmarks of Care for Children's Hospitals." Hosp Pediatr **7**(11): 633-641.

> OBJECTIVES: In 2013, the Society of Hospital Medicine (SHM) released 5 pediatric recommendations for the Choosing Wisely Campaign (CWC). Our goals were to develop a report card on the basis of

those recommendations, calculate achievable benchmarks of care (ABCs), and analyze performance among hospitals participating in the Pediatric Health Information System. METHODS: Children hospitalized between January 2013 and September 2015 from 32 Pediatric Health Information System hospitals were studied. The quality metrics in the report card included the use of chest radiograph (CXR) in asthma and bronchiolitis, bronchodilators in bronchiolitis, systemic corticosteroids in lower respiratory tract infections (LRTI), and acid suppression therapy in gastroesophageal reflux (GER). ABCs were calculated for each metric. RESULTS: Calculated ABCs were 22.3% of patients with asthma and 19.8% of patients with bronchiolitis having a CXR, 17.9% of patients with bronchiolitis receiving bronchodilators, 5.5% of patients with LRTIs treated with systemic corticosteroids, and 32.2% of patients with GER treated with acid suppressors. We found variation among hospitals in the use of CXR in asthma (median: 34.7%, interquartile range [IQR]: 28.5%-45.9%), CXR in bronchiolitis (median: 34.4%, IQR: 27.9%-49%), bronchodilators in bronchiolitis (median: 55.4%, IQR: 32.3%-64.9%), and acid suppressors in GER (median: 59.4%, IQR: 49.9%-71.2%). Less variation was noted in the use of systemic corticosteroids in LRTIs (median: 13.5%, IQR: 11.1%-17.9%). CONCLUSIONS: A novel report card was developed on the basis of the SHM-CWC pediatric recommendations, including ABCs. We found variance in practices among institutions and gaps between hospital performances and ABCs. These findings represent a roadmap for improvement.

Robertson, P. J., et al. (2013). "Choosing wisely: our list." Otolaryngol Head Neck Surg **148**(4): 534-536.

In February 2013, the American Academy of Otolaryngology-Head and Neck Surgery Foundation (AAO-HNSF) released its list of 5 recommendations of diagnostic and therapeutic interventions that physicians and patients should question, as part of the American Board of Internal Medicine (ABIM) Foundation's Choosing Wisely campaign. This commentary outlines the impetus for the AAO-HNSF to join the campaign, our list of 5 recommendations, how they were developed, and our future involvement with the campaign. The AAO-HNSF's 5 recommendations are (1) don't order a computed tomography (CT) scan of the head/brain for sudden hearing loss, (2) don't prescribe oral antibiotics for uncomplicated acute tympanostomy tube otorrhea, (3) don't prescribe oral antibiotics for uncomplicated acute external otitis, (4) don't routinely obtain radiographic imaging for patients who meet diagnostic criteria for uncomplicated acute rhinosinusitis, and (5) don't obtain CT or magnetic resonance imaging in patients with a primary complaint of hoarseness prior to examining the larynx.

Rocque, G. B., et al. (2017). "Choosing Wisely: Opportunities for Improving Value in Cancer Care Delivery?" J Oncol Pract **13**(1): e11-e21.

INTRODUCTION: Patients, providers, and payers are striving to identify where value in cancer care can be increased. As part of the Choosing Wisely (CW) campaign, ASCO and the American Society for Therapeutic Radiology and Oncology have recommended against specific, yet commonly performed, treatments and procedures. METHODS: We conducted a retrospective analysis of Medicare claims data to examine concordance with CW recommendations across 12 cancer centers in the southeastern United States. Variability for each measure was evaluated on the basis of patient characteristics and site of care. Hierarchical linear modeling was used to examine differences in average costs per patient by concordance status. Potential cost savings were estimated on the basis of a potential 95% adherence rate and average cost difference. RESULTS: The analysis included 37,686 patients with cancer with Fee-for-Service Medicare insurance. Concordance varied by CW recommendation from 39% to 94%. Patient characteristics were similar for patients receiving concordant and nonconcordant care. Significant variability was noted across centers for all recommendations, with as much as an 89% difference. Nonconcordance was associated with higher costs for every measure. If concordance were to increase to 95% for all measures, we would estimate a $19 million difference in total cost of care per quarter. CONCLUSION: These results demonstrate ample room for reduction of low-value care and corresponding costs associated with the CW recommendations. Because variability in concordance was driven primarily by site of care, rather than by patient factors, continued education about these low-value services is needed to improve the value of cancer care.

Rosenberg, A., et al. (2015). "Early Trends Among Seven Recommendations From the Choosing Wisely Campaign." JAMA Intern Med **175**(12): 1913-1920.

IMPORTANCE: The Choosing Wisely campaign consists of more than 70 lists produced by specialty societies of medical practices or procedures of minimal clinical benefit to patients in most situations, with recommendations regarding judicious use. OBJECTIVE: To quantify the frequency and trends of some of the earliest Choosing Wisely recommendations using nationwide commercial health plan population-level data. DESIGN, SETTING, AND PARTICIPANTS: Retrospective analysis of claims data for members of Anthem-affiliated commercial health plans. The low-value services selected were (1) imaging tests for uncomplicated headache; (2) cardiac imaging without history of cardiac conditions; (3) low back pain imaging without red-flag conditions; (4) preoperative chest x-rays with unremarkable history and physical examination results; (5) human papillomavirus testing for women younger than 30 years; (6) use of antibiotics for acute sinusitis; and (7) use of prescription nonsteroidal anti-inflammatory drugs (NSAIDs) for members with hypertension, heart failure, or chronic kidney disease. MAIN OUTCOMES AND MEASURES: The number of members with medical and/or pharmacy claims for the included low-value services was assessed quarterly over a 2- to 3-year span through 2013. Trend changes in recommendations were evaluated across all quarters using Poisson regression with denominators as offsets. RESULTS: Two services had declines: Use of imaging for headache decreased from 14.9% to 13.4% (trend estimate, 0.99 [95% CI, 0.98-0.99]; P < .001), and cardiac imaging decreased from 10.8% to 9.7% (trend estimate, 0.99 [95% CI, 0.99-0.99]; P < .001). Two services had increases: Use of NSAIDs in select conditions increased from 14.4% to 16.2% (trend estimate, 1.02 [95% CI, 1.01-1.02]; P < .001), and human papillomavirus testing in younger women increased from 4.8% to 6.0% (trend estimate, 1.01 [95% CI, 1.00-1.01]; P < .001). Use of antibiotics for sinusitis remained stable (0.8% decrease from 84.5% to 83.7%; trend estimate, 1.00 [95% CI, 1.00-1.00]; P = .16). Use of preoperative chest x-rays (0.2% decrease, ending utilization 91.5%; trend estimate, 1.00 [95% CI, 1.00-1.00]; P = .70) and imaging for low back pain (53.7% utilization throughout study; P = .71) remained high with no statistically significant changes. CONCLUSIONS AND RELEVANCE: For this population-level analysis of 7 low-value services analyzed, changes were modest but showed a desirable decrease for 2 recommendations (imaging for headache, cardiac imaging for low-risk patients). The effect sizes were marginal, however, and although 4 of the 7 lists had statistically significant changes-unsurprising given the large sample size-the clinical significance is uncertain. These results suggest that additional interventions are necessary for wider implementation of Choosing Wisely recommendations.

Sadowski, B. W., et al. (2017). "High-Value, Cost-Conscious Care: Iterative Systems-Based Interventions to Reduce Unnecessary Laboratory Testing." Am J Med **130**(9): 1112.e1111-1112.e1117.

BACKGROUND: Inappropriate testing contributes to soaring healthcare costs within the United States, and teaching hospitals are vulnerable to providing care largely for academic development. Via its "Choosing Wisely" campaign, the American Board of Internal Medicine recommends avoiding repetitive testing for stable inpatients. We designed systems-based interventions to reduce laboratory orders for patients admitted to the wards at an academic facility. METHODS: We identified the computer-based order entry system as an appropriate target for sustainable intervention. The admission order set had allowed multiple routine tests to be ordered repetitively each day. Our iterative study included interventions on the automated order set and cost displays at order entry. The primary outcome was number of routine tests controlled for inpatient days compared with the preceding year. Secondary outcomes included cost savings, delays in care, and adverse events. RESULTS: Data were collected over a 2-month period following interventions in sequential years and compared with the year prior. The first intervention led to 0.97 fewer laboratory tests per inpatient day (19.4%). The second intervention led to sustained reduction, although by less of a margin than order set modifications alone (15.3%). When extrapolating the results utilizing fees from the Centers for Medicare and Medicaid Services, there was a cost savings of $290,000 over 2 years. Qualitative survey data did not suggest an increase in care delays or near-miss events. CONCLUSIONS: This series of interventions targeting unnecessary testing demonstrated a sustained reduction in the number of routine tests ordered, without adverse effects on clinical care.

Shetty, K. D., et al. (2015). "Evaluating the feasibility and utility of translating Choosing Wisely recommendations into e-Measures." Healthc (Amst) **3**(1): 24-37.

BACKGROUND: Efforts to reduce health care spending have focused on reducing use of low-value services, but relatively few performance measures address overuse of care. In 2012, the American Board of Internal Medicine Foundation's "Choosing Wisely" (CW) campaign identified 45 low-value services that clinicians and patients should avoid. Translating these overuse concepts into performance measures could assist in discouraging the use of these services. We assessed the feasibility and utility of converting these recommendations into e-Measures based on data from electronic health records [EHR]). MATERIALS AND METHODS: We used four criteria to evaluate 45 CW recommendations for e-Measure development: (1) feasibility of extracting needed data from EHR systems meeting Meaningful Use Stage 2 standards; (2) whether the recommendation's terminology was sufficiently specific for translation into an e-Measure; (3) scientific evidence supporting the recommendation; and (4) impact on reducing resource use. RESULTS: Only six of the 45 CW recommendations were deemed feasible for e-Measure development. Thirty-two recommendations require data elements unlikely to be found in current EHR systems; eight of 45 recommendations do not use sufficiently specific terminology. CONCLUSIONS: Improved capture of clinical information in EHRs and greater specificity of clinical terminology are required to advance these overuse concepts into standardized e-measures.

Tran, K., et al. (2017). "Choosing wisely in cancer control across Canada-a set of baseline indicators." Curr Oncol **24**(3): 201-206.

Value-based care, which balances high-quality care with the most efficient use of resources, has been considered the next frontier in cancer care and a means to maintain health system sustainability. Created to promote value-based care, Choosing Wisely Canada-modelled after Choosing Wisely in the United States-is a national clinician-driven campaign to identify unnecessary or harmful services that are frequently used in Canada. As part of the campaign, national medical societies have developed recommendations for tests and treatments that clinicians and patients should question. Here, we present baseline indicator findings about current practice patterns associated with 7 cancer-related recommendations from Choosing Wisely Canada and about the effects of those practices on patients and the health care system. Indicator findings point to substantial variations in cancer system performance between Canadian jurisdictions, most notably for breast cancer screening practices, treatment practices for men with low-risk localized prostate cancer, and radiation therapy practices for early-stage breast cancer and bone metastases. Extrapolating indicator findings to the entire country, it was estimated that 740,000 breast and cervical cancer screening tests were performed outside of the recommended age ranges, and within 1 year of diagnosis, 17,000 patients received treatments that could be low-value. A 15% reduction in the use of the 7 screening and treatment practices examined could lead to multiple benefits for patients and the health care system: 9000 false-positive results and 3000 treatments and related side effects could be avoided, and 4500 hours of linear accelerator capacity could be freed up each year. Interjurisdictional performance variations suggest potential differences in clinical practice patterns in the planning and delivery of cancer control services, and in some cases, in disease management outcomes. Although the cancer screening and treatment practices described might be unnecessary for some patients, it is important to realize that they could, in fact, be necessary for other patients. Further research into appropriate rates of use could help to determine how much cancer care represents overuse of practices that are not supported by evidence or underuse of practices that are supported by evidence.

Trumbic, B., et al. (2018). "Is the Choosing Wisely((R)) campaign model applicable to the management of multiple sclerosis in France? A GRESEP pilot study." Rev Neurol (Paris) **174**(1-2): 28-35.

BACKGROUND: Launched in the US in 2012, Choosing Wisely((R)) is a campaign promoted by the American Board of Internal Medicine (ABIM) Foundation with the goal of improving healthcare effectiveness by avoiding wasteful or unnecessary medical tests, treatments and procedures. It uses

concise recommendations produced by national medical societies to start discussions between physicians and patients on the relevance of these services as part of a shared decision-making process. The Multiple Sclerosis Focus Group (Groupe de Reflexion Autour de la Sclerose en Plaques; GRESEP) undertook a pilot study to assess the relevance and feasibility of this approach in the management of multiple sclerosis (MS) in France. METHODS: Recommendations were developed using the formal consensus method from the guidelines of the French National Health Authority (HAS). A steering committee selected the themes and drafted concise evidence reviews. An independent rating group then assessed these recommendations for clarity, relevance and feasibility. RESULTS: Seven recommendations were accepted: (1) avoid systematic ordering of multimodal evoked potential studies for diagnosing MS; (2) do not treat MS relapses with low-dose oral corticosteroids; (3) when treating MS relapse with high-dose corticosteroids, the systematic use of the intravenous route is unnecessary if the oral route can be used; (4) systematic hospitalization is not necessary for treating MS relapse with high-dose corticosteroid therapy, particularly if the oral route is used, except for the first treated relapse and the presence of exclusion or non-eligibility criteria; (5) in the absence of clinical signs or symptoms of urinary infection, avoid systematic screening with urine microscopy and culture before the administration of corticosteroid therapy for MS relapse in patients using intermittent self-catheterization; (6) avoid antibiotic treatment of clinically asymptomatic MS patients using intermittent self-catheterization, even if urine microscopy and culture reveal the presence of microorganisms; and (7) avoid introducing symptomatic drug treatment for MS-related fatigue. CONCLUSION: This pilot study, the first of its kind in France, has demonstrated the relevance and feasibility of adapting the Choosing Wisely((R)) model to MS by practitioners specializing in the disorder. However, the acceptability of these recommendations by other practitioners in other specialist fields as well as their impact on everyday clinical practices now need to be studied.

Wallace, A. S., et al. (2018). "In support of the Choosing Wisely campaign: Perceived higher risk leads to unnecessary imaging in accelerated partial breast irradiation?" Breast J **24**(1): 12-15.

Accelerated partial breast irradiation (APBI) is an increasingly utilized modality for early stage breast cancer as part of breast conservation therapy (BCT). There remains concern regarding local recurrence, requiring more frequent post-radiation surveillance imaging. The purpose of this study is to determine clinical significance of frequent surveillance in this perceived higher risk population. Patients treated at a community academic medical center from 2005 to 2013 with partial breast radiation were retrospectively identified. All patients were treated with lumpectomy followed by balloon based APBI. Diagnostic, clinical, radiographic, and outcomes data were collected. One hundred and sixty-nine patients were identified. Median age at time of diagnosis was 63. Stage was 0, I, and II in 27%, 64%, and 9%, respectively. Most patients had pure invasive ductal cancer. Ninety-two percent and 99% of patients had imaging performed by 6 and 12 months (+/- 3 months) respectively. Median interval between end of radiation and first image, and subsequent 3 images were 6, 6, 9, and 12 months, respectively. Median follow-up was 49 months for all patients (range 7-106). Six patients experienced local recurrence: 4 invasive, all clinically detected, and none within the first 2 years. One patient had mammographically detected recurrent ductal carcinoma in situ. No mammographic images within the first year lead to diagnosis of recurrent cancer. APBI via balloon base brachytherapy offered women excellent locoregional control rates. Frequent mammographic surveillance did not result in increased detection of early recurrent disease. The result of our study are in line with the Choosing Wisely campaign recommendations to perform no more than annual follow-up for women who have completed radiation as part of BCT, with first imaging done at 6-12 months. We recommend mammographic surveillance be performed no more frequently than annually, with first image after BCT to be done 12 months from completion of radiation.

Wang, K. Y., et al. (2018). "Reducing Inappropriate Lumbar Spine MRI for Low Back Pain: Radiology Support, Communication and Alignment Network." J Am Coll Radiol **15**(1 Pt A): 116-122.

PURPOSE: The aim of this study is to evaluate the impact of educational sessions on reducing lumbar spine MRI inappropriateness for uncomplicated low back pain and to present our institutional experience on the use of ACR's Radiology Support, Communication and Alignment Network (R-SCAN)

program toward achieving appropriateness. METHODS: The R-SCAN web portal was accessed to register a project. Using order entry data, the number of lumbar spine MRI orders placed per month at three family medicine clinics was assessed over a 10-month period. After educational presentations were given at those three clinics highlighting the American College of Physicians and Choosing Wisely campaign imaging guidelines, the number of MRI orders placed was reassessed over an additional 10 months. For a subset of these exams, the ACR Appropriateness Criteria rating of the lumbar spine MRIs were compared between the pre- and posteducation periods. A P value < .05 was considered statistically significant. RESULTS: The average number of monthly MRIs ordered from all three clinics combined was 6.3 during the posteducation period, which was significantly less than during the pre-education period of 10.0 (P = .009). The combined average ACR Appropriateness Criteria rating made at all three clinics was 5.8 after educational sessions, which was significantly higher than the rating of 4.7 before educational sessions (P = .014). CONCLUSION: Clinician education, facilitated by R-SCAN, resulted in a reduced number of MRI lumbar spine studies performed for uncomplicated low back pain and improved appropriateness of those studies as measured by the ACR Appropriateness Criteria rating.

Willemsen, A. E., et al. (2015). "[Choosing wisely when prescribing statins]." Ned Tijdschr Geneeskd **159**: A8695.

The Dutch campaign 'Verstandig kiezen', based on the American programme 'Choosing wisely', aims to improve quality in healthcare, with attention to cost control. The 'Choosing wisely'-based programme can be applied in the choice of a statin. Atorvastatin and rosuvastatin are regarded as equal choices in various guidelines regarding cardiovascular risk management. Generic atorvastatin is available, and is approximately 25 times cheaper than rosuvastatin in almost equipotent doses. Rosuvastatin provides a greater LDL reduction than atorvastatin. Patient LDL targets can usually be achieved with atorvastatin, and rosuvastatin is not needed. At group level, there are no relevant differences in adverse-events profile between both statins. Atorvastatin and rosuvastatin do have different pharmacokinetic interactions. When changing medication, good provision of information is a prerequisite for patient satisfaction and compliance. We advise use of atorvastatin instead of rosuvastatin as drug of choice when the LDL target is not reached using simvastatin. However, under specific conditions, rosuvastatin should be the treatment of choice. Efficacy and adverse effects should then be evaluated at individual patient level.

Wintemute, K., et al. (2016). "Addressing overuse starts with physicians: Choosing Wisely Canada." Can Fam Physician **62**(3): 199-200, 207-199.

Wolfson, D., et al. (2014). "Engaging physicians and consumers in conversations about treatment overuse and waste: a short history of the choosing wisely campaign." Acad Med **89**(7): 990-995.

Wise management of health care resources is a core tenet of medical professionalism. To support physicians in fulfilling this responsibility and to engage patients in discussions about unnecessary care, tests, and procedures, in April 2012 the American Board of Internal Medicine Foundation, Consumer Reports, and nine medical specialty societies launched the Choosing Wisely campaign. The authors describe the rationale for and history of the campaign, its structure and approach in terms of engaging both physicians and patients, lessons learned, and future steps.In developing the Choosing Wisely campaign, the specialty societies each developed lists of five tests and procedures that physicians and patients should question. Over 50 specialty societies have developed more than 250 evidence-based recommendations, some of which Consumer Reports has "translated" into consumer-friendly language and helped disseminate to tens of millions of consumers. A number of delivery systems, specialty societies, state medical societies, and regional health collaboratives are also advancing the campaign's recommendations. The campaign's success lies in its unique focus on professional values and patient-physician conversations to reduce unnecessary care. Measurement and evaluation of the campaign's impact on attitudinal and behavioral change is needed.

Wolfson, D. et Suchman, A. (2016). "Choosing Wisely(R): A case study of constructive engagement in health policy." Healthc (Amst) **4**(3): 240-243.

Choosing Wisely began at a time when a polarized national debate on healthcare reform stymied effective conversation on effective and efficient resource use. The ABIM Foundation sought to change attitudes and culture and promote the idea that removing waste is an integral component of providing high quality care by using an approach of constructive engagement to persuade specialty societies to identify five wasteful tests or treatments within their field.

Sources d'information

SITES INSTITUTIONNELS

Sites français

Caisse nationale d'assurance maladie (Cnam)

- Les rapports « Charges et produits »
- Voir le rapport 2017 du Sénat et "Charges et produits 2018"

Haute Autorité de santé (HAS)

- Congrès 2017 sur la pertinence des soins

- Fiches sur le développement professionnel continue (DPC)

- les rappels ou reminders,
- les systèmes d'aide à la décision médicale/logiciel médical,
- -les RMM, revue de morbidité mortalité,
- -les indicateurs
- -les peer-review ou groupes d'analyses de pairs / staff / réunions de discussion ou de concertation pluridisciplinaires en cancérologie par exemple,
- -les registres,
- -les collaboration interprofessionnelle, travail en équipes, medical team training
- -les visites académiques,
- -les systèmes de décision partagée,
- -audit clinique et feed-back,
- -local opinion leaders,
- -culture sécurité et organisationnelle,
- -les incitations financières (incentives) / Pay for performance / P 4 P,
- -simulation.
- pertinence
- -autres nouvelles méthodes et outils ou modalités d'organisations.

Ministère chargé de la santé

- La stratégie nationale de santé 2018-2022 – chantier n° 1 sur la pertinence de soins
- Rubrique : Qualité des soins et pratique

Haut Conseil pour l'avenir de l'assurance maladie (HCAAM)

- Avis sur les innovations dans les systèmes de santé (cf celui sur la rémunération à l'épisode de soins)

Sites internationaux

Organisation de coopération et de développement économique (OCDE)

- Rapport sur la variation des pratiques médicales
- Rapport sur les gaspillages dans les systèmes de santé

Wennberg collaborative

Wennberg International Collaborative est un réseau de recherche dédié à l'amélioration des soins de santé qui s'appuie sur l'examen des variations régionales et organisationnelles de la provision, du recours et des résultats des soins de santé. Il rassemble une communauté internationale d'universitaires qui s'intéresse aux mesures comparatives, en particulier entre différentes régions d'un pays et l'organisation de leur système de santé. Notre but est de progresser dans la compréhension des causes et conséquences de variations non justifiées à travers le monde (par exemple les variations de soins non expliquées par des différences de besoins ou de préférences de la population), afin de conduire à une amélioration clinique et un changement de politiques.

- Publications par pays : http://wennbergcollaborative.org/publications

Dartmounth Institute

Cet institut de recherche et d'enseignement anglais réalise des travaux sur la variation des pratiques médicales.

- Travaux sur la variation des pratique médicale

Orthochoice (Suède)

- Expérimentation d'un mode de rémunération par épisode de soins pour la chirurgie orthopédique.

Benefits schedule review (Australie)

- Programme australien d'amélioration des pratiques

BASES DE DONNÉES

Cochrane EPOC

Le groupe EPOC (*Effective Practice and Organization of Care review group*), coordonné depuis 1997 par les Prs Jeremy Grimshaw (Ottawa, Canada) et Sasha Shepperd (Oxford, Royaume-Uni) recense l'ensemble des études publiées selon une méthodologie jugée valide qui évaluent une intervention destinée « à promouvoir la pratique professionnelle la plus efficace », qu'il s'agisse d'une intervention sur les professionnels de santé, d'intervention financière, d'une intervention organisationnelle ou d'une intervention sur les patients.

- Liste des reveiws sur la pratique médicale : http://epoc.cochrane.org/our-reviews
- Cochrane France

Base de données Knowledge Translation + (KT+)

Cette base de données financée par l'Institut canadien de la recherche (Canadian Institute of Health Research) est accessible via le site de l'université McMaster. Cette base donne accès à des articles et documents dans le domaine du transfert de connaissance et de l'amélioration de la qualité des soins.

Base PDG Évidence

La base PDQ (pretty darn quick)-Evidence a été élaborée par un groupe de chercheurs avec un financement issu de projets européens, d'une agence de financement norvégienne et du satellite norvégien du groupe EPOC. Elle est accessible sur le site de la collaboration Cochrane. Cette base propose l'accès aux meilleures données publiées (revues systématiques et revues de revues systématiques ou overviews) qui concernent une question sur le système de santé ou la santé de la population incluant le mode de distribution des soins, les modes de financement, l'organisation et la gouvernance, les stratégies de mise en oeuvre du changement des organisations ou des comportements, les aspects de la santé publique.