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Les modes de rémunération des médecins à l'étranger

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Sommaire

Les principaux modes de rémunération

Au sein du système de santé, le mode de rémunération des offreurs de soins joue un rôle déterminant car il affecte à la fois la quantité, la qualité et l'efficience des soins. Dans les pays industrialisés, on peut distinguer différents modes de rémunération dominants, avec leurs avantages et leurs inconvénients.

1- REMUNERATION A L'ACTE = rémunération proportionnelle à leur volume d'activité

✓ Incite à fournir des soins suffisants

⊘ Risque de demande induite en cas de haute concurrence

⊘ Difficile maîtrise des coûts par le régulateur

2 LE SALARIAT = rémunération proportionnelle à leur temps de travail, indépendamment de l'activité.

✓ Bonne maîtrise des coûts pour le régulateur

⊘ Aucune incitation à la productivité

3 LA CAPITATION = rémunération proportionnelle annuelle au nombre de patients traités (en fonction de l'âge des patients) et parfois complétée par des primes à la performance

⊘ Risque de produire des soins insuffisants, risque de sélection des patients

✓ Incitation à satisfaire les patients et à faire de la prévention (à condition que les patients aient le choix)

✓ Bonne maîtrise des coûts pour le régulateur

4- PAIEMENT A LA PERFORMANCE = un tiers payeur offre des incitations financières en échange de la réalisation d'objectifs ciblés. Ces derniers concernent généralement la prévention ou la prise en charge des maladies chroniques.

⊘ Difficulté de trouver des indicateurs pertinents

⊘ Risque de négligence des patients non concernés.

Ce mode de paiement reste additionnel aux rémunérations classiques.

La tendance de fonds est la combinaison des différents modèles dans des proportions et des contextes variables, avec l'intervention de plusieurs parties prenantes.

Modes prédominants de rémunération des institutions dispensant des soins primaires et des médecins qui y travaillent dans vingt-trois pays de l'OCDE

(source : Enquête sur les caractéristiques des systèmes de santé de l'OCDE 2012). 1

***Pays avec système d'assurance maladie (par opposition aux systèmes nationaux de santé).**

Type d'institution prédominant pour les soins primaires	Liste des pays	Paiement des institutions					Paiement des médecins			
		Budget global	Capitation	A l' acte	A la performance	Autre	Salaire	Capitation	A l' acte	Autre (dont performance)
Médecins en pratique individuelle	Allemagne*								✓	
	Autriche*								✓	
	Belgique*							✓	✓	✓
	Corée*								✓	✓
	France*								✓	
	Grèce*								✓	
	République tchèque*							✓	✓	
	Suisse*								✓	
Centres publics	Espagne		✓		✓					
	Finlande	✓								
	Islande	✓								
	Portugal	✓	✓		✓					
	Suède	✓	✓	✓	✓					
Cabinets de groupes privés avec d'autres professionnels	Australie				✓					
	Danemark									
	Irlande									
	N. Zélande				✓					
	Pays-Bas*	✓			✓					
	Royaume-Uni				✓					
	Pologne*					✓				
Cabinets de groupe avec médecins seuls	Canada		✓	✓		✓			✓	
	Italie		✓					✓	✓	✓

Les innovations en matière de rémunération

Face aux imperfections des différents modes de tarification (fragmentation et séparation de la rémunération entre prestataires de soins), de nouvelles expérimentations ont été mises en place tout d'abord aux États-Unis et aux Pays-Bas. Nommés « Bundled payment » ou episode-based payment (paiement à l'épisode de soins en français)[2], ces modes de rémunération sont basés sur des forfaits versés à un médecin ou à une organisation de soins rémunérant l'ensemble des actes dispensés sur la base d'un épisode de soins ou de la prise en charge d'un patient ayant un profil

[1] Tableau tiré de l'article : Paris S., Devaux M. (2013). « Les modes de rémunération des médecins des pays de l'OCDE ». Sève, les Tribunes de la santé, n°40, p.48

[2] Voir à ce sujet, Berstein D. (2015). « L'organisation de parcours de soins : l'apport des expériences étrangères ». Paris : HCAAM – document annexé au rapport « innovation et système de santé

pathologique ciblé (maladie chronique). Toutefois, ils restent limités à un nombre restreint d'acteurs et d'organisations.
Une autre évolution pour contourner le paiement à l'acte réside dans la constitution d'équipes de premier recours dans lesquelles les infirmières sont salariées par l'État, les médecins restant payés à l'acte.

L'objectif de cette bibliographie est de recenser les sources d'information (articles, ouvrages, littérature grise…) sur les modes de rémunération en soins primaires. Sans prétendre à l'exhaustivité, elle privilégie les revues de littérature et les études comparées.

Les bases de données interrogées sont les suivantes : la base documentaire de l'Irdes et Medline.

Le périmètre géographique retenu concerne uniquement les pays de l'OCDE (hors France).

Les références sont classées par thématique, années et ordre alphabétique d'auteur.

Deux synthèses disponibles sur le site de l'Irdes abordent la problématique de la rémunération dans le cadre français :

- Soins de santé primaires : les pratiques professionnelles en France et à l'étranger
- Les indicateurs de la qualité des soins en France et à l'étranger

Bibliographie

ARTICLES GENERAUX : ETUDES COMPAREES DES MODES DE REMUNERATION, IMPACT SUR LES PRATIQUES ET LA QUALITE DES SOINS

Espinosa-González, A. B., Delaney, B. C., Marti, J., et al. (2021). "The role of the state in financing and regulating primary care in Europe: a taxonomy." Health Policy **125**(2): 168-176.

https://doi.org/10.1016/j.healthpol.2020.11.008

Traditional health systems typologies were based on health system financing type, such as the well-known OECD typology. However, the number of dimensions captured in classifications increased to reflect health systems complexity. This study aims to develop a taxonomy of primary care (PC) systems based on the actors involved (state, societal and private) and mechanisms used in governance, financing and regulation, which conceptually represents the degree of decentralisation of functions. We use nonlinear canonical correlations analysis and agglomerative hierarchical clustering on data obtained from the European Observatory on Health Systems and Policy and informants from 24 WHO European Region countries. We obtain four clusters: 1) Bosnia Herzegovina, Czech Republic, Germany, Slovakia and Switzerland: corporatist and/or fragmented PC system, with state involvement in PC supply regulation, without gatekeeping; 2) Greece, Ireland, Israel, Malta, Sweden, and Ukraine: public and (re)centralised PC financing and regulation with private involvement, without gatekeeping; 3) Finland, Norway, Spain and United Kingdom: public financing and devolved regulation and organisation of PC, with gatekeeping; and 4) Bulgaria, Croatia, France, North Macedonia, Poland, Romania, Serbia, Slovenia and Turkey: public and

deconcentrated with professional involvement in supply regulation, and gatekeeping. This taxonomy can serve as a framework for performance comparisons and a means to analyse the effect that different actors and levels of devolution or fragmentation of PC delivery may have in health outcomes.

Jia, L., Meng, Q., Scott, A., et al. (2021). "Payment methods for healthcare providers working in outpatient healthcare settings." Cochrane Database Syst Rev 1: Cd011865.

BACKGROUND: Changes to the method of payment for healthcare providers, including pay-for-performance schemes, are increasingly being used by governments, health insurers, and employers to help align financial incentives with health system goals. In this review we focused on changes to the method and level of payment for all types of healthcare providers in outpatient healthcare settings. Outpatient healthcare settings, broadly defined as 'out of hospital' care including primary care, are important for health systems in reducing the use of more expensive hospital services. OBJECTIVES: To assess the impact of different payment methods for healthcare providers working in outpatient healthcare settings on the quantity and quality of health service provision, patient outcomes, healthcare provider outcomes, cost of service provision, and adverse effects. SEARCH METHODS: We searched CENTRAL, MEDLINE, Embase (searched 5 March 2019), and several other databases. In addition, we searched clinical trials platforms, grey literature, screened reference lists of included studies, did a cited reference search for included studies, and contacted study authors to identify additional studies. We screened records from an updated search in August 2020, with any potentially relevant studies categorised as awaiting classification. SELECTION CRITERIA: Randomised trials, non-randomised trials, controlled before-after studies, interrupted time series, and repeated measures studies that compared different payment methods for healthcare providers working in outpatient care settings. DATA COLLECTION AND ANALYSIS: We used standard methodological procedures expected by Cochrane. We conducted a structured synthesis. We first categorised the payment methods comparisons and outcomes, and then described the effects of different types of payment methods on different outcome categories. Where feasible, we used meta-analysis to synthesise the effects of payment interventions under the same category. Where it was not possible to perform meta-analysis, we have reported means/medians and full ranges of the available point estimates. We have reported the risk ratio (RR) for dichotomous outcomes and the relative difference (as per cent change or mean difference (MD)) for continuous outcomes. MAIN RESULTS: We included 27 studies in the review: 12 randomised trials, 13 controlled before-and-after studies, one interrupted time series, and one repeated measure study. Most healthcare providers were primary care physicians. Most of the payment methods were implemented by health insurance schemes in high-income countries, with only one study from a low- or middle-income country. The included studies were categorised into four groups based on comparisons of different payment methods. (1) Pay for performance (P4P) plus existing payment methods compared with existing payment methods for healthcare providers working in outpatient healthcare settings P4P incentives probably improve child immunisation status (RR 1.27, 95% confidence interval (CI) 1.19 to 1.36; 3760 patients; moderate-certainty evidence) and may slightly increase the number of patients who are asked more detailed questions on their disease by their pharmacist (MD 1.24, 95% CI 0.93 to 1.54; 454 patients; low-certainty evidence). P4P may slightly improve primary care physicians' prescribing of guideline-recommended antihypertensive medicines compared with an existing payment method (RR 1.07, 95% CI 1.02 to 1.12; 362 patients; low-certainty evidence). We are uncertain about the effects of extra P4P incentives on mean blood pressure reduction for patients and costs for providing services compared with an existing

payment method (very low-certainty evidence). Outcomes related to workload or other health professional outcomes were not reported in the included studies. One randomised trial found that compared to the control group, the performance of incentivised professionals was not sustained after the P4P intervention had ended. (2) Fee for service (FFS) compared with existing payment methods for healthcare providers working in outpatient healthcare settings We are uncertain about the effect of FFS on the quantity of health services delivered (outpatient visits and hospitalisations), patient health outcomes, and total drugs cost compared to an existing payment method due to very low-certainty evidence. The quality of service provision and health professional outcomes were not reported in the included studies. One randomised trial reported that physicians paid via FFS may see more well patients than salaried physicians (low-certainty evidence), possibly implying that more unnecessary services were delivered through FFS. (3) FFS mixed with existing payment methods compared with existing payment methods for healthcare providers working in outpatient healthcare settings FFS mixed payment method may increase the quantity of health services provided compared with an existing payment method (RR 1.37, 95% CI 1.07 to 1.76; low-certainty evidence). We are uncertain about the effect of FFS mixed payment on quality of services provided, patient health outcomes, and health professional outcomes compared with an existing payment method due to very low-certainty evidence. Cost outcomes and adverse effects were not reported in the included studies. (4) Enhanced FFS compared with FFS for healthcare providers working in outpatient healthcare settings Enhanced FFS (higher FFS payment) probably increases child immunisation rates (RR 1.25, 95% CI 1.06 to 1.48; moderate-certainty evidence). We are uncertain whether higher FFS payment results in more primary care visits and about the effect of enhanced FFS on the net expenditure per year on covered children with regular FFS (very low-certainty evidence). Quality of service provision, patient outcomes, health professional outcomes, and adverse effects were not reported in the included studies. AUTHORS' CONCLUSIONS: For healthcare providers working in outpatient healthcare settings, P4P or an increase in FFS payment level probably increases the quantity of health service provision (moderate-certainty evidence), and P4P may slightly improve the quality of service provision for targeted conditions (low-certainty evidence). The effects of changes in payment methods on health outcomes is uncertain due to very low-certainty evidence. Information to explore the influence of specific payment method design features, such as the size of incentives and type of performance measures, was insufficient. Furthermore, due to limited and very low-certainty evidence, it is uncertain if changing payment models without including additional funding for professionals would have similar effects. There is a need for further well-conducted research on payment methods for healthcare providers working in outpatient healthcare settings in low- and middle-income countries; more studies comparing the impacts of different designs of the same payment method; and studies that consider the unintended consequences of payment interventions.

Quinn, A. E., Trachtenberg, A. J., McBrien, K. A., et al. (2020). "Impact of payment model on the behaviour of specialist physicians: A systematic review." Health Policy **124**(4): 345-358.

Physician payment models are perceived to be an important strategy for improving health, access, quality, and the value of health care. Evidence is predominantly from primary care, and little is known regarding whether specialists respond similarly. We conducted a systematic review to synthesize evidence on the impact of specialist physician payment models across the domains of health care quality; clinical outcomes; utilization, access, and costs; and patient and physician satisfaction. We searched Medline, Embase, and six other databases from their inception through October 2018. Eligible articles addressed specialist

physicians, payment models, outcomes of interest, and used an experimental or quasi-experimental design. Of 11,648 studies reviewed for eligibility, 11 articles reporting on seven payment reforms were included. Fee-for-service (FFS) was associated with increased desired utilization and fewer adverse outcomes (in the case of hemodialysis patients) and better access to care (in the case of emergency department services). Replacing FFS with capitation and salary models led to fewer elective surgical procedures (cataracts and tubal ligations) and, with an episode-based model, appeared to increase the use of less costly resources. Four of the seven reforms met their goals but many had unintended consequences. Payment model appears to affect utilization of specialty care, although the association with other outcomes is unclear due to mixed results or lack of evidence. Studies of salary and salary-based reforms point to specialists responding to some incentives differently than theory would predict. Additional research is warranted to improve the evidence driving specialist payment policy.

Michel, L. et Or, Z. (2020). "Décloisonner les prises en charge entre médecine spécialisée et soins primaires : expériences dans cinq pays." Questions D'Economie de la Sante (Irdes)(248) https://www.irdes.fr/recherche/questions-d-economie-de-la-sante/248-decloisonner-les-prises-en-charge-entre-medecine-specialisee-et-soins-primaires-experiences-dans-cinq-pays.pdf

Le vieillissement de la population, qui engendre une augmentation du nombre de personnes atteintes de maladies chroniques, oblige les systèmes de santé à repenser leur organisation. Répondre aux besoins des patients rend nécessaire une meilleure coordination de leurs prises en charge au confluent des soins primaires, de la médecine spécialisée et du médico-social. En France, depuis une quinzaine d'années, les soins primaires se réorganisent à travers, notamment, le développement des maisons de santé pluridisciplinaires. Mais les médecins spécialistes sont rarement engagés dans ces organisations. L'hyperspécialisation, qui risque de produire une fragmentation de l'offre de soins de plus en plus importante, et les difficultés d'accès aux soins de spécialistes interrogent sur les modes d'organisation de la médecine spécialisée. A partir de huit études de cas observés dans cinq pays, nous proposons ici une analyse de nouveaux modèles d'organisation de la médecine spécialisée. Nous décrivons les démarches et outils mobilisés afin de mieux prendre en compte les besoins des patients et de décloisonner les prises en charge. Nous questionnons ensuite la manière dont ces démarches viennent bousculer tant les rôles des spécialistes que ceux des autres professionnels de santé concernés. Nous montrons aussi en quoi les modes de financement changent pour s'adapter aux nouveaux besoins.

Alexander, D. et Schnell, M. (2019). "The Impacts of Physician Payments on Patient Access, Use, and Health". NBER Working Paper Series ; 26095. Cambridge NBER. https://www.nber.org/papers/w26095

We examine how the amount a physician is paid influences who they are willing to see. Exploiting large, exogenous changes in Medicaid reimbursement rates, we find that increasing payments for new patient office visits reduces reports of providers turning away beneficiaries: closing the gap in payments between Medicaid and private insurers would reduce more than two-thirds of disparities in access among adults and would eliminate disparities among children. These improvements in access lead to more office visits, better self-reported health, and reduced school absenteeism. Our results demonstrate that

financial incentives for physicians drive access to care and have important implications for patient health.

Brekke, K. R., Holmas, T. H. et Monstad, K. (2018). "How does the type of remuneration affect physician behaviour? Fixed salary versus fee-for-service". Nipe Wp 09/ 2018. Braga Nipe. http://www.nipe.eeg.uminho.pt/Uploads/WP_2018/NIPE_WP_9_2018.pdf

We analyse the effects of two different types of physician remuneration - fee-for-service and fixed salary - on the treatment decisions of general practitioners (GPs) and on patients´ health outcomes. Using rich Norwegian register data during the period 2009-2013, we focus on GP locums working in a succession of temporary positions, which allows us to observe the same GPs working under different remuneration schemes within a relatively short period of time. We find that GPs respond strongly and consistently to changes in remuneration type. Compared with fixed salary, GP payment by fee-for-service leads to an increase in the supply of consultations and a higher provision of medical services (along several dimensions) per consultation. This has also signficant implications for patients´ health outcomes. The probability of experiencing an emergency admission to hospital shortly after a GP consultation is close to 20 percent lower if the GP is paid by fee-for-service instead of fixed salary. Overall, our analysis suggests that fixed-salary remuneration leads to underprovision of primary care.

Brosig-Koch, J., Hennig-Schmidt, H., Kairies-Schwarz, N., et al. (2017). "The Effects of Introducing Mixed Payment Systems for Physicians: Experimental Evidence." Health Econ **26**(2): 243-262. http://onlinelibrary.wiley.com/doi/10.1002/hec.3292/abstract

Mixed payment systems have become a prominent alternative to paying physicians through fee-for-service and capitation. While theory shows mixed payment systems to be superior, causal effects on physicians' behavior when introducing mixed systems are not well understood empirically. We systematically analyze the influence of fee-for-service, capitation, and mixed payment systems on physicians' service provision. In a controlled laboratory setting, we implement an exogenous variation of the payment method. Medical and non-medical students in the role of physicians in the lab (N = 213) choose quantities of medical services affecting patients' health outside the lab. Behavioral data reveal significant overprovision of medical services under fee-for-service and significant underprovision under capitation, although less than predicted when assuming profit maximization. Introducing mixed payment systems significantly reduces deviations from patient-optimal treatment. Although medical students tend to be more patient regarding, our results hold for both medical and non-medical students. Responses to incentive systems can be explained by a behavioral model capturing individual altruism. In particular, we find support that altruism plays a role in service provision and can partially mitigate agency problems, but altruism is heterogeneous in the population. Copyright (c) 2015 John Wiley & Sons, Ltd.

Karakolias, S., et al. (2017). "Primary Care Doctors' Assessment of and Preferences on Their Remuneration." Inquiry **54**: 46958017692274.

Despite numerous studies on primary care doctors' remuneration and their job satisfaction, few of them have quantified their views and preferences on certain types of remuneration. This study aimed at reporting these views and preferences on behalf of Greek doctors employed at public primary care. We applied a 13-item questionnaire to a random sample of 212 doctors at National Health Service health centers and their satellite clinics. The results

showed that most doctors deem their salary lower than work produced and lower than that of private sector colleagues. Younger respondents highlighted that salary favors dual employment and claim of informal fees from patients. Older respondents underlined the negative impact of salary on productivity and quality of services. Both incentives to work at border areas and choose general practice were deemed unsatisfactory by the vast majority of doctors. Most participants desire a combination of per capita fee with fee-for-service; however, 3 clusters with distinct preferences were formed: general practitioners (GPs) of higher medical grades, GPs of the lowest medical grade, residents and rural doctors. Across them, a descending tolerance to salary-free schemes was observed. Greek primary care doctors are dissatisfied with the current remuneration scheme, maybe more than in the past, but notably the younger doctors are not intended to leave it. However, Greek policy makers should experiment in capitation for more tolerable to risk GPs and introduce pay-for-performance to achieve enhanced access and quality. These interventions should be combined with others in primary care's new structure in an effort to converge with international standards.

Mossialos, E. éd., et al. (2017). International Profiles of Health Care Systems. New York The Commonwealth Fund

This publication presents overviews of the health care systems of Australia, Canada, China, Denmark, England, France, Germany, India, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Singapore, Sweden, Switzerland, and the United States. Each overview covers health insurance, public and private financing, health system organization and governance, health care quality and coordination, disparities, efficiency and integration, use of information technology and evidence-based practice, cost containment, and recent reforms and innovations. In addition, summary tables provide data on a number of key health system characteristics and performance indicators, including overall health care spending, hospital spending and utilization, health care access, patient safety, care coordination, chronic care management, disease prevention, capacity for quality improvement, and public views.

Murante, A. M., et al. (2017). "Patient-perceived responsiveness of primary care systems across Europe and the relationship with the health expenditure and remuneration systems of primary care doctors." Soc Sci Med **186**: 139-147.
https://www.sciencedirect.com/science/article/pii/S027795361730374X?via%3Dihub

BACKGROUND: Health systems are expected to be responsive, that is to provide services that are user-oriented and respectful of people. Several surveys have tried to measure all or some of the dimensions of the responsiveness (e.g. autonomy, choice, clarity of communication, confidentiality, dignity, prompt attention, quality of basic amenities, and access to family and community support), however there is little evidence regarding the level of responsiveness of primary care (PC) systems. METHODS: This work analyses the capacity of primary care systems to be responsive. Data collected from 32 PC systems were used to investigate whether a relationship exists between the responsiveness of PC systems and the PC doctor remuneration systems and domestic health expenditure. RESULTS: There appears to be a higher responsiveness of PC when doctors are paid via capitation than when they only receive a fee for services or a mixed payment method. In addition, countries that spend more on health services are associated with higher levels of dignity and autonomy. CONCLUSION: Quality, as measured from the patient's perspective, does not necessarily overlap with PC performance based on structure and process indicators. The results could also stimulate a new debate on the role of economic resources and PC workforce payment mechanisms in

the achievement of quality goals, in this case related to the capacity of PC systems to be responsive.

Nguyen, L. L., et al. (2017). "Provider-Induced Demand in the Treatment of Carotid Artery Stenosis: Variation in Treatment Decisions Between Private Sector Fee-for-Service vs Salary-Based Military Physicians." JAMA Surg **152**(6): 565-572.

Importance: Although many factors influence the management of carotid artery stenosis, it is not well understood whether a preference toward procedural management exists when procedural volume and physician compensation are linked in the fee-for-service environment. Objective: To explore evidence for provider-induced demand in the management of carotid artery stenosis. Design, Setting, and Participants: The Department of Defense Military Health System Data Repository was queried for individuals diagnosed with carotid artery stenosis between October 1, 2006, and September 30, 2010. A hierarchical multivariable model evaluated the association of the treatment system (fee-for-service physicians in the private sector vs salary-based military physicians) with the odds of procedural intervention (carotid endarterectomy or carotid artery stenting) compared with medical management. Subanalysis was performed by symptom status at the time of presentation. The association of treatment system and of management strategy with clinical outcomes, including stroke and death, was also evaluated. Data analysis was conducted from August 15, 2015, to August 2, 2016. Main Outcomes and Measures: The odds of procedural intervention based on treatment system was the primary outcome used to indicate the presence and effect of provider-induced demand. Results: Of 10579 individuals with a diagnosis of carotid artery stenosis (4615 women and 5964 men; mean [SD] age, 65.6 [11.4] years), 1307 (12.4%) underwent at least 1 procedure. After adjusting for demographic and clinical factors, the odds of undergoing procedural management were significantly higher for patients in the fee-for-service system compared with those in the salary-based setting (odds ratio, 1.629; 95% CI, 1.285-2.063; P < .001). This finding remained true when patients were stratified by symptom status at presentation (symptomatic: odds ratio, 2.074; 95% CI, 1.302-3.303; P = .002; and asymptomatic: odds ratio, 1.534; 95% CI, 1.186-1.984; P = .001). Conclusions and Relevance: Individuals treated in a fee-for-service system were significantly more likely to undergo procedural management for carotid stenosis compared with those in the salary-based setting. These findings remained consistent for individuals with and without symptomatic disease.

Yuan, B., et al. (2017). "Payment methods for outpatient care facilities." Cochrane Database Syst Rev **3**: Cd011153.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5449574/

BACKGROUND: Outpatient care facilities provide a variety of basic healthcare services to individuals who do not require hospitalisation or institutionalisation, and are usually the patient's first contact. The provision of outpatient care contributes to immediate and large gains in health status, and a large portion of total health expenditure goes to outpatient healthcare services. Payment method is one of the most important incentive methods applied by purchasers to guide the performance of outpatient care providers. OBJECTIVES: To assess the impact of different payment methods on the performance of outpatient care facilities and to analyse the differences in impact of payment methods in different settings. Our review found that if policymakers intend to apply P4P incentives to pay health facilities providing outpatient services, this intervention will probably lead to a slight improvement in health professionals' use of tests or treatments, particularly for chronic diseases. However, it may lead to little or no improvement in patients' utilisation of health services or health

outcomes. When considering using P4P to improve the performance of health facilities, policymakers should carefully consider each component of their P4P design, including the choice of performance measures, the performance target, payment frequency, if there will be additional funding, whether the payment level is sufficient to change the behaviours of health providers, and whether the payment to facilities will be allocated to individual professionals. Unfortunately, the studies included in this review did not help to inform those considerations. Well-designed comparisons of different payment methods for outpatient health facilities in low- and middle-income countries and studies directly comparing different designs (e.g. different payment levels) of the same payment method (e.g. P4P or FFS) are needed.

Andas, C. A. et Hakeberg, M. (2016). "Payment systems and oral health in Swedish dental care: Observations over six years." Community Dent Health **33**(4): 257-261.

Objective: The aim of this longitudinal study of patients in regular dental care was to compare the findings of manifest caries and fillings after a 6-year adherence to either of two optional payment models, the traditional fee-for service (FFS) model, or the new capitation model 'Dental Care for Health' (DCH). Material and methods: Data on manifest caries lesions, the number of fillings and a number of background variables were collected from both a register and a questionnaire completed by 6,299 regular dental patients who met the inclusion criteria. The influence of payment system adherence and background variables on the number of manifest caries lesions at study end was examined by the means of negative binomial regression analysis. Results: The incidence rate ratio of manifest caries lesions after six years in FFS was 1.5 compared to DCH, after controlling for age, gender, education and pre-baseline caries incidence. The number of fillings was higher in FFS than in DCH at study start and at study end, and was also described by a steeper slope. Conclusions: At group level, this study showed a statistically significant difference between the caries situation after six years in DCH compared with FFS, when some important background factors, including pre-baseline caries, were kept constant in a regression model.

Erickson, K. F., et al. (2016). "Effects of physician payment reform on provision of home dialysis." Am J Manag Care **22**(6): e215-223.

OBJECTIVES: Patients with end-stage renal disease can receive dialysis at home or in-center. In 2004, CMS reformed physician payment for in-center hemodialysis care from a capitated to a tiered fee-for-service model, augmenting physician payment for frequent in-center visits. We evaluated whether payment reform influenced dialysis modality assignment. STUDY DESIGN: Cohort study of patients starting dialysis in the United States in the 3 years before and the 3 years after payment reform. METHODS: We conducted difference-in-difference analyses comparing patients with traditional Medicare coverage (who were affected by the policy) to others with Medicare Advantage (who were unaffected by the policy). We also examined whether the policy had a more pronounced influence on dialysis modality assignment in areas with lower costs of traveling to dialysis facilities. RESULTS: Patients with traditional Medicare coverage experienced a 0.7% (95% CI, 0.2%-1.1%; P = .003) reduction in the absolute probability of home dialysis use following payment reform compared with patients with Medicare Advantage. Patients living in areas with larger dialysis facilities (where payment reform made in-center hemodialysis comparatively more lucrative for physicians) experienced a 0.9% (95% CI, 0.5%-1.4%; P < .001) reduction in home dialysis use following payment reform compared with patients living in areas with smaller facilities (where payment reform made in-center hemodialysis comparatively less lucrative for physicians). CONCLUSIONS: The transition from a capitated to a tiered fee-for-service

payment model for in-center hemodialysis care resulted in fewer patients receiving home dialysis. This area of policy failure highlights the importance of considering unintended consequences of future physician payment reform efforts.

Johnson, G., et al. (2016). "Recent Growth In Medicare Advantage Enrollment Associated With Decreased Fee-For-Service Spending In Certain US Counties." Health Aff (Millwood) **35**(9): 1707-1715.

Recent increases in Medicare Advantage enrollment may have caused lower spending growth in the fee-for-service (FFS) Medicare population. We identified the counties of largest Medicare Advantage growth and determined if increased enrollment was associated with reduced FFS Medicare spending growth in those counties. We found that 73 percent of counties experienced at least a 5-percentage-point increase in Medicare Advantage penetration between 2007 and 2014, with the most growth occurring in larger and poorer counties in the Northeast and South. The association between Medicare Advantage growth and FFS Medicare costs varied depending on baseline Medicare Advantage penetration: In counties with low baseline penetration, Medicare Advantage growth did not have a significant effect on per capita FFS Medicare spending, whereas in counties in the highest quartile of baseline Medicare Advantage penetration, it was associated with a significant decrease in FFS Medicare spending growth ($154 annually per 10-percentage-point increase in Medicare Advantage). These findings suggest that Medicare Advantage growth may be playing a role in moderating FFS Medicare costs.

Pendrith, C., et al. (2016). "Financial Incentives and Cervical Cancer Screening Participation in Ontario's Primary Care Practice Models." Healthc Policy **12**(1): 116-128.

OBJECTIVES: The primary objective of this paper is to compare cervical cancer screening rates of family physicians in Ontario's two dominant reformed practice models, Family Health Group (FHG) and Family Health Organization (FHO), and traditional fee-for-service (FFS) model. Both reformed models formally enrol patients and offer extensive pay-for-performance incentives; however, they differ by remuneration for core services (FHG is FFS; FHO is capitated). The secondary objective is to estimate the average and marginal costs of screening in each model. METHODS: Using administrative data on 7,298 family physicians and their 2,083,633 female patients aged 35-69 eligible for cervical cancer screening in 2011, we assessed screening rates after adjusting for patient and physician characteristics. Predicted screening rates, fees and bonus payments were used to estimate the average and marginal costs of cervical cancer screening. RESULTS: Adjusted screening rates were highest in the FHG (81.9%), followed by the FHO (79.6%), and then the traditional FFS model (74.2%). The cost of a cervical cancer screening was $18.30 in the FFS model. The estimated average cost of screening in the FHGs and FHOs were $29.71 and $35.02, respectively, while the corresponding marginal costs were $33.05 and $39.06. DISCUSSION: We found significant differences in cervical cancer screening rates across Ontario's primary care practice models. Cervical screening rates were significantly higher in practice models eligible for incentives (FHGs and FHOs) than the traditional FFS model. However, the average and marginal cost of screening were lowest in the traditional FFS model and highest in the FHOs.

Perloff, J., et al. (2016). "Comparing the Cost of Care Provided to Medicare Beneficiaries Assigned to Primary Care Nurse Practitioners and Physicians." Health Serv Res **51**(4): 1407-1423.

OBJECTIVE: This study is designed to assess the cost of services provided to Medicare beneficiaries by nurse practitioners (NPs) billing under their own National Provider Identification number as compared to primary care physicians (PCMDs). DATA SOURCE:

Medicare Part A (inpatient) and Part B (office visit) claims for 2009-2010. STUDY DESIGN: Retrospective cohort design using propensity score weighted regression. DATA EXTRACTION METHODS: Beneficiaries cared for by a random sample of NPs and primary care physicians. PRINCIPAL FINDINGS: After adjusting for demographic characteristics, geography, comorbidities, and the propensity to see an NP, Medicare evaluation and management payments for beneficiaries assigned to an NP were $207, or 29 percent, less than PCMD assigned beneficiaries. The same pattern was observed for inpatient and total office visit paid amounts, with 11 and 18 percent less for NP assigned beneficiaries, respectively. Results are similar for the work component of relative value units as well. CONCLUSIONS: This study provides new evidence of the lower cost of care for beneficiaries managed by NPs, as compared to those managed by PCMDs across inpatient and office-based settings. Results suggest that increasing access to NP primary care will not increase costs for the Medicare program and may be cost saving.

Tao, W., et al. (2016). "The impact of reimbursement systems on equity in access and quality of primary care: A systematic literature review." BMC Health Serv Res **16**(1): 542.

BACKGROUND: Reimbursement systems provide incentives to health care providers and may drive physician behaviour. This review assesses the impact of reimbursement system on socioeconomic and racial inequalities in access, utilization and quality of primary care. METHODS: A systematic search was performed in Web of Science and PubMed for English language studies published between 1980 and 2013, supplemented by reference tracking. Articles were selected based on inclusion criteria, and data extraction and critical appraisal were performed by two authors independently. Data were synthesized in a narrative manner and categorized according to study outcome and reimbursement system. RESULTS: Twenty seven articles, mostly from the United States and United Kingdom, were included in the data synthesis. Reimbursement systems seem to have limited effect on socioeconomic and racial inequity in access, utilization and quality of primary care. Capitation might have a more beneficial impact on inequity in access to primary care and number of ambulatory care sensitive admissions than fee-for-service, but did worse in patient satisfaction. Pay-for-performance had little or no impact on socioeconomic and racial inequity in the management of diabetes, cardiovascular diseases, chronic obstructive pulmonary disease, and preventive services. CONCLUSION: We found little scientific evidence supporting an association between reimbursement system and socioeconomic or racial inequity in access, utilization and quality of primary care. Overall, few studies addressed this research question, and heterogeneity in context and outcomes complicates comparisons across studies. Further empirical studies are warranted.

Wynne, B. (2016). "For Medicare's New Approach To Physician Payment, Big Questions Remain." Health Aff (Millwood) **35**(9): 1643-1646.

The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) established a new framework for Medicare physician payment. Designed to stabilize uncertain payment rates for Medicare's fee-for-service (FFS) system and incentivize physicians to move into new alternative payment systems, MACRA contains several uncertainties of its own. In a textbook illustration of why it's important to be careful what you wish for, it's increasingly easy to predict that implementation of MACRA will be delayed as a result of both regulatory and legislative breaches of its statutory timeline. This article traces the contemporary history of the Medicare physician payment system and efforts to implement additional changes.

Contandriopoulos, D., Brousselle, A., Breton, M., et al. (2018). "Analyse des impacts de la rémunération des médecins sur leur pratique et la performance du système de santé au Québec". Québec Fonds de recherche Société et culture Québec. http://www.frqsc.gouv.qc.ca/fr/partenariat/nos-resultats-de-recherche/histoire/analyse-des-impacts-de-la-remuneration-des-medecins-sur-leur-pratique-et-la-performance-du-systeme-de-sante-au-quebec-oquslhw91520434081558

> L'objectif de ce projet est de comprendre de quelle manière et dans quelle mesure les modes de rémunération influencent la pratique médicale et de cerner l'impact qu'ils ont sur la performance du système de santé du Québec. Le projet s'appuie sur une méthodologie en trois composantes : une analyse longitudinale des règles de facturation (2006-2015), une analyse longitudinale d'indicateurs quantitatifs calculés à partir des données de la RAMQ (2006-2015) et une analyse de 33 entrevues auprès de médecins et d'experts. Les médecins du Québec sont principalement payés à l'acte. L'effet attendu de ce mode de rémunération est essentiellement un impact positif sur la productivité. Pourtant, l'analyse des indicateurs de production que nous avons conduite ne permet pas de mettre en lumière, dans le contexte québécois, un effet positif du mode de rémunération à l'acte sur la productivité des médecins. En même temps, les entrevues suggèrent que plusieurs des effets indésirables du paiement à l'acte sont à l'œuvre au Québec, entre autres des problèmes relatifs à la qualité et la pertinence des soins.Notre analyse montre que le Québec utilise de manière très dominante un mode de rémunération qui ne produit pas, ou pas suffisamment, les effets désirables qui sont attendus, mais qui produit des dysfonctionnements significatifs. L'incitation financière reste perçue comme un moyen efficace pour contrôler la pratique médicale. Or, ce type d'approche nous semble peu susceptible de donner des résultats désirables et devrait être remplacé par d'autres leviers.

Dan, S. et Savi, R. (2015). "Payment systems and incentives in primary care: implications of recent reforms in Estonia and Romania." Int J Health Plann Manage **30**(3): 204-218.

> Since the early 1990s, major reform in healthcare has been adopted in former communist countries in Central and Eastern Europe. More than 20 years after, reform in healthcare still draws much interest from policy makers and academics alike. One of the dynamic components of reform has been the reform of payment systems in primary care. This article looks at recent developments in payment systems and financial incentives in Estonia and Romania. We conclude that finding the appropriate mix in paying and incentivizing primary care providers in a transitional context is no easy solution for healthcare policy makers who need to carefully weigh in the advantages and inherent problems of various payment arrangements. In a transitional, rapidly changing healthcare system and society, and a context of financial stringency, the theoretical effects of payment mechanisms may be more difficult to predict and manage than it is expected.

Hollander, M. J. et Kadlec, H. (2015). "Incentive-Based Primary Care: Cost and Utilization Analysis." Perm J **19**(4): 46-56.

> CONTEXT: In its fee-for-service funding model for primary care, British Columbia, Canada, introduced incentive payments to general practitioners as pay for performance for providing enhanced, guidelines-based care to patients with chronic conditions. Evaluation of the program was conducted at the health care system level. OBJECTIVE: To examine the impact of the incentive payments on annual health care costs and hospital utilization patterns in British Columbia. DESIGN: The study used Ministry of Health administrative data for Fiscal Year 2010-2011 for patients with diabetes, congestive heart failure, chronic obstructive

pulmonary disease, and/or hypertension. In each disease group, cost and utilization were compared across patients who did, and did not, receive incentive-based care. MAIN OUTCOME MEASURES: Health care costs (eg, primary care, hospital) and utilization measures (eg, hospital days, readmissions). RESULTS: After controlling for patients' age, sex, service needs level, and continuity of care (defined as attachment to a general practice), the incentives reduced the net annual health care costs, in Canadian dollars, for patients with hypertension (by approximately Can$308 per patient), chronic obstructive pulmonary disease (by Can$496), and congestive heart failure (by Can$96), but not diabetes (incentives cost about Can$148 more per patient). The incentives were also associated with fewer hospital days, fewer admissions and readmissions, and shorter lengths of hospital stays for all 4 groups. CONCLUSION: Although the available literature on pay for performance shows mixed results, we showed that the funding model used in British Columbia using incentive payments for primary care might reduce health care costs and hospital utilization.

Khullar, D., Kocher, R., Conway, P., et al. (2015). "How 10 leading health systems pay their doctors." Healthc (Amst) **3**(2): 60-62.
https://www.ncbi.nlm.nih.gov/pubmed/26179724

We conducted interviews with senior executives at 10 leading health systems to better understand how organizations use performance-based compensation. Of the organizations interviewed, five pay physicians using productivity-independent salaries, and five use productivity-adjusted salaries. Performance-based pay is more prevalent in primary care than in subspecialties, and the most consistently identified performance domains are quality, service, productivity, and citizenship. Most organizations have less than 10% of total compensation at risk, with payments distributed across three to five domains, each containing several metrics. Approaches with many metrics--and little at-risk compensation for each metric-may offer weak incentive to achieve any particular goal.

Kiran, T., et al. (2015). "Longitudinal evaluation of physician payment reform and team-based care for chronic disease management and prevention." Cmaj **187**(17): E494-502.

BACKGROUND: We evaluated a large-scale transition of primary care physicians to blended capitation models and team-based care in Ontario, Canada, to understand the effect of each type of reform on the management and prevention of chronic disease. METHODS: We used population-based administrative data to assess monitoring of diabetes mellitus and screening for cervical, breast and colorectal cancer among patients belonging to team-based capitation, non-team-based capitation or enhanced fee-for-service medical homes as of Mar. 31, 2011 (n = 10 675 480). We used Poisson regression models to examine these associations for 2011. We then used a fitted nonlinear model to compare changes in outcomes between 2001 and 2011 by type of medical home. RESULTS: In 2011, patients in a team-based capitation setting were more likely than those in an enhanced fee-for-service setting to receive diabetes monitoring (39.7% v. 31.6%, adjusted relative risk [RR] 1.22, 95% confidence interval [CI] 1.18 to 1.25), mammography (76.6% v. 71.5%, adjusted RR 1.06, 95% CI 1.06 to 1.07) and colorectal cancer screening (63.0% v. 60.9%, adjusted RR 1.03, 95% CI 1.02 to 1.04). Over time, patients in medical homes with team-based capitation experienced the greatest improvement in diabetes monitoring (absolute difference in improvement 10.6% [95% CI 7.9% to 13.2%] compared with enhanced fee for service; 6.4% [95% CI 3.8% to 9.1%] compared with non-team-based capitation) and cervical cancer screening (absolute difference in improvement 7.0% [95% CI 5.5% to 8.5%] compared with enhanced fee for service; 5.3% [95% CI 3.8% to 6.8%] compared with non-team-based capitation). For breast and colorectal cancer screening, there were no significant differences in change over time

between different types of medical homes. INTERPRETATION: The shift to capitation payment and the addition of team-based care in Ontario were associated with moderate improvements in processes related to diabetes care, but the effects on cancer screening were less clear.

Kringos, D. S., et al. (2015). Building primary care in a changing Europe, Copenhague : OMS Bureau régional de l'Europe
http://www.euro.who.int/en/about-us/partners/observatory/publications/studies/building-primary-care-in-a-changing-europe

This new study gives a wide-ranging overview of primary care in 31 European countries. Topics covered include governance, financing, workforce aspects and the breadth of the provision of services. As well as looking at how primary care relates to broader health-care outcomes, this volume describes the diversity of essential primary care features, such as accessibility, continuity and coordination, and suggests priority areas for review. A second, online volume contains structured summaries of the state of primary care in each of the 31 countries.

Kringos, D. S., et al. (2015). Building primary care in a changing Europe. Case studies, Copenhague : OMS Bureau régional de l'Europe
http://www.euro.who.int/fr/about-us/partners/observatory/publications/studies/building-primary-care-in-a-changing-europe-case-studies

Ce nouveau volume est constitué d'études de cas structurées résumant la situation des soins de santé primaires dans 31 pays européens. Il sert de complément à l'étude réalisée précédemment et intitulée « Building primary care in a changing Europe » (Assurer les soins primaires dans une Europe en mutation), qui donne un aperçu de la situation des soins primaires sur le continent, notamment les aspects liés à la gouvernance, au financement et aux ressources humaines ainsi qu'une présentation détaillée des profils de service.

Monda, K. L., et al. (2015). "Comparative changes in treatment practices and clinical outcomes following implementation of a prospective payment system: the STEPPS study." BMC Nephrol **16**: 67.

BACKGROUND: The aim of the US dialysis Prospective Payment System bundle, launched in January 2011, was reduction and more accurate prediction of costs of services, whilst maintaining or improving patient care. Dialysis facilities could either adopt the bundle completely (100%) in the first year of launch, or phase-in (25%) over four years. Differences in practice patterns and patient outcomes were hypothesized to occur in facilities that phased-in 25% compared to those that did not. METHODS: Data are from STEPPS, a study of 51 small dialysis organization facilities designed to describe trends in dialytic treatment before and after bundle implementation. Baseline was defined as October-December 2010; follow-up as January-December 2011. Facility- and patient-level data were collected at enrollment and regularly thereafter. Cox proportional hazards and linear multi-level models were used to estimate the effect of opting-in 25% (vs. 100%) on practice patterns and clinical outcomes. RESULTS: 12 facilities (patient n = 346) opted-in 25% and 37 facilities (patient n = 1296) opted-in 100% to the dialysis bundle. At baseline, patients at 25% facilities were primarily covered by Medicare, were more likely to be black, and were receiving higher monthly epoetin alfa (EPO) doses. Throughout 2011, patients in 100% facilities received lower monthly EPO doses, and had lower mean hemoglobin concentrations; hospitalization and mortality rates were numerically lower in 25% facilities but not statistically different. CONCLUSIONS: The economic pressure for dialysis providers to work within an expanded

composite rate bundle whilst maintaining patient care may be a driver of practice indicator outcomes. Additional investigations are warranted to more precisely estimate clinical outcomes in patients attending facilities enrolling into the bundle 100% relative to the previous fee-for-service framework.

Nyweide, D. J., et al. (2015). "Association of Pioneer Accountable Care Organizations vs traditional Medicare fee for service with spending, utilization, and patient experience." Jama **313**(21): 2152-2161.

IMPORTANCE: The Pioneer Accountable Care Organization (ACO) Model aims to drive health care organizations to reduce expenditures while improving quality for fee-for-service (FFS) Medicare beneficiaries. OBJECTIVE: To determine whether FFS beneficiaries aligned with Pioneer ACOs had smaller increases in spending and utilization than other FFS beneficiaries while retaining similar levels of care satisfaction in the first 2 years of the Pioneer ACO Model. DESIGN, SETTING, AND PARTICIPANTS: Participants were FFS Medicare beneficiaries aligned with 32 ACOs (n = 675,712 in 2012; n = 806,258 in 2013) and a comparison group of alignment-eligible beneficiaries in the same markets (n = 13,203,694 in 2012; n = 12,134,154 in 2013). Analyses comprised difference-in-differences multivariable regression with Oaxaca-Blinder reweighting to model expenditure and utilization outcomes over a 2-year performance period (2012-2013) and 2-year baseline period (2010-2011) as well as adjusted analyses of Consumer Assessment of Healthcare Providers & Systems (CAHPS) survey responses among random samples of beneficiaries in Pioneer ACOs (n = 13,097), FFS (n = 116,255), or Medicare Advantage (n = 203,736) for 2012 care. EXPOSURES: Beneficiary alignment with a Pioneer ACO in 2012 or 2013. MAIN OUTCOMES AND MEASURES: Medicare spending, utilization, and CAHPS domain scores. RESULTS: Total spending for beneficiaries aligned with Pioneer ACOs in 2012 or 2013 increased from baseline to a lesser degree relative to comparison populations. Differential changes in spending were approximately -$35.62 (95% CI, -$40.12 to -$31.12) per-beneficiary-per-month (PBPM) in 2012 and -$11.18 (95% CI, -$15.84 to -$6.51) PBPM in 2013, which amounted to aggregate reductions in increases of approximately -$280 (95% CI, -$315 to -$244) million in 2012 and -$105 (95% CI, -$148 to -$61) million in 2013. Inpatient spending showed the largest differential change of any spending category (-$14.40 [95% CI, -$17.31 to -$11.49] PBPM in 2012; -$6.46 [95% CI, -$9.26 to -$3.66] PBPM in 2013). Changes in utilization of physician services, emergency department, and postacute care followed a similar pattern. Compared with other Medicare beneficiaries, ACO-aligned beneficiaries reported higher mean scores for timely care (77.2 [ACO] vs 71.2 [FFS] vs 72.7 [MA]) and for clinician communication (91.9 [ACO] vs 88.3 [FFS] vs 88.7 [MA]). CONCLUSIONS AND RELEVANCE: In the first 2 years of the Pioneer ACO Model, beneficiaries aligned with Pioneer ACOs, as compared with general Medicare FFS beneficiaries, exhibited smaller increases in total Medicare expenditures and differential reductions in utilization of different health services, with little difference in patient experience.

Papanicolas, I. et McGuire, A. (2015). "Do financial incentives trump clinical guidance? Hip Replacement in England and Scotland." J Health Econ **44**: 25-36.

Following devolution in 1999 England and Scotland's National Health Services diverged, resulting in major differences in hospital payment. England introduced a case payment mechanism from 2003/4, while Scotland continued to pay through global budgets. We investigate the impact this change had on activity for Hip Replacement. We examine the financial reimbursement attached to uncemented Hip Replacement in England, which has been more generous than for its cemented counterpart, although clinical guidance from the

National Institute for Clinical Excellence recommends the later. In Scotland this financial differential does not exist. We use a difference-in-difference estimator, using Scotland as a control, to test whether the change in reimbursement across the two countries had an influence on treatment. Our results indicate that financial incentives are directly linked to the faster uptake of the more expensive, uncemented Hip Replacement in England, which ran against the clinical guidance.

Quinn, K. (2015). "The 8 basic payment methods in health care." Ann Intern Med **163**(4): 300-306.

Eight basic payment methods are applicable across all types of health care. Each method is defined by the unit of payment (per time period, beneficiary, recipient, episode, day, service, dollar of cost, or dollar of charges). These methods are more specific than common terms, such as capitation, fee for service, global payment, and cost reimbursement. They also correspond to the division of financial risk between payer and provider, with each method reflecting a risk factor within the health care spending identity. Financial risk gradually shifts from being primarily on providers when payment is per time period to being primarily on payers when payment is per dollar of charges. Method 4 (per episode) marks the line between epidemiologic and treatment risk. The 8 methods are typically combined to balance risk and thus balance incentives between payers and providers. This taxonomy makes it easier to understand trends in payment reform-especially the shifting division of financial risk and the movement toward value-based purchasing-and types of payment reform, such as bundling, accountable care organizations, medical homes, and cost sharing. The taxonomy also enables prediction of conflicts between payers and providers. For each unit of payment, providers are rewarded for increasing units while decreasing their own cost per unit. No payment method is neutral on quality because each encourages and discourages the provision of care overall and in particular situations. Many professional norms and business practices have been established to mitigate undesirable incentives. Health care differs from many other industries in that the unit of payment remains variable and unsettled.

Rudoler, D., et al. (2015). "Paying for primary care: a cross-sectional analysis of cost and morbidity distributions across primary care payment models in Ontario Canada." Soc Sci Med **124**: 18-28.

Policy-makers desire an optimal balance of financial incentives to improve productivity and encourage improved quality in primary care, while also avoiding issues of risk-selection inherent to capitation-based payment. In this paper we analyze risk-selection in capitation-based payment by using administrative data for patients (n = 11,600,911) who were rostered (i.e., signed an enrollment form, or received a majority of care) with a primary care physician (n = 8621) in Ontario, Canada in 2010/11. We analyze this data using a relative distribution approach and compare distributions of patient costs and morbidity across primary care payment models. Our results suggest a relationship between being in a capitation-based payment scheme and having low cost patients (and presumably healthy patients) compared to fee-for-service physicians. However, we do not have evidence that physicians in capitation-based models are reducing the care they provide to sick and high cost patients. These findings suggest there is a relationship between payment type and risk-selection, particularly for low-cost and healthy patients.

Allard, M., Jelovac, I. et Léger, P. T. (2014). "Payment mechanism and GP self-selection: capitation versus fee for service." Int J Health Care Finance Econ **14**(2): 143-160.

This paper analyzes the consequences of allowing gatekeeping general practitioners (GPs) to select their payment mechanism. We model GPs' behavior under the most common payment

schemes (capitation and fee for service) and when GPs can select one among them. Our analysis considers GP heterogeneity in terms of both ability and concern for their patients' health. We show that when the costs of wasteful referrals to costly specialized care are relatively high, fee for service payments are optimal to maximize the expected patients' health net of treatment costs. Conversely, when the losses associated with failed referrals of severely ill patients are relatively high, we show that either GPs' self-selection of a payment form or capitation is optimal. Last, we extend our analysis to endogenous effort and to competition among GPs. In both cases, we show that self-selection is never optimal.

Edwards, S. T., et al. (2014). "Structuring payment to medical homes after the affordable care act." J Gen Intern Med **29**(10): 1410-1413.

The Patient-Centered Medical Home (PCMH) is a leading model of primary care reform, a critical element of which is payment reform for primary care services. With the passage of the Affordable Care Act, the Accountable Care Organization (ACO) has emerged as a model of delivery system reform, and while there is theoretical alignment between the PCMH and ACOs, the discussion of physician payment within each model has remained distinct. Here we compare payment for medical homes with that for accountable care organizations, consider opportunities for integration, and discuss implications for policy makers and payers considering ACO models. The PCMH and ACO are complementary approaches to reformed care delivery: the PCMH ultimately requires strong integration with specialists and hospitals as seen under ACOs, and ACOs likely will require a high functioning primary care system as embodied by the PCMH. Aligning payment incentives within the ACO will be critical to achieving this integration and enhancing the care coordination role of primary care in these settings.

Ho, S. et Sandy, L. G. (2014). "Getting value from health spending: going beyond payment reform." J Gen Intern Med **29**(5): 796-797.
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4000343/pdf/11606_2013_Article_2687.pdf

It is widely held that fee-for-service (FFS) payment systems reward volume and intensity of services, contributing to overall cost inflation, while doing little to reward quality, efficiency, or care coordination. Recently, The National Commission on Physician Payment Reform (sponsored by SGIM) has recommended that payers "should largely eliminate stand-alone fee-for-service payment to medical practices because of its inherent inefficiencies and problematic financial incentives." As the current and former Chief Medical Officers of a large national insurer, we agree that payment reform is a critical component of health care modernization. But calls to transform payment simultaneously go too far, and don't go far enough. Based on our experience, we believe there are several critical ingredients that are either missing or under-emphasized in most payment reform proposals, including: health care is local so no one size fits all; upgrading performance measures; monitoring/overcoming unintended consequences; using a full toolbox to achieve transformation; and ensuring that the necessary components for successful delivery reform are in place. Thinking holistically and remembering that healthcare is a complex adaptive system are crucial to achieving better results for patients and the health system.

Langdown, C. et Peckham, S. (2014). "The use of financial incentives to help improve health outcomes: is the quality and outcomes framework fit for purpose? A systematic review." J Public Health (Oxf) **36**(2): 251-258.

BACKGROUND: The quality and outcomes framework (QOF) is one of the world's largest pay-for-performance schemes, rewarding general practitioners for the quality of care they provide. This review examines the evidence on the efficacy of the scheme for improving health outcomes, its impact on non-incentivized activities and the robustness of the clinical targets adopted in the scheme. METHODS: The review was conducted using six electronic databases, six sources of grey literature and bibliography searches from relevant publications. Studies were identified using a comprehensive search strategy based on MeSH terms and keyword searches. A total of 21,543 references were identified of which 32 met the eligibility criteria with 11 studies selected for the review. RESULTS: Findings provide strong evidence that the QOF initially improved health outcomes for a limited number of conditions but subsequently fell to the pre-existing trend. There was limited impact on non-incentivized activities with adverse effects for some sub-population groups. CONCLUSION: The QOF has limited impact on improving health outcomes due to its focus on process-based indicators and the indicators' ceiling thresholds. Further research is required to strengthen the quality of evidence available on the QOF's impact on population health to ensure that the incentive scheme is both clinically and cost-effective.

Peckham, S. et Gousia, K. (2014). GP payment schemes review. Londres : Policy Research Unit Commissioning and the Health Care system.
https://www.kent.ac.uk/chss/docs/GP-payment-schemes-review-Final.pdf

We conducted a review of the literature on primary care physician (Eg family doctor, general practitioner or other generalist working in a community setting) payment, methods and their impacts on physician behaviour. A comprehensive search of databases identified a large number of studies, of which thirty six were included in the final review. Although we were interested in looking at a wide range of outcomes, the majority of the evidence related to activity volume, referrals, supplier-induced demand, patient pre selection and prevention. Our review therefore focused on the evidence around the effects of the three main remuneration methods (fee-for-service (FFS), capitation and salary) on these outcomes. We also considered mixed systems of the main methods. The studies included in the review spanned qualitative, quantitative, mixed method research and RCTs.

Song, Z., et al. (2014). "Changes in health care spending and quality 4 years into global payment." N Engl J Med **371**(18): 1704-1714.

BACKGROUND: Spending and quality under global budgets remain unknown beyond 2 years. We evaluated spending and quality measures during the first 4 years of the Blue Cross Blue Shield of Massachusetts Alternative Quality Contract (AQC). METHODS: We compared spending and quality among enrollees whose physician organizations entered the AQC from 2009 through 2012 with those among persons in control states. We studied spending changes according to year, category of service, site of care, experience managing risk contracts, and price versus utilization. We evaluated process and outcome quality. RESULTS: In the 2009 AQC cohort, medical spending on claims grew an average of $62.21 per enrollee per quarter less than it did in the control cohort over the 4-year period (P<0.001). This amount is equivalent to a 6.8% savings when calculated as a proportion of the average post-AQC spending level in the 2009 AQC cohort. Analogously, the 2010, 2011, and 2012 cohorts had average savings of 8.8% (P<0.001), 9.1% (P<0.001), and 5.8% (P=0.04), respectively, by the end of 2012. Claims savings were concentrated in the outpatient-facility setting and in procedures, imaging, and tests, explained by both reduced prices and reduced utilization. Claims savings were exceeded by incentive payments to providers during the period from 2009 through 2011 but exceeded incentive payments in 2012, generating net savings.

Improvements in quality among AQC cohorts generally exceeded those seen elsewhere in New England and nationally. CONCLUSIONS: As compared with similar populations in other states, Massachusetts AQC enrollees had lower spending growth and generally greater quality improvements after 4 years. Although other factors in Massachusetts may have contributed, particularly in the later part of the study period, global budget contracts with quality incentives may encourage changes in practice patterns that help reduce spending and improve quality.

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.

Wieland, D., et al. (2013). "Does Medicaid pay more to a program of all-inclusive care for the elderly (PACE) than for fee-for-service long-term care?" J Gerontol A Biol Sci Med Sci **68**(1): 47-55.

BACKGROUND: In rebalancing from nursing homes (NHs), states are increasing access of NH-certified dually eligible (Medicare/Medicaid) patients to community waiver programs and Programs of All-Inclusive Care for the Elderly (PACE). Prior evaluations suggest Medicaid's PACE capitation exceeds its spending for comparable admissions in alternative care, although the latter may be underestimated. We test whether Medicaid payments to PACE are lower than predicted fee-for-service outlays in a long-term care admission cohort. METHODS: Using grade-of-membership methods, we model health deficits for dual eligibles aged 55 or more entering waiver, PACE, and NH in South Carolina (n = 3,988). Clinical types, membership vectors, and program type prevalences are estimated. We calculate a blend, fitting PACE between fee-for-service cohorts, whose postadmission 1-year utilization was converted to attrition-adjusted outlays. PACE's capitation is compared with blend-based expenditure predictions. RESULTS: Four clinical types describe population health deficits/service needs. The waiver cohort is most represented in the least impaired type (1: 47.1%), NH entrants in the most disabled (4: 38.5%). Most prevalent in PACE was a dementia type, 3 (32.7%). PACE's blend was waiver: 0.5602 (95% CI: 0.5472, 0.5732) and NH: 0.4398 (0.4268, 0.4528). Average Medicaid attrition-adjusted 1-year payments for waiver and NH were $4,177 and $77,945. The mean predicted cost for PACE patients in alternative long-term care was $36,620 ($35,662 and $37,580). PACE's Medicaid capitation was $27,648-28% below the lower limit of predicted fee-for-service payments. CONCLUSIONS: PACE's capitation was well under outlays for equivalent patients in alternative care-a substantial savings for Medicaid. Our methods provide a rate-setting element for PACE and other managed long-term care.

Abelsen, B. et Olsen, J. A. (2012). "Does an activity based remuneration system attract young doctors to general practice?" BMC Health Serv Res **12**: 68.

BACKGROUND: The use of increasingly complex payment schemes in primary care may represent a barrier to recruiting general practitioners (GP). The existing Norwegian remuneration system is fully activity based - 2/3 fee-for-service and 1/3 capitation. Given that the system has been designed and revised in close collaborations with the medical

association, it is likely to correspond - at least to some degree - with the preferences of current GPs (men in majority). The objective of this paper was to study which preferences that young doctors (women in majority), who are the potential entrants to general practice have for activity based vs. salary based payment systems. METHODS: In November-December 2010 all last year medical students and all interns in Norway (n = 1.562) were invited to participate in an online survey. The respondents were asked their opinion on systems of remuneration for GPs; inclination to work as a GP; risk attitude; income preferences; work pace tolerance. The data was analysed using one-way ANOVA and multinomial logistic regression analysis. RESULTS: A total of 831 (53%) responded. Nearly half the sample (47%) did not consider the remuneration system to be important for their inclination to work as GP; 36% considered the current system to make general practice more attractive, while 17% considered it to make general practice less attractive. Those who are attracted by the existing system were men and those who think high income is important, while those who are deterred by the system are risk averse and less happy with a high work pace. On the question of preferred remuneration system, half the sample preferred a mix of salary and activity based remuneration (the median respondent would prefer a 50/50 mix). Only 20% preferred a fully activity based system like the existing one. A salary system was preferred by women, and those less concerned with high income, while a fully activity based system was preferred by men, and those happy with a high work pace. CONCLUSIONS: Given a concern about low recruitment to general practice in Norway, and the fact that an increasing share of medical students is women, we were interested in the extent to which the current Norwegian remuneration system correspond with the preferences of potential GPs. This study suggests that an existing remuneration mechanism has a selection effect on who would like to become a GP. Those most attracted are income motivated men. Those deterred are risk averse, and less happy with a high work pace. More research is needed on the extent to which experienced GPs differ along the questions we asked potential GPs, as well as studying the relative importance of other attributes than payment schemes.

Allard, M., et al. (2011). "Treatment and referral decisions under different physician payment mechanisms." J Health Econ **30**(5): 880-893.

This paper analyzes and compares the incentive properties of some common payment mechanisms for GPs, namely fee for service (FFS), capitation and fundholding. It focuses on gatekeeping GPs and it specifically recognizes GPs heterogeneity in both ability and altruism. It also allows inappropriate care by GPs to lead to more serious illnesses. The results are as follows. Capitation is the payment mechanism that induces the most referrals to expensive specialty care. Fundholding may induce almost as much referrals as capitation when the expected costs of GPs care are high relative to those of specialty care. Although driven by financial incentives of different nature, the strategic behaviors associated with fundholding and FFS are very much alike. Finally, whether a regulator should use one or another payment mechanism for GPs will depend on (i) his priorities (either cost-containment or quality enhancement) which, in turn, depend on the expected cost difference between GPs care and specialty care, and (ii) the distribution of profiles (diagnostic ability and altruism levels) among GPs.

Dahrouge, S., et al. (2012). "Impact of remuneration and organizational factors on completing preventive manoeuvres in primary care practices." Cmaj **184**(2): E135-143.

BACKGROUND: Several jurisdictions attempting to reform primary care have focused on changes in physician remuneration. The goals of this study were to compare the delivery of preventive services by practices in four primary care funding models and to identify

organizational factors associated with superior preventive care. METHODS: In a cross-sectional study, we included 137 primary care practices in the province of Ontario (35 fee-for-service practices, 35 with salaried physicians [community health centres], 35 practices in the new capitation model [family health networks] and 32 practices in the established capitation model [health services organizations]). We surveyed 288 family physicians. We reviewed 4108 randomly selected patient charts and assigned prevention scores based on the proportion of eligible preventive manoeuvres delivered for each patient. RESULTS: A total of 3284 patients were eligible for at least one of six preventive manoeuvres. After adjusting for patient profile and contextual factors, we found that, compared with prevention scores in practices in the new capitation model, scores were significantly lower in fee-for-service practices (beta estimate for effect on prevention score = -6.3, 95% confidence interval [CI] -11.9 to -0.6) and practices in the established capitation model (beta = -9.1, 95% CI -14.9 to -3.3) but not for those with salaried remuneration (beta = -0.8, 95% CI -6.5 to 4.8). After accounting for physician characteristics and organizational structure, the type of funding model was no longer a statistically significant factor. Compared with reference practices, those with at least one female family physician (beta = 8.0, 95% CI 4.2 to 11.8), a panel size of fewer than 1600 patients per full-time equivalent family physician (beta = 6.8, 95% CI 3.1 to 10.6) and an electronic reminder system (beta = 4.6, 95% CI 0.4 to 8.7) had superior prevention scores. The effect of these three factors was largely but not always consistent across the funding models; it was largely consistent across the preventive manoeuvres. INTERPRETATION: No funding model was clearly associated with superior preventive care. Factors related to physician characteristics and practice structure were stronger predictors of performance. Practices with one or more female physicians, a smaller patient load and an electronic reminder system had superior prevention scores. Our findings raise questions about reform initiatives aimed at increasing patient numbers, but they support the adoption of information technology.

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.

Ginsburg, P. B. (2012). "Fee-for-service will remain a feature of major payment reforms, requiring more changes in medicare physician payment." Health Aff.(Millwood.) **31**(9): 1977-1983. PM:22949446

Many health policy analysts envision provider payment reforms currently under development as replacements for the traditional fee-for-service payment system. Reforms include per episode bundled payment and elements of capitation, such as global payments or accountable care organizations. But even if these approaches succeed and are widely adopted, the core method of payment to many physicians for the services they provide is likely to remain fee-for-service. It is therefore critical to address the current shortcomings in the Medicare physician fee schedule, because it will affect physician incentives and will continue to play an important role in determining the payment amounts under payment reform. This article reviews how the current payment system developed and is applied, and it highlights areas that require careful review and modification to ensure the success of broader payment reform

Halvorsen, P. A., et al. (2012). "Remuneration and organization in general practice: do GPs prefer private practice or salaried positions?" Scand J Prim Health Care **30**(4): 229-233.

OBJECTIVE: In Norway the default payment option for general practice is a patient list system based on private practice, but other options exist. This study aimed to explore whether general practitioners (GPs) prefer private practice or salaried positions. DESIGN: Cross-sectional online survey (QuestBack). SETTING: General practice in Norway. INTERVENTION: Participants were asked whether their current practice was based on (1) private practice in which the GP holds office space, equipment, and employs the staff, (2) private practice in which the GPs hire office space, equipment, or staff from the municipality, (3) salary with bonus arrangements, or (4) salary without bonus arrangement. Furthermore, they were asked which of these options they would prefer if they could choose. SUBJECTS: GPs in Norway (n = 3270). MAIN OUTCOME MEASURES: Proportion of GPs who preferred private practice. RESULTS: Responses were obtained from 1304 GPs (40%). Among these, 75% were currently in private practice, 18% in private practice with some services provided by the municipality, 4% had a fixed salary plus a proportion of service fees, whereas 3% had salary only. Corresponding figures for the preferred option were 52%, 26%, 16%, and 6%, respectively. In multivariate logistic regression analysis, size of municipality, specialty attainment, and number of patients listed were associated with preference for private practice. CONCLUSION: The majority of Norwegian GPs had and preferred private practice, but a significant minority would prefer a salaried position. The current private practice based system in Norway seems best suited to the preferences of experienced GPs in urban communities.

Kantarevic, J., et al. (2011). "Enhanced fee-for-service model and physician productivity: evidence from Family Health Groups in Ontario." J Health Econ **30**(1): 99-111.

We study an enhanced fee-for-service model for primary care physicians in the Family Health Groups (FHG) in Ontario, Canada. In contrast to the traditional fee-for-service (FFS) model, the FHG model includes targeted fee increases, extended hours, performance-based initiatives, and patient enrolment. Using a long panel of claims data, we find that the FHG model significantly increases physician productivity relative to the FFS model, as measured by the number of services, patient visits, and distinct patients seen. We also find that the FHG physicians have lower referral rates and treat slightly more complex patients than the comparable FFS physicians. These results suggest that the FHG model offers a promising alternative to the FFS model for increasing physician productivity.

Korda, H. et Eldridge, G. N. (2011). "Payment incentives and integrated care delivery: levers for health system reform and cost containment." Inquiry **48**(4): 277-287.

The Patient Protection and Affordable Care Act encourages use of payment methods and incentives to promote integrated care delivery models including patient-centered medical homes, accountable care organizations, and primary care and behavioral health integration. These models rely on interdisciplinary provider teams to coordinate patient care; health information and other technologies to assure, monitor, and assess quality, and payment and financial incentives such as bundling, pay-for-performance, and gain-sharing to encourage value-based health care. In this paper, we review evidence about integrated care delivery, payment methods, and financial incentives to improve value in health care purchasing, and address how these approaches can be used to advance health system change.

Polton, D., et al. (2011). Les modèles de rémunération : un regard international**:** 65p. https://veilleprosp.wordpress.com/2011/12/12/les-modes-incitatifs-de-remuneration-des-soins

Au cours de ce séminaire a été abordé : Panorama des modes de rémunération, regard international; Considérations théoriques sur la rémunération des acteurs de santé; paiement à la performance dans le monde; la convention médicale; L'expérimentation sur les maisons de santé (DSS).

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.

Scott, A., et al. (2011). "The effect of financial incentives on the quality of health care provided by primary care physicians (Review)." Cochrane Library (The) (9).

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. 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; and iii) the characteristics of PCPs who have responded to financial incentives

Willcox, S., et al. (2011). "Strengthening primary care: recent reforms and achievements in Australia, England, and the Netherlands." Issue Brief (Commonw Fund) **27**: 1-19.

Recent reforms in Australia, England, and the Netherlands have sought to enhance the quality and accessibility of primary care. Quality improvement strategies include postgraduate training programs for family physicians, accreditation of general practitioner (GP) practices, and efforts to modify professional behaviors-for example, through clinical guideline development. Strategies for improving access include national performance targets, greater use of practice nurses, assured after-hours care, and medical advice telephone lines. All three countries have established midlevel primary care organizations both to coordinate primary care health services and to serve other functions, such as purchasing and population health planning. Better coordination of primary health care services is also the objective driving the use of patient enrollment in a single general practice. Payment reform is also a key element of English and Australian reforms, with both countries having introduced payment-for-quality initiatives. Dutch payment reform has stressed financial incentives for better management of chronic disease.

Wranik, D. et Durier-Copp, M. (2011). "Framework for the design of physician remuneration methods in primary health care." Soc Work Public Health **26**(3): 231-259

> Economists have generated a large body of theoretical and empirical knowledge with respect to the design of physician remuneration methods (PRM). This knowledge is difficult to use for a policy maker, because of its technical nature and its fragmentation. The article brings together the scattered elements of theory and evidence into a structured framework that adds practical use value to economic theory, useful in the applied practice of policy development, design, implementation, and evaluation. The article argues that the optimal choice of PRM depends on the goals of the health care system, and on external contextual factors. Fee-for-service payments are best when the goals are quantity of care and risk acceptance. Capitation is best when the goals are collaboration between providers and delivery of preventive services and health promotion. Salaries are best when population density is low, and the goal is to recruit physicians to rural and remote areas. Blended payment models are recommended for the achievement of multiple goals. As a demonstration of use value, the framework is applied to the assessment of Canadian PRM.

Rhys, G., et al. (2010). "Primary care capitation payments in the UK. An observational study." BMC Health Serv Res **10**: 156.

> BACKGROUND: In 2004 an allocation formula for primary care services was introduced in England and Wales so practices would receive equitable pay. Modifications were made to this formula to enable local health authorities to pay practices. Similar pay formulae were introduced in Scotland and Northern Ireland, but these are unique to the country and therefore could not be included in this study. OBJECTIVE: To examine the extent to which the Global Sum, and modifications to the original formula, determine practice funding. METHODS: The allocation formula determines basic practice income, the Global Sum. We compared practice Global Sum entitlements using the original and the modified allocation formula calculations. Practices receive an income supplement if Global Sum payments were below historic income in 2004. We examined current overall funding levels to estimate what the effect will be when the income supplements are removed. RESULTS: Virtually every Welsh and English practice (97%) received income supplements in 2004. Without the modifications to the formula only 72% of Welsh practices would have needed supplements. No appreciable change would have occurred in England. The formula modifications increased the Global Sum for 99.5% of English practices, while it reduced entitlement for every Welsh practice. In 2008 Welsh practices received approximately pound 6.15 (9%) less funding per patient per year than an identical English practice. This deficit will increase to 11.2% when the Minimum Practice Income Guarantee is abolished. CONCLUSIONS: Identical practices in different UK countries do not receive equitable pay. The pay method disadvantages Wales where the population is older and has higher health needs.

Rinere O'Brien, S. (2010). "Trends in inpatient rehabilitation stroke outcomes before and after advent of the prospective payment system: a systematic review." J Neurol Phys Ther **34**(1): 17-23.

> BACKGROUND AND PURPOSE: The purpose of this systematic review was to examine quality care indicators for inpatient stroke rehabilitation, trends for length of stay (LOS), functional outcomes, and discharge destination. In order to examine the influence of the prospective payment system (PPS), which was instituted in 2002, particular attention was paid to the pre-PPS to post-PPS period. This is the first review of literature to examine the quality of stroke care provided in inpatient rehabilitation facilities in the United States. METHODS: A search of

Ovid Medline and Ovid Cumulative Index of Nursing and Allied Health databases was performed for articles published between 1990 and 2007. Search terms included treatment outcome, outcome assessment, activities of daily living, exercise, rehabilitation, cerebrovascular accident, LOS, and rehabilitation centers. RESULTS: Twelve articles met the criteria for review. A trend for shorter LOS was evident in the literature up until the time of implementation of PPS. An insufficient amount of literature was available to confirm whether this trend continued after the implantation of PPS. The most recent data indicated that average LOS in inpatient rehabilitation facilities for stroke was <20 days. Functional Independence Measure (FIM) discharge scores remained stable through the 1990s. After the implementation of PPS, discharge FIM scores may be decreasing, but revisions to the FIM tool may confound interpretation of post-PPS findings. Data for discharge to noninstitutional settings after stroke rehabilitation were inconclusive pre-PPS. There may be indications that discharges to institutional settings are increasing post-PPS. CONCLUSIONS: The impact of PPS on quality care indicators for inpatient stroke rehabilitation, trends for LOS, and trends for functional outcomes are insufficiently documented in the medical literature. Further research is needed to understand the influence of LOS on functional outcomes and discharge destination. More information is needed on post-PPS outcomes to substantiate the benefit of inpatient rehabilitation for individuals with stroke.

LE PAIEMENT A LA PERFORMANCE

Bras, P. L. (2020). "La rémunération des médecins à la performance : efficacité clinique ou efficacité symbolique ?" Seve : Les Tribunes De La Sante(**64**): 61-77.
https://www.cairn.info/revue-les-tribunes-de-la-sante-2020-2-page-61.htm

Les évaluations internationales des programmes de paiement à la performance en médecine ambulatoire notamment celles du plus ambitieux d'entre eux, le programme anglais, aboutissent à un bilan pour le moins mitigé qui suggère qu'il est vain d'en attendre de réels bénéfices cliniques pour les patients. La France a mis en œuvre un tel programme vers la fin des années 2000. Il n'a pas fait l'objet de réelles évaluations mais les limites même de son design (faiblesse du montant des incitations, spectre d'indicateur limité, absence d'indicateurs de résultats, limites structurelles aux efforts que pourraient consentir les généralistes concernés du fait d'un exercice isolé…) ne laissent pas espérer qu'il puisse générer des progrès significatifs en termes de qualité des soins. Pour autant, le paiement à la qualité jouit d'une grande vogue en France auprès des pouvoirs publics qui s'explique moins par son efficacité clinique que par le bénéfice symbolique apporté à certains acteurs par la promotion de cet instrument.

O'Connor, R., O'Driscoll, R., O'Doherty, J., et al. (2020). "The effect of 'paying for performance' on the management of type 2 diabetes mellitus: a cross-sectional observational study." BJGP Open **4**(2).

BACKGROUND: The 'cycle of care' (COC) pay for performance (PFP) programme, introduced in 2015, has resourced Irish GPs to provide structured care to PCRS eligible patients with type 2 diabetes mellitus (T2DM). AIM: To investigate the effect of COC on management processes. DESIGN &SETTING: Cross-sectional observational study undertaken with two points of comparison (2014 and 2017) in participating practices (Republic of Ireland general practices), with comparator data from the United Kingdom National Diabetes Audit (UKNDA) 2015-2016. METHOD: Invitations to participate were sent to practices using a discussion forum for Health One clinical software. Participating practices provided data on the processes of care in the

management of patients with T2DM. Data on PCRS eligible patients was extracted from the electronic medical record system of participating practices using secure customised software. Descriptive analysis, using IBM SPSS Statistics for Windows (version 25), was performed. RESULTS: Of 250 practices invited, 41 practices participated (16.4%), yielding data from 3146 patients. There were substantial improvements in the rates of recording of glycosylated haemoglobin ([HbA1c] 53.1%-98.3%), total cholesterol ([TC] 59.2%-98.8%), urinary albumin:creatinine ratio ([ACR] 9.9%-42.3%), blood pressure ([BP] 61.4%-98.2%), and body-mass index ([BMI] 39.8%-97.4%) from 2014 to 2017. For the first time, rates of retinopathy screening (76.3%), foot review (64.9%), and influenza immunisation (69.9%) were recorded. Comparison of 2017 data with UKNDA 2015-2016 was broadly similar. CONCLUSION: The COC demonstrated much improved rates of recording of clinical and biochemical parameters, and improved achievement of targets in TC and BP, but not HbA1c. Results demonstrate substantial improvements in the processes and quality of care in the management of patients with T2DM.

Berdahl, C. T., Easterlin, M. C., Ryan, G., et al. (2019). "Primary Care Physicians in the Merit-Based Incentive Payment System (MIPS): a Qualitative Investigation of Participants' Experiences, Self-Reported Practice Changes, and Suggestions for Program Administrators." J Gen Intern Med **34**(10): 2275-2281.

Mathes, T., Pieper, D., Morche, J., et al. (2019). "Pay for performance for hospitals." Cochrane Database Syst Rev **7**(7): Cd011156.

BACKGROUND: Pay-for-Performance (P4P) is a payment model that rewards health care providers for meeting pre-defined targets for quality indicators or efficacy parameters to increase the quality or efficacy of care. OBJECTIVES: Our objective was to assess the impact of P4P for in-hospital delivered health care on the quality of care, resource use and equity. Our objective was not only to answer the question whether P4P works in general (simple perspective) but to provide a comprehensive and detailed overview of P4P with a focus on analyzing the intervention components, the context factors and their interrelation (more complex perspective). SEARCH METHODS: We searched CENTRAL, MEDLINE, Embase, three other databases and two trial registers on 27 June 2018. In addition, we searched conference proceedings, gray literature and web pages of relevant health care institutions, contacted experts in the field, conducted cited reference searches and performed cross-checks of included references and systematic reviews on the same topic. SELECTION CRITERIA: We included randomized trials, cluster randomized trials, non-randomized clustered trials, controlled before-after studies, interrupted time series and repeated measures studies that analyzed hospitals, hospital units or groups of hospitals and that compared any kind of P4P to a basic payment scheme (e.g. capitation) without P4P. Studies had to analyze at least one of the following outcomes to be eligible: patient outcomes; quality of care; utilization, coverage or access; resource use, costs and cost shifting; healthcare provider outcomes; equity; adverse effects or harms. DATA COLLECTION AND ANALYSIS: Two review authors independently screened all citations for inclusion, extracted study data and assessed risk of bias for each included study. Study characteristics were extracted by one reviewer and verified by a second.We did not perform meta-analysis because the included studies were too heterogenous regarding hospital characteristics, the design of the P4P programs and study design. Instead we present a structured narrative synthesis considering the complexity as well as the context/setting of the intervention. We assessed the certainty of evidence using the GRADE approach and present the results narratively in 'Summary of findings' tables. MAIN RESULTS: We included 27 studies (20 CBA, 7 ITS) on six different P4P programs. Studies analyzed between 10 and 4267 centers. All P4P programs targeted acute or

emergency physical conditions and compared a capitation-based payment scheme without P4P to the same capitation-based payment scheme combined with a P4P add-on. Two P4P program used rewards or penalties; one used first rewards and than penalties; two used penalties only and one used rewards only. Four P4P programs were established and evaluated in the USA, one in England and one in France.Most studies showed no difference or a very small effect in favor of the P4P program. The impact of each P4P program was as follows.Premier Hospital Quality Incentive Demonstration Program: It is uncertain whether this program, which used rewards for some hospitals and penalties for others, has an impact on mortality, adverse clinical events, quality of care, equity or resource use as the certainty of the evidence was very low.Value-Based Purchasing Program: It is uncertain whether this program, which used rewards for some hospitals and penalties for others, has an impact on mortality, adverse clinical events or quality of care as the certainty of the evidence was very low. Equity and resource use outcomes were not reported in the studies, which evaluated this program.Non-payment for Hospital-Acquired Conditions Program: It is uncertain whether this penalty-based program has an impact on adverse clinical events as the certainty of the evidence was very low. Mortality, quality of care, equity and resource use outcomes were not reported in the studies, which evaluated this program.Hospital Readmissions Reduction Program: None of the studies that examined this penalty-based program reported mortality, adverse clinical events, quality of care (process quality score), equity or resource use outcomes.Advancing Quality Program: It is uncertain whether this reward-/penalty-based program has an impact on mortality as the certainty of the evidence was very low. Adverse clinical events, quality of care, equity and resource use outcomes were not reported in any study.Financial Incentive to Quality Improvement Program: It is uncertain whether this reward-based program has an impact on quality of care, as the certainty of the evidence was very low. Mortality, adverse clinical events, equity and resource use outcomes were not reported in any study.Subgroup analysis (analysis of modifying design and context factors)Analysis of P4P design factors provides some hints that non-payments compared to additional payments and payments for quality attainment (e.g. falling below specified mortality threshold) compared to quality improvement (e.g. reduction of mortality by specified percent points within one year) may have a stronger impact on performance. AUTHORS' CONCLUSIONS: It is uncertain whether P4P, compared to capitation-based payments without P4P for hospitals, has an impact on patient outcomes, quality of care, equity or resource use as the certainty of the evidence was very low (or we found no studies on the outcome) for all P4P programs. The effects on patient outcomes of P4P in hospitals were at most small, regardless of design factors and context/setting. It seems that with additional payments only small short-term but non-sustainable effects can be achieved. Non-payments seem to be slightly more effective than bonuses and payments for quality attainment seem to be slightly more effective than payments for quality improvement.

Vlaanderen, F. P., Tanke, M. A., Bloem, B. R., et al. (2019). "Design and effects of outcome-based payment models in healthcare: a systematic review." Eur J Health Econ 20(2): 217-232.

INTRODUCTION: Outcome-based payment models (OBPMs) might solve the shortcomings of fee-for-service or diagnostic-related group (DRG) models using financial incentives based on outcome indicators of the provided care. This review provides an analysis of the characteristics and effectiveness of OBPMs, to determine which models lead to favourable effects. METHODS: We first developed a definition for OBPMs. Next, we searched four data sources to identify the models: (1) scientific literature databases; (2) websites of relevant governmental and scientific agencies; (3) the reference lists of included articles; (4) experts in the field. We only selected studies that examined the impact of the payment model on quality and/or costs. A narrative evidence synthesis was used to link specific design features

to effects on quality of care or healthcare costs. RESULTS: We included 88 articles, describing 12 OBPMs. We identified two groups of models based on differences in design features: narrow OBPMs (financial incentives based on quality indicators) and broad OBPMs (combination of global budgets, risk sharing, and financial incentives based on quality indicators). Most (5 out of 9) of the narrow OBPMs showed positive effects on quality; the others had mixed (2) or negative (2) effects. The effects of narrow OBPMs on healthcare utilization or costs, however, were unfavourable (3) or unknown (6). All broad OBPMs (3) showed positive effects on quality of care, while reducing healthcare cost growth. DISCUSSION: Although strong empirical evidence on the effects of OBPMs on healthcare quality, utilization, and costs is limited, our findings suggest that broad OBPMs may be preferred over narrow OBPMs.

Ellegard, L. M., Dietrichson, J. et Anell, A. (2018). "Can pay-for-performance to primary care providers stimulate appropriate use of antibiotics?" Health Econ **27**(1):e39-e54.

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.

Lee, J. S. et Nathan, H. (2018). "Quality Measurement and Pay for Performance." Surg Oncol Clin N Am **27**(4): 621-632.

Recent debate has focused on which quality measures are appropriate for surgical oncology and how they should be implemented and incentivized. Current quality measures focus primarily on process measures (use of adjuvant therapy, pathology reporting) and patient-centered outcomes (health-related quality of life). Pay for performance programs impacting surgical oncology patients focus primarily on preventing postoperative complications, but are not specific to cancer surgery. Future pay for performance programs in surgical oncology will likely focus on incentivizing high-quality, low-cost cancer care by evaluating process measures, patient-centered measures, and costs of care specific to cancer surgery.

Ammi, M. et Fortier, G. (2017). "The influence of welfare systems on pay-for-performance programs for general practitioners: A critical review." Social Science & Medicine **178**: 157-166. http://www.sciencedirect.com/science/article/pii/S0277953617301089

While pay-for-performance (P4P) programs are increasingly common tools used to foster quality and efficiency in primary care, the evidence concerning their effectiveness is at best mixed. In this article, we explore the influence of welfare systems on four P4P-related dimensions: the level of healthcare funders' commitment to P4Ps (by funding and length of program operation), program design (specifically target-based vs. participation-based program), physicians' acceptance of the program and program effects. Using Esping-Andersen's typology, we examine P4P for general practitioners (GPs) in thirteen European

and North American countries and find that welfare systems contribute to explain variations in P4P experiences. Overall, liberal systems exhibited the most enthusiastic adoption of P4P, with significant physician acceptance, generous incentives and positive but modest program effects. Social democratic countries showed minimal interest in P4P for GPs, with the exception of Sweden. Although corporatist systems adopted performance pay, these countries experienced mixed results, with strong physician opposition. In response to this opposition, health care funders tended to favour participation-based over target-based P4P. We demonstrate how the interaction of decommodification and social stratification in each welfare regime influences these countries' experiences with P4P for GPs, directly for funders' commitment, program design and physicians' acceptance, and indirectly for program effects, hence providing a framework for analyzing P4P in other contexts or care settings.

Gergen, J., et al. (2017). "Quality of Care in Performance-Based Financing: How It Is Incorporated in 32 Programs Across 28 Countries." Glob Health Sci Pract **5**(1): 90-107.

OBJECTIVE: To describe how quality of care is incorporated into performance-based financing (PBF) programs, what quality indicators are being used, and how these indicators are measured and verified. METHODS: An exploratory scoping methodology was used to characterize the full range of quality components in 32 PBF programs, initiated between 2008 and 2015 in 28 low- and middle-income countries, totaling 68 quality tools and 8,490 quality indicators. The programs were identified through a review of the peer-reviewed and gray literature as well as through expert consultation with key donor representatives. FINDINGS: Most of the PBF programs were implemented in sub-Saharan Africa and most were funded primarily by the World Bank. On average, PBF quality tools contained 125 indicators predominately assessing maternal, newborn, and child health and facility management and infrastructure. Indicators were primarily measured via checklists (78%, or 6,656 of 8,490 indicators), which largely (over 90%) measured structural aspects of quality, such as equipment, beds, and infrastructure. Of the most common indicators across checklists, 74% measured structural aspects and 24% measured processes of clinical care. The quality portion of the payment formulas were in the form of bonuses (59%), penalties (27%), or both (hybrid) (14%). The median percentage (of a performance payment) allocated to health facilities was 60%, ranging from 10% to 100%, while the median percentage allocated to health care providers was 55%, ranging from 20% to 80%. Nearly all of the programs included in the analysis (91%, n=29) verified quality scores quarterly (every 3 months), typically by regional government teams. CONCLUSION: PBF is a potentially appealing instrument to address shortfalls in quality of care by linking verified performance measurement with strategic incentives and could ultimately help meet policy priorities at the country and global levels, including the ambitious Sustainable Development Goals. The substantial variation and complexity in how PBF programs incorporate quality of care considerations suggests a need to further examine whether differences in design are associated with differential program impacts.

Herbst, T. et Emmert, M. (2017). "Characterization and effectiveness of pay-for-performance in ophthalmology: a systematic review." BMC Health Serv Res **17**(1): 385.

BACKGROUND: To identify, characterize and compare existing pay-for-performance approaches and their impact on the quality of care and efficiency in ophthalmology. METHODS: A systematic evidence-based review was conducted. English, French and German written literature published between 2000 and 2015 were searched in the following databases: Medline (via PubMed), NCBI web site, Scopus, Web of Knowledge, Econlit and the Cochrane Library. Empirical as well as descriptive articles were included. Controlled clinical

trials, meta-analyses, randomized controlled studies as well as observational studies were included as empirical articles. Systematic characterization of identified pay-for-performance approaches (P4P approaches) was conducted according to the "Model for Implementing and Monitoring Incentives for Quality" (MIMIQ). Methodological quality of empirical articles was assessed according to the Critical Appraisal Skills Programme (CASP) checklists. RESULTS: Overall, 13 relevant articles were included. Eleven articles were descriptive and two articles included empirical analyses. Based on these articles, four different pay-for-performance approaches implemented in the United States were identified. With regard to quality and incentive elements, systematic comparison showed numerous differences between P4P approaches. Empirical studies showed isolated cost or quality effects, while a simultaneous examination of these effects was missing. CONCLUSION: Research results show that experiences with pay-for-performance approaches in ophthalmology are limited. Identified approaches differ with regard to quality and incentive elements restricting comparability. Two empirical studies are insufficient to draw strong conclusions about the effectiveness and efficiency of these approaches.

Mendelson, A., et al. (2017). "The Effects of Pay-for-Performance Programs on Health, Health Care Use, and Processes of Care: A Systematic Review." Ann Intern Med **166**(5): 341-353.

Background: The benefits of pay-for-performance (P4P) programs are uncertain. Purpose: To update and expand a prior review examining the effects of P4P programs targeted at the physician, group, managerial, or institutional level on process-of-care and patient outcomes in ambulatory and inpatient settings. Data Sources: PubMed from June 2007 to October 2016; MEDLINE, PsycINFO, CINAHL, Business Economics and Theory, Business Source Elite, Scopus, Faculty of 1000, and Gartner Research from June 2007 to February 2016. Study Selection: Trials and observational studies in ambulatory and inpatient settings reporting process-of-care, health, or utilization outcomes. Data Extraction: Two investigators extracted data, assessed study quality, and graded the strength of the evidence. Data Synthesis: Among 69 studies, 58 were in ambulatory settings, 52 reported process-of-care outcomes, and 38 reported patient outcomes. Low-strength evidence suggested that P4P programs in ambulatory settings may improve process-of-care outcomes over the short term (2 to 3 years), whereas data on longer-term effects were limited. Many of the positive studies were conducted in the United Kingdom, where incentives were larger than in the United States. The largest improvements were seen in areas where baseline performance was poor. There was no consistent effect of P4P on intermediate health outcomes (low-strength evidence) and insufficient evidence to characterize any effect on patient health outcomes. In the hospital setting, there was low-strength evidence that P4P had little or no effect on patient health outcomes and a positive effect on reducing hospital readmissions. Limitation: Few methodologically rigorous studies; heterogeneous population and program characteristics and incentive targets. Conclusion: Pay-for-performance programs may be associated with improved processes of care in ambulatory settings, but consistently positive associations with improved health outcomes have not been demonstrated in any setting. Primary Funding Source: U.S. Department of Veterans Affairs.

Stewart, R. E., et al. (2017). "Can We Pay for Performance in Behavioral Health Care?" Psychiatr Serv **68**(2): 109-111.

Pay for performance (P4P) has become a popular strategy to reward quality and cost-efficiency in behavioral health care and other health care disciplines. This column presents the results of a literature review of P4P in behavioral health care. Fifteen empirical studies evaluating the outcomes of behavioral health services provided in a P4P system were

identified. The limited data suggest that P4P can achieve its desired effect. More research is needed on outcomes, performance, and unintended consequences.

Suthar, A. B., et al. (2017). "Performance-based financing for improving HIV/AIDS service delivery: a systematic review." BMC Health Serv Res **17**(1): 6.

BACKGROUND: Although domestic HIV/AIDS financing is increasing, international HIV/AIDS financing has plateaued. Providing incentives for the health system (i.e. performance-based financing [PBF]) may help countries achieve more with available resources. We systematically reviewed effects of PBF on HIV/AIDS service delivery to inform WHO guidelines. METHODS: PubMed, WHO Index Medicus, conference databases, and clinical trial registries were searched in April 2015 for randomised trials, comparative contemporaneous studies, or time-series studies. Studies evaluating PBF in people with HIV were included when they reported service quality, access, or cost. Meta-analyses were not possible due to limited data. This study is registered with PROSPERO, number CRD42015023207. RESULTS: Four studies, published from 2009 to 2015 and including 173,262 people, met the eligibility criteria. All studies were from Sub-Saharan Africa. PBF did not improve individual testing coverage (relative risk [RR], 1.00, 95% confidence interval [CI] 0.89 to 1.13), improved couples testing coverage (RR 1.11, 95% CI 1.02 to 1.20), and improved pregnant women testing coverage (RR 1.29, 95% CI 1.28-1.30). PBF improved coverage of antiretrovirals in pregnant women (RR 1.55, 95% CI 1.50 to 1.59), infants (RR 1.92, 95% CI 1.84 to 2.01), and adults (RR 1.74, 1.64 to 1.85). PBF reduced attrition (RR 0.84, 95% CI 0.74 to 0.96) and treatment failure (odds ratio 0.55, 95% CI 0.32 to 0.97). Potential harms were not reported. CONCLUSIONS: Although the limited data suggests PBF positively affected HIV service access and quality, critical health system and governance knowledge gaps remain. More research is needed to inform national policymaking.

VanArsdale, L., et al. (2017). "For Diabetes Shared Savings Programs, 1 Year of Data Is Not Enough." Popul Health Manag **20**(2): 103-113.

Fee-for-service payment models are moving toward pay-for-performance designs, many of which rely on shared savings for financial sustainability. Shared savings programs divide the cost savings between health care purchaser and provider based on provider performance. Often, these programs measure provider performance as the delivery of agreed-upon clinical practice guidelines that usually are represented as evidence-based medicine (EBM). Multiyear studies show a negative relationship between total cost and EBM, indicating that long-term shared savings can be substantial. This study explores expectations for the rewards in the first year of a shared savings program. It also indicates the effectiveness of using 1 year of claims to assess cost savings from evidence-based care, especially in a patient population with high turnover. This study analyzed 1956 adults with diabetes insured through Medicaid. Results of linear regression showed that the relationship between total cost of care and each element of evidence-based medical care during a 1-year period was positive (higher cost) or insignificant. The results indicate that diabetes EBM programs cannot expect to see significant cost savings if the evaluation lasts only 1 year or less. The study concludes that improvements in EBM incentive programs could come from investigating the length of time needed to realize cost savings from each element of diabetes EBM. Investigating other factors that could affect the expected amount of cost savings also would benefit these programs, especially factors derived from sources external to insurance program information such as the medical record and care management data.

Vlaanderen, F. P., Tanke, M. A., Bloem, B. R., et al. (2019). "Design and effects of outcome-based payment models in healthcare: a systematic review." Eur J Health Econ **20**(2): 217-232.

INTRODUCTION: Outcome-based payment models (OBPMs) might solve the shortcomings of fee-for-service or diagnostic-related group (DRG) models using financial incentives based on outcome indicators of the provided care. This review provides an analysis of the characteristics and effectiveness of OBPMs, to determine which models lead to favourable effects. METHODS: We first developed a definition for OBPMs. Next, we searched four data sources to identify the models: (1) scientific literature databases; (2) websites of relevant governmental and scientific agencies; (3) the reference lists of included articles; (4) experts in the field. We only selected studies that examined the impact of the payment model on quality and/or costs. A narrative evidence synthesis was used to link specific design features to effects on quality of care or healthcare costs. RESULTS: We included 88 articles, describing 12 OBPMs. We identified two groups of models based on differences in design features: narrow OBPMs (financial incentives based on quality indicators) and broad OBPMs (combination of global budgets, risk sharing, and financial incentives based on quality indicators). Most (5 out of 9) of the narrow OBPMs showed positive effects on quality; the others had mixed (2) or negative (2) effects. The effects of narrow OBPMs on healthcare utilization or costs, however, were unfavourable (3) or unknown (6). All broad OBPMs (3) showed positive effects on quality of care, while reducing healthcare cost growth. DISCUSSION: Although strong empirical evidence on the effects of OBPMs on healthcare quality, utilization, and costs is limited, our findings suggest that broad OBPMs may be preferred over narrow OBPMs.

Weiner, D. et Watnick, S. (2017). "The ESRD Quality Incentive Program-Can We Bridge the Chasm?" J Am Soc Nephrol **28**(6): 1697-1706.

The ESRD Quality Incentive Program (QIP) is the first mandatory federal pay for performance program launched on January 1, 2012. The QIP is tied to the ESRD prospective payment system and mandated by the Medicare Improvements for Patients and Providers Act of 2008, which directed the Centers for Medicare and Medicaid Services to expand the payment bundle for renal dialysis services and legislated that payment be tied to quality measures. The QIP links 2% of the payment that a dialysis facility receives for Medicare patients on dialysis to the facility's performance on quality of care measures. Quality measures are evaluated annually for inclusion on the basis of importance, validity, and performance gap. Other quality assessment programs overlap with the QIP; all have substantial effects on provision of care as clinicians, patients, regulators, and dialysis organizations scramble to keep up with the frequent release of wide-ranging regulations. In this review, we provide an overview of quality assessment and quality measures, focusing on the ESRD QIP, its effect on care, and its potential future directions. We conclude that a patient-centered, individualized, and parsimonious approach to quality assessment needs to be maintained to allow the nephrology community to further bridge the quality chasm in dialysis care.

Austin, J. M. et Pronovost, P. J. (2016). "Improving performance on core processes of care." Curr Opin Allergy Clin Immunol **16**(3): 224-230.

PURPOSE OF REVIEW: This article describes the recent literature on using extrinsic and intrinsic motivators to improve performance on core processes of care, highlighting literature that describes general frameworks for quality improvement work. RECENT FINDINGS: The literature supporting the effectiveness of extrinsic motivators to improve quality is generally positive for public reporting of performance, with mixed results for pay-for-performance. A

four-element quality improvement framework developed by The Armstrong Institute at Johns Hopkins Medicine was developed with intrinsic motivation in mind. The clear definition and communication of goals are important for quality improvement work. Training clinicians in improvement science, such as lean sigma, teamwork, or culture change provides clinicians with the skills they need to drive the improvement work. Peer learning communities offer the opportunity for clinicians to engage with each other and offer support in their work. The transparent reporting of performance helps ensure accountability of performance ranging from individual clinicians to governance. SUMMARY: Quality improvement work that is led by and engages clinicians offers the opportunity for the work to be both meaningful and sustainable. The literature supports approaching quality improvement work in a systematic way, including the key elements of communication, infrastructure building, training, transparency, and accountability.

Carter, R., et al. (2016). "The impact of primary care reform on health system performance in Canada: a systematic review." BMC Health Serv Res **16**: 324.

BACKGROUND: We aimed to synthesize the evidence of a causal effect and draw inferences about whether Canadian primary care reforms improved health system performance based on measures of health service utilization, processes of care, and physician productivity. METHODS: We searched the Embase, PubMed and Web of Science databases for records from 2000 to September 2015. We based our risk of bias assessment on the Grading of Recommendations Assessment, Development and Evaluation guidelines. Full-text studies were synthesized and organized according to the three outcome categories: health service utilization, processes of care, and physician costs and productivity. RESULTS: We found moderate quality evidence that team-based models of care led to reductions in emergency department use, but the evidence was mixed for hospital admissions. We also found low quality evidence that team-based models, blended capitation models and pay-for-performance incentives led to small and sometimes non-significant improvements in processes of care. Studies examining new payment models on physician costs and productivity were of high methodological quality and provided a coherent body of evidence assessing enhanced fee-for-service and blended capitation payment models. CONCLUSION: A small number of studies suggested that team-based models contributed to reductions in emergency department use in Quebec and Alberta. Regarding processes of diabetes care, studies found higher rates of testing for blood glucose levels, retinopathy and cholesterol in Alberta's team-based primary care model and in practices eligible for pay-for-performance incentives in Ontario. However pay-for-performance in Ontario was found to have null to moderate effects on other prevention and screening activities. Although blended capitation payment in Ontario contributed to decreases in the number of services delivered and patients seen per day, the number of enrolled patients and number of days worked in a year was similar to that of enhanced fee-for-service practices.

Chen, C. C. et Cheng, S. H. (2016). "Does pay-for-performance benefit patients with multiple chronic conditions? Evidence from a universal coverage health care system." Health Policy Plan **31**(1): 83-90.

INTRODUCTION: Numerous studies have examined the impact of pay-for-performance (P4P) programmes, yet little is known regarding their effects on continuity of care (COC) and the role of multiple chronic conditions (MCCs). This study aimed to examine the effects of a P4P programme for diabetes care on health care provision, COC and health care outcomes in diabetic patients with and without comorbid hypertension. METHODS: This study utilized a large-scale natural experiment with a 4-year follow-up period under a compulsory universal health insurance programme in Taiwan. The intervention groups consisted of patients with

diabetes who were enrolled in the P4P programme in 2005. The comparison groups were selected via propensity score matching with patients who were seen by the same group of physicians. A difference-in-differences analysis was conducted using generalized estimating equation models to examine the effects of the P4P programme. RESULTS: Significant impacts were observed after the implementation of the P4P programme for diabetic patients with and without hypertension. The programme increased the number of necessary examinations/tests and improved the COC between patients and their physicians. The programme significantly reduced the likelihood of diabetes-related hospital admissions and emergency department visits [odds ratio (OR): 0.71; 95% confidence interval (CI): 0.63-0.80 for diabetic patients with hypertension; OR: 0.74; 95% CI: 0.64-0.86 for patients without hypertension]. However, the effects of the P4P programme diminished to some extent in the second year after its implementation. CONCLUSION: This study suggests that a financial incentive programme may improve the provision of necessary health care, COC and health care outcomes for diabetic patients both with and without comorbid hypertension. Health authorities could develop policies to increase participation in P4P programmes and encourage continued improvement in health care outcomes.

Gleeson, S., et al. (2016). "Evaluating a Pay-for-Performance Program for Medicaid Children in an Accountable Care Organization." JAMA Pediatr **170**(3): 259-266.

IMPORTANCE: Pay for performance (P4P) is a mechanism by which purchasers of health care offer greater financial rewards to physicians for improving processes or outcomes of care. To our knowledge, P4P has not been studied within the context of a pediatric accountable care organization (ACO). OBJECTIVE: To determine whether P4P promotes pediatric performance improvement in primary care physicians. DESIGN, SETTING, AND PARTICIPANTS: This retrospective cohort study was conducted from January 1, 2010, to December 31, 2013. A differences-in-differences design was used to test whether P4P improved physician performance in an ACO serving Medicaid children. Data were obtained from 2966 physicians and 323,812 patients. Three groups of physicians were identified: (1) community physicians who received the P4P incentives, (2) nonincentivized community physicians, and (3) nonincentivized physicians employed at a hospital. INTERVENTION: Pay for performance. MAIN OUTCOMES AND MEASURES: Healthcare Effectiveness Data Information Set measure rates for preventive care, chronic care, and acute care primary care services. We examined 21 quality measures, 14 of which were subject to P4P incentives. RESULTS: There were 203 incentivized physicians, 2590 nonincentivized physicians, and 173 nonincentivized hospital physicians. Among them, the incentivized community physicians had greater improvements in performance than the nonincentivized community physicians on 2 of 2 well visits (largest difference was for adolescent well care: odds ratio, 1.05; 99.88% CI, 1.02-1.08), 3 of 10 immunization-incentivized measures (largest difference was for inactivated polio vaccine: odds ratio, 1.14; 99.88% CI, 1.07-1.21), and 2 nonincentivized measures (largest difference was for rotavirus: odds ratio, 1.11; 99.88% CI, 1.04-1.18). The employed physician group at the hospital had greater improvements in performance than the incentivized community physicians on 8 of 14 incentivized measures and 1 of 7 nonincentivized measures (largest difference was for hepatitis A vaccine: odds ratio, 0.34; 99.88% CI, 0.31-0.37). CONCLUSIONS AND RELEVANCE: Pay for performance resulted in modest changes in physician performance in a pediatric ACO, but other interventions at the disposal of the ACO may have been even more effective. Further research is required to find methods to enhance quality improvements across large distributed pediatric health systems.

Huang, Y. C., et al. (2016). "Disease-specific Pay-for-Performance Programs: Do the P4P Effects Differ Between Diabetic Patients With and Without Multiple Chronic Conditions?" Med Care **54**(11): 977-983.

BACKGROUND: Several studies have investigated the effects of pay-for-performance (P4P) initiatives. However, little is known about whether patients with multiple chronic conditions (MCC) would benefit from P4P initiatives similarly to patients without MCC. OBJECTIVES: The objective of this study was to compare the effects of the diabetes mellitus pay-for-performance (DM-P4P) program on the quality of diabetic care between type 2 diabetic patients with and without MCC. METHODS: This study used data from Taiwan's Longitudinal Health Insurance Database 2005. Of this cohort, 52,276 diabetic patients were identified. To address potential selection bias between the intervention and comparison groups, the propensity score matching method was used. Generalized estimating equations were applied to analyze the difference-in-difference model to examine the effect of the intervention, the DM-P4P program. RESULTS: The disease-specific DM-P4P program had positive impacts on process and outcome indicators of health care quality regardless of patients' MCC status. Diabetic patients with MCC experienced a significantly larger decrease in the admission rate of diabetes-related ambulatory care sensitive conditions after the P4P enrollment over time compared with patients without MCC. CONCLUSIONS: The positive impacts on use of diabetes-related services were comparable between diabetic patients with and without MCC. Most importantly, for MCC patients, the disease-specific DM-P4P program had a stronger positive impact on health outcomes. Hence, the commonly observed phenomenon of "cherry picking" in implementing P4P strategies may lead to disparities in the quality of diabetic care between diabetic patients with and without MCC.

Kondo, K. K., et al. (2016). "Implementation Processes and Pay for Performance in Healthcare: A Systematic Review." J Gen Intern Med **31 Suppl 1**: 61-69.

BACKGROUND: Over the last decade, various pay-for-performance (P4P) programs have been implemented to improve quality in health systems, including the VHA. P4P programs are complex, and their effects may vary by design, context, and other implementation processes. We conducted a systematic review and key informant (KI) interviews to better understand the implementation factors that modify the effectiveness of P4P. METHODS: We searched PubMed, PsycINFO, and CINAHL through April 2014, and reviewed reference lists. We included trials and observational studies of P4P implementation. Two investigators abstracted data and assessed study quality. We interviewed P4P researchers to gain further insight. RESULTS: Among 1363 titles and abstracts, we selected 509 for full-text review, and included 41 primary studies. Of these 41 studies, 33 examined P4P programs in ambulatory settings, 7 targeted hospitals, and 1 study applied to nursing homes. Related to implementation, 13 studies examined program design, 8 examined implementation processes, 6 the outer setting, 18 the inner setting, and 5 provider characteristics. Results suggest the importance of considering underlying payment models and using statistically stringent methods of composite measure development, and ensuring that high-quality care will be maintained after incentive removal. We found no conclusive evidence that provider or practice characteristics relate to P4P effectiveness. Interviews with 14 KIs supported limited evidence that effective P4P program measures should be aligned with organizational goals, that incentive structures should be carefully considered, and that factors such as a strong infrastructure and public reporting may have a large influence. DISCUSSION: There is limited evidence from which to draw firm conclusions related to P4P implementation. Findings from studies and KI interviews suggest that P4P programs should undergo regular evaluation and should target areas of poor performance. Additionally, measures and

incentives should align with organizational priorities, and programs should allow for changes over time in response to data and provider input.

Milstein, R. et Schreyoegg, J. (2016). "Pay for performance in the inpatient sector: A review of 34 P4P programs in 14 OECD countries." Health Policy **120**(10): 1125-1140.

Across the member countries of the Organisation for Economic Co-operation and Development (OECD), pay-for-performance (P4P) programs have been implemented in the inpatient sector to improve the quality of care provided by hospitals. This paper provides an overview of 34 existing P4P programs in the inpatient sector in 14 OECD countries based on a structured literature search in five databases to identify relevant sources in Danish, English, French, German, Hebrew, Italian, Japanese, Korean, Norwegian, Spanish, Swedish and Turkish. It assembles information on the design and effects of these P4P systems and discusses whether evaluations of such programs allow preliminary conclusions to be drawn about the effects of P4P. The programs are very heterogeneous in their aim, the selection of indicators and the design of financial rewards. The impact of P4P is unclear and it may be that the moderately positive effects seen for some programs can be attributed to side effects, such as public reporting and increased awareness of data recording. Policy makers must decide whether the potential benefits of introducing a P4P program outweigh the potential risks within their particular national or regional context, and should be aware that P4P programs have yet not lived up to expectations.

Ogundeji, Y. K., et al. (2016). "The effectiveness of payment for performance in health care: A meta-analysis and exploration of variation in outcomes." Health Policy **120**(10): 1141-1150.

BACKGROUND: Pay for performance (P4P) incentive schemes are increasingly used world-wide to improve health system performance but results of evaluations vary considerably. A systematic analysis of this variation in the effects of P4P schemes is needed. METHODS: Evaluations of P4P schemes from any country were identified by searching for and updating systematic reviews of P4P schemes in health care in four bibliographic databases. Outcomes using different measures of effect were converted into standardized effect sizes (standardized mean difference, SMD) and each study was categorized as to whether or not it found a positive effect. Subgroup analysis, meta-regression and multilevel logistic regression were used to investigate factors explaining heterogeneity. Random-effects models were used because they take into account heterogeneity likely to be due to differences between studies rather than just chance. Sensitivity analysis was used to test the effect of different assumptions. FINDINGS: 96 primary studies were identified; 37 were included in the meta-analysis and meta-regression and all 96 in the logistic regression. The proportion of observed variation in study results that can be explained by true heterogeneity (I(2)) was 99.9%. Estimates of effect of P4P schemes were lower in evaluations using randomized controlled trials (SMD=0.08; 95% CI: 0.01-0.15) compared to no controls (0.15; 95% CI: 0.09-0.21), and lower for those measuring outcomes (e.g., smoking cessation) (SMD=0.0; 95% CI: -0.01 to 0.01) compared to process measures (e.g., giving cessation advice) (0.18; 95% CI: 0.06-0.31). Adjusting for other design features and the evaluation method, the odds of showing a positive effect was three times higher for schemes with larger incentives (>5% of salary/usual budget) (OR=3.38; 95% CI: 1.07-10.64). There were non-statistically significant increases in the odds of success if the incentive is paid to individuals (as opposed to groups) (OR=2.0; 95% CI: 0.62-6.56) and if there is a lower perceived risk of not earning the incentive (OR=2.9; 95% CI: 0.78-10.83). Schemes evaluated using less rigorous designs were 24 times more likely to have positive estimates of effect than those using randomized controlled trials (OR=24; 95% CI: 6.3-92.8). INTERPRETATION: Estimates of the effectiveness of incentive schemes on

health outcomes are probably inflated due to poorly designed evaluations and a focus on process measures rather than health outcomes. Larger incentives and reducing the perceived risk of non-payment may increase the effect of these schemes on provider behavior.

Roland, M. (2016). "Does pay-for-performance in primary care save lives?" The Lancet **388**(10041): 217-218.
http://dx.doi.org/10.1016/S0140-6736(16)00550-X

Bellows, N. M., et al. (2015). "Review of performance-based incentives in community-based family planning programmes." J Fam Plann Reprod Health Care **41**(2): 146-151.

BACKGROUND: One strategy for improving family planning (FP) uptake at the community level is the use of performance-based incentives (PBIs), which offer community distributors financial incentives to recruit more users of FP. This article examines the use of PBIs in community-based FP programmes via a literature search of the peer-reviewed and grey literature conducted in April 2013. RESULTS: A total of 28 community-based FP programmes in 21 countries were identified as having used PBIs. The most common approach was a sales commission model where distributors received commission for FP products sold, while a referral payment model for long-term methods was also used extensively. Six evaluations were identified that specifically examined the impact of the PBI in community-based FP programmes. Overall, the results of the evaluations are mixed and more research is needed; however, the findings suggest that easy-to-understand PBIs can be successful in increasing the use of FP at the community level. CONCLUSION: For future use of PBIs in community-based FP programmes it is important to consider the ethics of incentivising FP and ensuring that PBIs are non-coercive and choice-enhancing.

Damberg, C. L., et al. (2015). "Pay-for-performance schemes that use patient and provider categories would reduce payment disparities." Health Aff (Millwood) **34**(1): 134-142.

Providers that care for disproportionate numbers of disadvantaged patients tend to perform less well than other providers on quality measures commonly used in pay-for-performance programs. This can lead to the undesired effect of redistributing resources away from providers that most need them to improve care. We present a new pay-for-performance scheme that retains the motivational aspects of standard incentive designs while avoiding undesired effects. We tested an alternative incentive payment approach that started with a standard incentive payment allocation but then "post-adjusted" provider payments using predefined patient or provider characteristics. We evaluated whether such an approach would mitigate the negative effects of redistributions of payments across provider organizations in California with disparate patient populations. The post-adjustment approach nearly doubled payments to disadvantaged provider organizations and greatly reduced payment differentials across provider organizations according to patients' income, race/ethnicity, and region. The post-adjustment of payments could be a useful supplement to paying for improvement, aligning the goals of disparity reduction and quality improvement.

Hsieh, H. M., et al. (2015). "Cost-effectiveness of diabetes pay-for-performance incentive designs." Med Care **53**(2): 106-115.

BACKGROUND: Taiwan's National Health Insurance (NHI) Program implemented a diabetes pay-for-performance program (P4P) based on process-of-care measures in 2001. In late 2006, that P4P program was revised to also include achievement of intermediate health

outcomes. OBJECTIVES: This study examined to what extent these 2 P4P incentive designs have been cost-effective and what the difference in effect may have been. RESEARCH DESIGN AND METHOD: Analyzing data using 3 population-based longitudinal databases (NHI's P4P dataset, NHI's claims database, and Taiwan's death registry), we compared costs and effectiveness between P4P and non-P4P diabetes patient groups in each phase. Propensity score matching was used to match comparable control groups for intervention groups. Outcomes included life-years, quality-adjusted life-years (QALYs), program intervention costs, cost-savings, and incremental cost-effectiveness ratios. RESULTS: QALYs for P4P patients and non-P4P patients were 2.08 and 1.99 in phase 1 and 2.08 and 2.02 in phase 2. The average incremental intervention costs per QALYs was TWD$335,546 in phase 1 and TWD$298,606 in phase 2. The average incremental all-cause medical costs saved by the P4P program per QALYs were TWD$602,167 in phase 1 and TWD$661,163 in phase 2. The findings indicated that both P4P programs were cost-effective and the resulting return on investment was 1.8:1 in phase 1 and 2.0:1 in phase 2. CONCLUSIONS: We conclude that the diabetes P4P program in both phases enabled the long-term cost-effective use of resources and cost-savings regardless of whether a bonus for intermediate outcome improvement was added to a process-based P4P incentive design.

Latham, L. P. et Marshall, E. G. (2015). "Performance-based financial incentives for diabetes care: an effective strategy?" Can J Diabetes **39**(1): 83-87.

The use of financial incentives provided to primary care physicians who achieve target management or clinical outcomes has been advocated to support the fulfillment of care recommendations for patients with diabetes. This article explores the characteristics of incentive models implemented in the context of universal healthcare systems in the United Kingdom, Australia, Taiwan and Canada; the extent to which these interventions have been successful in improving diabetes outcomes; and the key challenges and concerns around implementing incentive models. Research in the effect of incentives in the United Kingdom demonstrates some improvements in process outcomes and achievement of cholesterol, blood pressure and glycated hemoglobin (A1C) targets. Evidence of the efficacy of programs implemented outside of the United Kingdom is very limited but suggests that physicians participating in these enhanced billing incentive programs were already completing the guideline-recommended care prior to the introduction of the incentive. A shift to pay-for-performance programs may have important implications for professionalism and patient-centred care. In the absence of definitive evidence that financial incentives drive the quality of diabetes management at the level of primary care, policy makers should proceed with caution. It is important to look beyond simply modifying physicians' behaviours and address the factors and systemic barriers that make it challenging for patients and physicians to manage diabetes in partnership.

Natarajan, Y. et Kanwal, F. (2015). "Pay for Performance in Chronic Liver Disease." Clin Gastroenterol Hepatol **13**(12): 2042-2047.

With the advent of the Affordable Care Act, pay-for-performance programs have become widespread in the United States and are here to stay. The Centers for Medicare and Medicaid Services started its pay-for-performance program, the Physician Quality Reporting Initiative, in 2007, and made it a permanent system, the Physician Quality Reporting System, in 2011. Although it started off as a pay-for-performance initiative, in which physicians and other health care professionals were rewarded for satisfactorily reporting on selected quality measures, it now has evolved into a penalty-based program. The Physician Quality Reporting System includes measures that target hepatitis C virus infection. It is important for

gastroenterologists to be aware of these measures and the submission process to avoid penalties or other difficulties with reimbursement. This review describes the current measures in chronic liver disease, rates of submission, as well as the submission process and associated challenges.

Sherry, T. (2015). "A Note on the Comparative Statics of Pay-for-Performance in Health Care." Health Econ.

Pay-for-performance (P4P) is a widely implemented quality improvement strategy in health care that has generated much enthusiasm, but only limited empirical evidence to support its effectiveness. Researchers have speculated that flawed program designs or weak financial incentives may be to blame, but the reason for P4P's limited success may be more fundamental. When P4P rewards multiple services, it creates a special case of the well-known multitasking problem, where incentives to increase some rewarded activities are blunted by countervailing incentives to focus on other rewarded activities: these incentives may cancel each other out with little net effect on quality. This paper analyzes the comparative statics of a P4P model to show that when P4P rewards multiple services in a setting of multitasking and joint production, the change in both rewarded and unrewarded services is generally ambiguous. This result contrasts with the commonly held intuition that P4P should increase rewarded activities

Cashin, C. (2014). Paying for Performance in Health Care : implications for health system performance and accountability, Maidenhead : Open University Press // http://www.euro.who.int/en/publications/abstracts/paying-for-performance-in-health-care.-implications-for-health-system-performance-and-accountability

Health spending continues to outstrip the economic growth of most member countries of the Organisation for Economic Co-operation and Development (OECD). Pay for performance (P4P) has been identified as an innovative tool to improve the efficiency of health systems but evidence that it increases value for money, boosts quality or improves health outcomes is limited. Using a set of case studies from 12 OECD countries (including Estonia, France, Germany, Turkey and the United Kingdom), this book explores whether the potential power of P4P has been over-sold, or whether the disappointing results to date are more likely to be rooted in problems of design and implementation or inadequate monitoring and evaluation. Each case study analyses the design and implementation of decisions, including the role of stakeholders; critically assesses objectives versus results; and examines the "net" impacts, including positive spillover effects and unintended consequences. With experiences from both high and middle-income countries, in primary and acute care settings, and both national and pilot programmes, these studies provide health finance policy-makers in diverse settings with a nuanced assessment of P4P programmes and their potential impact on the performance of health systems (4e de couverture)

Himmelstein, D. U., et al. (2014). "Pay-for-performance: toxic to quality? Insights from behavioral economics." Int J Health Serv **44**(2): 203-214.

Pay-for-performance programs aim to upgrade health care quality by tailoring financial incentives for desirable behaviors. While Medicare and many private insurers are charging ahead with pay-for-performance, researchers have been unable to show that it benefits patients. Findings from the new field of behavioral economics challenge the traditional economic view that monetary reward either is the only motivator or is simply additive to intrinsic motivators such as purpose or altruism. Studies have shown that monetary rewards

can undermine motivation and worsen performance on cognitively complex and intrinsically rewarding work, suggesting that pay-for-performance may backfire.

Milstein, R. et Schreyoegg, J. (2016). "Pay for performance in the inpatient sector: A review of 34 P4P programs in 14 OECD countries." Health Policy **120**(10): 1125-1140.

Across the member countries of the Organisation for Economic Co-operation and Development (OECD), pay-for-performance (P4P) programs have been implemented in the inpatient sector to improve the quality of care provided by hospitals. This paper provides an overview of 34 existing P4P programs in the inpatient sector in 14 OECD countries based on a structured literature search in five databases to identify relevant sources in Danish, English, French, German, Hebrew, Italian, Japanese, Korean, Norwegian, Spanish, Swedish and Turkish. It assembles information on the design and effects of these P4P systems and discusses whether evaluations of such programs allow preliminary conclusions to be drawn about the effects of P4P. The programs are very heterogeneous in their aim, the selection of indicators and the design of financial rewards. The impact of P4P is unclear and it may be that the moderately positive effects seen for some programs can be attributed to side effects, such as public reporting and increased awareness of data recording. Policy makers must decide whether the potential benefits of introducing a P4P program outweigh the potential risks within their particular national or regional context, and should be aware that P4P programs have yet not lived up to expectations.

Roland, M. (2014). "Successes and failures of pay for performance in the United Kingdom." New England Journal of Medicine (The) // **370**(20).

Berenson, R. A. et Kaye, D. R. (2013). "Grading a physician's value--the misapplication of performance measurement." N Engl J Med **369**(22): 2079-2081.
http://www.nejm.org/doi/pdf/10.1056/NEJMp1312287

Brosig-Koch, J., et al. (2013). How Effective are Pay-for-Performance Incentives for Physicians? A Laboratory Experiment, Essen : Universit„t Duisbourg - Essen //
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2278863

Recent reforms in health care have introduced a variety of pay-for-performance programs using financial incentives for physicians to improve the quality of care. Their effectiveness is, however, ambiguous as it is often difficult to disentangle the effect of financial incentives from the ones of various other simultaneous changes in the system. In this study we investigate the effects of introducing financial pay-for-performance incentives with the help of controlled laboratory experiments. In particular, we use fee-for-service and capitation as baseline payment schemes and test how additional pay-for-performance incentives affect the medical treatment of different patient types. Our results reveal that, on average, patients significantly benefit from introducing pay-for performance, independently of whether it is combined with capitation or fee-for-service incentives. The magnitude of this effect is significantly influenced by the patient type, though. These results hold for medical and non-medical students. A cost-benefit analysis further demonstrates that, overall, the increase in patient benefits cannot overcompensate the additional costs associated with pay-for-performance. Moreover, our analysis of individual data reveals different types of responses to pay-for-performance incentives. We find some indication that pay-for performance might crowd out the intrinsic motivation to care for patients. These insights help to understand the effects caused by introducing pay-for-performance schemes

Eichler, R., et al. (2013). "Performance-based incentives to improve health status of mothers and newborns: what does the evidence show?" J Health Popul Nutr **31**(4 Suppl 2): 36-47.

> Performance-based incentives (PBIs) aim to counteract weak providers' performance in health systems of many developing countries by providing rewards that are directly linked to better health outcomes for mothers and their newborns. Translating funding into better health requires many actions by a large number of people. The actions span from community to the national level. While different forms of PBIs are being implemented in a number of countries to improve health outcomes, there has not been a systematic review of the evidence of their impact on the health of mothers and newborns. This paper analyzes and synthesizes the available evidence from published studies on the impact of supply-side PBIs on the quantity and quality of health services for mothers and newborns. This paper reviews evidence from published and grey literature that spans PBI for public-sector facilities, PBI in social insurance reforms, and PBI in NGO contracting. Some initiatives focus on safe deliveries, and others reward a broader package of results that include deliveries. The Evidence Review Team that focused on supply-side incentives for the US Government Evidence Summit on Enhancing Provision and Use of Maternal Health Services through Financial Incentives, reviewed published research reports and papers and added studies from additional grey literature that were deemed relevant. After collecting and reviewing 17 documents, nine studies were included in this review, three of which used before-after designs; four included comparison or control groups; one applied econometric methods to a five-year time series; and one reported results from a large-scale impact evaluation with randomly-assigned intervention and control facilities. The available evidence suggests that incentives that reward providers for institutional deliveries result in an increase in the number of institutional deliveries. There is some evidence that the content of antenatal care can improve with PBI. We found no direct evidence on the impact of PBI on neonatal health services or on mortality of mothers and newborns, although intention of the study was not to document impact on mortality. A number of studies describe approaches to rewarding quality as well as increases in the quantities of services provided, although how quality is defined and monitored is not always clear. Because incentives exist in all health systems, considering how to align the incentives of the many health workers and their supervisors so that they focus efforts on achieving health goals for mothers and newborns is critical if the health system is to perform more effectively and efficiently. A wide range of PBI models is being developed and tested, and there is still much to learn about what works best. Future studies should include a larger focus on rewarding quality and measuring its impact. Finally, more qualitative research to better understand PBI implementation and how various incentive models function in different settings is needed to help practitioners refine and improve their programmes.

Eijkenaar, F., et al. (2013). "Effects of pay for performance in health care: a systematic review of systematic reviews." Health Policy **110**(2-3): 115-130.

> BACKGROUND: A vast amount of literature on effects of pay-for-performance (P4P) in health care has been published. However, the evidence has become fragmented and it has become challenging to grasp the information included in it. OBJECTIVES: To provide a comprehensive overview of effects of P4P in a broad sense by synthesizing findings from published systematic reviews. METHODS: Systematic literature search in five electronic databases for English, Spanish, and German language literature published between January 2000 and June 2011, supplemented by reference tracking and Internet searches. Two authors independently reviewed all titles, assessed articles' eligibility for inclusion, determined a methodological quality score for each included article, and extracted relevant data. RESULTS:

Twenty-two reviews contain evidence on a wide variety of effects. Findings suggest that P4P can potentially be (cost-)effective, but the evidence is not convincing; many studies failed to find an effect and there are still few studies that convincingly disentangled the P4P effect from the effect of other improvement initiatives. Inequalities among socioeconomic groups have been attenuated, but other inequalities have largely persisted. There is some evidence of unintended consequences, including spillover effects on unincentivized care. Several design features appear important in reaching desired effects. CONCLUSION: Although data is available on a wide variety of effects, strong conclusions cannot be drawn due to a limited number of studies with strong designs. In addition, relevant evidence on particular effects may have been missed because no review has explicitly focused on these effects. More research is necessary on the relative merits of P4P and other types of incentives, as well as on the long-term impact on patient health and costs.

Frank, E. (2013). "Key issues in the design of pay for performance programs." The European Journal of Health Economics **14**(1): 117-131.
http://ejournals.ebsco.com/direct.asp?ArticleID=48DAAE89614097FACD1F

Pay for performance (P4P) is increasingly being used to stimulate healthcare providers to improve their performance. However, evidence on P4P effectiveness remains inconclusive. Flaws in program design may have contributed to this limited success. Based on a synthesis of relevant theoretical and empirical literature, this paper discusses key issues in P4P-program design. The analysis reveals that designing a fair and effective program is a complex undertaking. The following tentative conclusions are made: (1) performance is ideally defined broadly, provided that the set of measures remains comprehensible, (2) concerns that P4P encourages "selection" and "teaching to the test" should not be dismissed, (3) sophisticated risk adjustment is important, especially in outcome and resource use measures, (4) involving providers in program design is vital, (5) on balance, group incentives are preferred over individual incentives, (6) whether to use rewards or penalties is context-dependent, (7) payouts should be frequent and low-powered, (8) absolute targets are generally preferred over relative targets, (9) multiple targets are preferred over single targets, and (10) P4P should be a permanent component of provider compensation and is ideally "decoupled" form base payments. However, the design of P4P programs should be tailored to the specific setting of implementation, and empirical research is needed to confirm the conclusions.Pay for performance (P4P) is increasingly being used to stimulate healthcare providers to improve their performance. However, evidence on P4P effectiveness remains inconclusive. Flaws in program design may have contributed to this limited success. Based on a synthesis of relevant theoretical and empirical literature, this paper discusses key issues in P4P-program design. The analysis reveals that designing a fair and effective program is a complex undertaking. The following tentative conclusions are made: (1) performance is ideally defined broadly, provided that the set of measures remains comprehensible, (2) concerns that P4P encourages "selection" and "teaching to the test" should not be dismissed, (3) sophisticated risk adjustment is important, especially in outcome and resource use measures, (4) involving providers in program design is vital, (5) on balance, group incentives are preferred over individual incentives, (6) whether to use rewards or penalties is context-dependent, (7) payouts should be frequent and low-powered, (8) absolute targets are generally preferred over relative targets, (9) multiple targets are preferred over single targets, and (10) P4P should be a permanent component of provider compensation and is ideally "decoupled" form base payments. However, the design of P4P programs should be tailored to the specific setting of implementation, and empirical research is needed to confirm the conclusions

Huang, J., et al. (2013). "Impact of pay-for-performance on management of diabetes: a systematic review." J Evid Based Med **6**(3): 173-184.

OBJECTIVES: To review and synthesize published evidence of pay-for-performance (P4P) effects on management of diabetes. METHODS: Databases including Ovid MEDLINE, EMbase, PubMed, The Cochrane Library (Issue 3, 2012) were comprehensively searched for the effects of P4P programs in terms of patient outcomes and physician behaviors. Studies covering detailed data were included and synthesized. The quality of the body of evidence for each quality indicator was determined using Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system. RESULTS: Among 742 identified articles, 12 interrupted time series studies, 7 controlled before-after studies, and 2 cross-sectional studies were included. Additionally, 12 studies were further included for quantitative analysis. Results of meta-analysis showed that P4P produced generally positive effects in most indicators (eg, patients with records of total cholesterol or blood pressure). However, these results were inconsistent. The percentage of patients with HbA1c </= 7% or 53 mmol/mol showed a pooled odds ratio of 0.98 in patients, but a pooled mean difference of 19.71% in the physician groups. The odds ratios of receiving tests/reaching an outcome level were also diverse in patients (odds ratios ranged from 0.98 to 3.32). Besides, process indicators had higher rates of improvement than outcome indicators. CONCLUSIONS: P4P programs have variable impacts on patient outcomes of diabetes as well as physician behaviors, with various effects from negligible to strongly beneficial. Considering the low quality of the included studies, this conclusion should be cautiously interpreted.

Kantarevic, J. et Kralj, B. (2013). "Link between pay for performance incentives and physician payment mechanisms: evidence from the diabetes management incentive in ontario." Health Econ **22**(12): 1417-1439.

Pay for performance (P4P) incentives for physicians are generally designed as additional payments that can be paired with any existing payment mechanism such as a salary, fee-for-services and capitation. However, the link between the physician response to performance incentives and the existing payment mechanisms is still not well understood. In this article, we study this link using the recent primary care physician payment reform in Ontario as a natural experiment and the Diabetes Management Incentive as a case study. Using a comprehensive administrative data strategy and a difference-in-differences matching strategy, we find that physicians in a blended capitation model are more responsive to the Diabetes Management Incentive than physicians in an enhanced fee-for-service model. We show that this result implies that the optimal size of P4P incentives vary negatively with the degree of supply-side cost-sharing. These results have important implications for the design of P4P programs and the cost of their implementation. Copyright (c) 2012 John Wiley & Sons, Ltd

Kirschner, K., et al. (2013). "Assessment of a pay-for-performance program in primary care designed by target users." Fam Pract **30**(2): 161-171.
http://fampra.oxfordjournals.org/content/30/2/161.abstract
http://fampra.oxfordjournals.org/content/30/2/161.full.pdf

Background. Evidence for pay-for-performance (P4P) has been searched for in the last decade as financial incentives increased to influence behaviour of health care professionals to improve quality of care. The effectiveness of P4P is inconclusive, though some reviews reported significant effects.Objective. To assess changes in performance after introducing a participatory P4P program.Design. An observational study with a pre- and post-

measurement.Setting and subjects. Sixty-five general practices in the south of the Netherlands.Intervention. A P4P program designed by target users containing indicators for chronic care, prevention, practice management and patient experience (general practitionerƒ_Ts [GP] functioning and organization of care). Quality indicators were calculated for each practice. A bonus with a maximum of 6890 Euros per 1000 patients was determined by comparing practice performance with a benchmark.Main outcome measures. Quality indicators for clinical care (process and outcome) and patient experience.Results. We included 60 practices. After 1 year, significant improvement was shown for the process indicators for all chronic conditions ranging from +7.9% improvement for cardiovascular risk management to +11.5% for asthma. Five outcome indicators significantly improved as well as patientsƒ_T experiences with GPƒ_Ts functioning and organization of care. No significant improvements were seen for influenza vaccination rate and the cervical cancer screening uptake. The clinical process and outcome indicators, as well as patient experience indicators were affected by baseline measures. Smaller practices showed more improvement.Conclusions. A participatory P4P program might stimulate quality improvement in clinical care and improve patient experiences with GPƒ_Ts functioning and the organization of care

Pouvourville, G. d. (2013). "Paying for performance." European Journal of Health Economics (The) **14**(1): 1-4.

Vallee, J. P. (2013). "Paiement … la performance au Royaume-Uni. Annals of Family Medicine, 2012 : impact sur la qualit, et les r,sultats sanitaires." Medecine : Revue de L'Unaformec **9**(1): 33-35.

Le UK Quality and Outcomes Framework (QOF) mis en oeuvre en avril 2004 est sans doute l'approche nationale la plus exhaustive au monde de r,mun,ration … la performance (P4P). C'est une intervention complexe intriquant incitations financiŠres et large utilisation des nouvelles technologies de l'information. Il vise … promouvoir des soins structur,s, appuy,s sur un travail d',quipe, avec pour objectif l'atteinte de ® cibles ¯ d,finies sur des donn,es factuelles, comptabilis,e en points (maximum 1 000/an, en majorit, indicateurs cliniques dans 20 pathologies chroniques), chacun valant en 2011-2012 130 œ (environ 156 e). En 2009-2010- , chacun des 152 Primary Care Trusts du Royaume-Uni, ,quivalent approximati- f (la r,alit, est beaucoup plus complexe) de p"les ou autres maisons de sant, dans le systŠme fran‡ais, a obtenu entre 878 et 972 points, ce qui a repr,sent, une augmentation de revenu cons,quente ð et discut,e ð pour les professionnels travaillant dans ces structures

Witter, S., et al. (2013). "Performance-based financing as a health system reform: mapping the key dimensions for monitoring and evaluation." BMC Health Serv Res **13**: 367.

BACKGROUND: Performance-based financing is increasingly being applied in a variety of contexts, with the expectation that it can improve the performance of health systems. However, while there is a growing literature on implementation issues and effects on outputs, there has been relatively little focus on interactions between PBF and health systems and how these should be studied. This paper aims to contribute to filling that gap by developing a framework for assessing the interactions between PBF and health systems, focusing on low and middle income countries. In doing so, it elaborates a general framework for monitoring and evaluating health system reforms in general. METHODS: This paper is based on an exploratory literature review and on the work of a group of academics and PBF practitioners. The group developed ideas for the monitoring and evaluation framework through exchange of emails and working documents. Ideas were further refined through discussion at the Health Systems Research symposium in Beijing in October 2012, through

comments from members of the online PBF Community of Practice and Beijing participants, and through discussion with PBF experts in Bergen in June 2013. RESULTS: The paper starts with a discussion of definitions, to clarify the core concept of PBF and how the different terms are used. It then develops a framework for monitoring its interactions with the health system, structured around five domains of context, the development process, design, implementation and effects. Some of the key questions for monitoring and evaluation are highlighted, and a systematic approach to monitoring effects proposed, structured according to the health system pillars, but also according to inputs, processes and outputs. CONCLUSIONS: The paper lays out a broad framework within which indicators can be prioritised for monitoring and evaluation of PBF or other health system reforms. It highlights the dynamic linkages between the domains and the different pillars. All of these are also framed within inter-sectoral and wider societal contexts. It highlights the importance of differentiating short term and long term effects, and also effects (intended and unintended) at different levels of the health system, and for different sectors and areas of the country. Outstanding work will include using and refining the framework and agreeing on the most important hypotheses to test using it, in relation to PBF but also other purchasing and provider payment reforms, as well as appropriate research methods to use for this task.

Eijkenaar, F. (2012). "Pay for performance in health care: an international overview of initiatives." Med Care Res Rev **69**(3): 251-276.

Pay for performance (P4P) has become a popular approach to performance improvement in health care. Most of the P4P literature has focused on the United States and there is limited insight in the characteristics of major programs initiated in other countries. This article systematically describes and reviews P4P programs outside the United States. Our literature search identified 13 programs initiated in 9 countries. Although the programs share many similarities, they differ in several important respects, also when compared with the typical P4P program in the United States. In addition, there are clearly possibilities to increase incentive strength and minimize incentives for undesired behavior. In part, observed heterogeneity will be a consequence of contextual differences, but design choices often also seem to be made arbitrarily. In designing their programs, purchasers are hampered by limited knowledge of the influence of specific design choices and effective strategies to mitigate undesired behavior.

Emmert, M., et al. (2012). "Economic evaluation of pay-for-performance in health care: a systematic review." European Journal of Health Economics (The) // **13**(6).

Pay-for-performance (P4P) intents to stimulate both more effective and more efficient health care delivery. To date, evidence on whether P4P itself is an efficient method has not been systematically analyzed. To identify and analyze the existing literature regarding economic evaluation of P4P. English, German, Spanish, and Turkish language literature were searched in the following databases: Business Source Complete, the Cochrane Library, Econlit, ISI web of knowledge, Medline (via PubMed), and PsycInfo (January 2000-April 2010). Articles published in peer-reviewed journals and describing economic evaluations of P4P initiatives. Full economic evaluations, considering costs and consequences of the P4P intervention simultaneously, were the prime focus. Additionally, comparative partial evaluations were included if costs were described and the study allows for an assessment of consequences. Both experimental and observational studies were considered. In total, nine studies could be identified. Three studies could be regarded as full economic evaluations, and six studies were classified as partial economic evaluations. Based on the full economic evaluations, P4P efficiency could not be demonstrated. Partial economic evaluations showed mixed results,

but several flaws limit their significance. Ranges of costs and consequences were typically narrow, and programs differed considerably in design. Methodological quality assessment showed scores between 32% and 65%. CONCLUSION: The results show that evidence on the efficiency of P4P is scarce and inconclusive. P4P efficiency could not be demonstrated. The small number and variability of included studies limit the strength of our conclusions. More research addressing P4P efficiency is needed

Gillam, S. J., et al. (2012). "Pay-for-Performance in the United Kingdom: Impact of the Quality and Outcomes Framework. A Systematic Review." Ann Fam Med **10**(5): 461-468. http://www.annfammed.org/content/10/5/461.full.pdf

Primary care practices in the United Kingdom have received substantial financial rewards for achieving standards set out in the Quality and Outcomes Framework since April 2004. This article reviews the growing evidence for the impact of the framework on the quality of primary medical care

Gillam, S. J., et al. (2012). "Pay-for-performance in the United Kingdom: impact of the quality and outcomes framework: a systematic review." Ann Fam Med **10**(5): 461-468.

PURPOSE: Primary care practices in the United Kingdom have received substantial financial rewards for achieving standards set out in the Quality and Outcomes Framework since April 2004. This article reviews the growing evidence for the impact of the framework on the quality of primary medical care. METHODS: Five hundred seventy-five articles were identified by searching the MEDLINE, EMBASE, and PsycINFO databases, and from the reference lists of published reviews and articles. One hundred twenty-four relevant articles were assessed using a modified Downs and Black rating scale for 110 observational studies and a Critical Appraisal Skills Programme rating scale for 14 qualitative studies. Ninety-four studies were included in the review. RESULTS: Quality of care for incentivized conditions during the first year of the framework improved at a faster rate than the preintervention trend and subsequently returned to prior rates of improvement. There were modest cost-effective reductions in mortality and hospital admissions in some domains. Differences in performance narrowed in deprived areas compared with nondeprived areas. Achievement for conditions outside the framework was lower initially and has worsened in relative terms since inception. Some doctors reported improved data recording and teamwork, and nurses enhanced specialist skills. Both groups believed that the person-centeredness of consultations and continuity were negatively affected. Patients' satisfaction with continuity declined, with little change in other domains of patient experience. CONCLUSIONS: Observed improvements in quality of care for chronic diseases in the framework were modest, and the impact on costs, professional behavior, and patient experience remains uncertain. Further research is needed into how to improve quality across different domains, while minimizing costs and any unintended adverse effects of payment for performance schemes. Health care organizations should remain cautious about the benefits of similar schemes.

Houle, S. K., et al. (2012). "Does performance-based remuneration for individual health care practitioners affect patient care?: a systematic review." Ann Intern Med **157**(12): 889-899.

BACKGROUND: Pay-for-performance (P4P) is increasingly touted as a means to improve health care quality. PURPOSE: To evaluate the effect of P4P remuneration targeting individual health care providers. DATA SOURCES: MEDLINE, EMBASE, Cochrane Library, OpenSIGLE, Canadian Evaluation Society Unpublished Literature Bank, New York Academy of Medicine Library Grey Literature Collection, and reference lists were searched up until June

2012. STUDY SELECTION: Two reviewers independently identified original research papers (randomized, controlled trials; interrupted time series; uncontrolled and controlled before-after studies; and cohort comparisons). DATA EXTRACTION: Two reviewers independently extracted the data. DATA SYNTHESIS: The literature search identified 4 randomized, controlled trials; 5 interrupted time series; 3 controlled before-after studies; 1 nonrandomized, controlled study; 15 uncontrolled before-after studies; and 2 uncontrolled cohort studies. The variation in study quality, target conditions, and reported outcomes precluded meta-analysis. Uncontrolled studies (15 before-after studies, 2 cohort comparisons) suggested that P4P improves quality of care, but higher-quality studies with contemporaneous controls failed to confirm these findings. Two of the 4 randomized trials were negative, and the 2 statistically significant trials reported small incremental improvements in vaccination rates over usual care (absolute differences, 8.4 and 7.8 percentage points). Of the 5 interrupted time series, 2 did not detect any improvements in processes of care or clinical outcomes after P4P implementation, 1 reported initial statistically significant improvements in guideline adherence that dissipated over time, and 2 reported statistically significant improvements in blood pressure control in patients with diabetes balanced against statistically significant declines in hemoglobin A1c control. LIMITATION: Few methodologically robust studies compare P4P with other payment models for individual practitioners; most are small observational studies of variable quality. CONCLUSION: The effect of P4P targeting individual practitioners on quality of care and outcomes remains largely uncertain. Implementation of P4P models should be accompanied by robust evaluation plans. PRIMARY FUNDING SOURCE: None.

Jha, A. K., et al. (2012). "The long-term effect of premier pay for performance on patient outcomes." N Engl J Med **366**(17): 1606-1615.

BACKGROUND: Pay for performance has become a central strategy in the drive to improve health care. We assessed the long-term effect of the Medicare Premier Hospital Quality Incentive Demonstration (HQID) on patient outcomes. METHODS: We used Medicare data to compare outcomes between the 252 hospitals participating in the Premier HQID and 3363 control hospitals participating in public reporting alone. We examined 30-day mortality among more than 6 million patients who had acute myocardial infarction, congestive heart failure, or pneumonia or who underwent coronary-artery bypass grafting (CABG) between 2003 and 2009. RESULTS: At baseline, the composite 30-day mortality was similar for Premier and non-Premier hospitals (12.33% and 12.40%, respectively; difference, -0.07 percentage points; 95% confidence interval [CI], -0.40 to 0.26). The rates of decline in mortality per quarter at the two types of hospitals were also similar (0.04% and 0.04%, respectively; difference, -0.01 percentage points; 95% CI, -0.02 to 0.01), and mortality remained similar after 6 years under the pay-for-performance system (11.82% for Premier hospitals and 11.74% for non-Premier hospitals; difference, 0.08 percentage points; 95% CI, -0.30 to 0.46). We found that the effects of pay for performance on mortality did not differ significantly among conditions for which outcomes were explicitly linked to incentives (acute myocardial infarction and CABG) and among conditions not linked to incentives (congestive heart failure and pneumonia) (P=0.36 for interaction). Among hospitals that were poor performers at baseline, mortality was similar in the two groups of hospitals at the start of the study (15.12% and 14.73%; difference, 0.39 percentage points; 95% CI, -0.36 to 1.15), with similar rates of improvement per quarter (0.10% and 0.07%; difference, -0.03 percentage points; 95% CI, -0.08 to 0.02) and similar mortality rates at the end of the study (13.37% and 13.21%; difference, 0.15 percentage points; 95% CI, -0.70 to 1.01). CONCLUSIONS: We found no evidence that the largest hospital-based pay-for-performance program led to a decrease in

30-day mortality. Expectations of improved outcomes for programs modeled after Premier HQID should therefore remain modest.

Kantarevic, J. et Kralj, B. (2012). Link between Pay for Performance Incentives and Physician Payment Mechanisms: Evidence from the Diabetes Management Incentive in Ontario, Bonn : IZA // http://ftp.iza.org/dp6474.pdf

Pay for performance (P4P) incentives for physicians are generally designed as additional payments that can be paired with any existing payment mechanism such as salary, fee-for-service, and capitation. However, the link between the physician response to performance incentives and the existing payment mechanisms is still not well understood. This paper studies this link using the recent primary care reform in Ontario as a natural experiment and the Diabetes Management Incentive (DMI) as a case study. Using a comprehensive administrative data and a difference-indifferences matching strategy, it finds that physicians in a blended capitation model are more responsive to the DMI than physicians in an enhanced fee-for-service model. It shows that for a given payment mechanism this result implies that the optimal size of P4P incentives varies negatively with the degree of supply-side cost sharing. These results have important implications for the design of P4P programs and the cost of their implementation

Magrath, P. et Nichter, M. (2012). "Paying for performance and the social relations of health care provision: an anthropological perspective." Soc Sci Med **75**(10): 1778-1785.

Over the past decade, the use of financial incentive schemes has become a popular form of intervention to boost performance in the health sector. Often termed "paying for performance" or P4P, they involve "...the transfer of money or material goods conditional upon taking a measurable action or achieving a predetermined performance target" (Eldridge & Palmer, 2009, p.160). P4P appear to bring about rapid improvements in some measured indicators of provider performance, at least over the short term. However, evidence for the impact of these schemes on the wider health system remains limited, and even where evaluations have been positive, unintended effects have been identified. These have included: "gaming" the system; crowding out of "intrinsic motivation"; a drop in morale where schemes are viewed as unfair; and the undermining of social relations and teamwork through competition, envy or ill feeling. Less information is available concerning how these processes occur, and how they vary across social and cultural contexts. While recognizing the potential of P4P, the authors argue for greater care in adapting schemes to particular local contexts. We suggest that insights from social science theory coupled with the focused ethnographic methods of anthropology can contribute to the critical assessment of P4P schemes and to their adaptation to particular social environments and reward systems. We highlight the need for monitoring P4P schemes in relation to worker motivation and the quality of social relations, since these have implications both for health sector performance over the long term and for the success and sustainability of a P4P scheme. Suggestions are made for ethnographies, undertaken in collaboration with local stakeholders, to assess readiness for P4P; package rewards in ways that minimize perverse responses; identify process variables for monitoring and evaluation; and build sustainability into program design through linkage with complementary reforms.

Maynard, A. (2012). "The powers and pitfalls of payment for performance." Health Econ **21**(1): 3-12.

Boeckxstaens, P., et al. (2011). "The equity dimension in evaluations of the quality and outcomes framework: a systematic review." BMC Health Serv Res **11**: 209.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3182892/pdf/1472-6963-11-209.pdf

BACKGROUND: Pay-for-performance systems raise concerns regarding inequity in health care because providers might select patients for whom targets can easily be reached. This paper aims to describe the evolution of pre-existing (in)equity in health care in the period after the introduction of the Quality and Outcomes Framework (QOF) in the UK and to describe (in)equities in exception reporting. In this evaluation, a theory-based framework conceptualising equity in terms of equal access, equal treatment and equal treatment outcomes for people in equal need is used to guide the work. METHODS: A systematic MEDLINE and Econlit search identified 317 studies. Of these, 290 were excluded because they were not related to the evaluation of QOF, they lacked an equity dimension in the evaluation, their qualitative research focused on experiences or on the nature of the consultation, or unsuitable methodology was used to pronounce upon equity after the introduction of QOF. RESULTS: None of the publications (n = 27) assessed equity in access to health care. Concerning equity in treatment and (intermediate) treatment outcomes, overall quality scores generally improved. For the majority of the observed indicators, all citizens benefit from this improvement, yet the extent to which different patient groups benefit tends to vary and to be highly dependent on the type and complexity of the indicator(s) under study, the observed patient group(s) and the characteristics of the study. In general, the introduction of QOF was favourable for the aged and for males. Total QOF scores did not seem to vary according to ethnicity. For deprivation, small but significant residual differences were observed after the introduction of QOF favouring less deprived groups. These differences are mainly due to differences at the practice level. The variance in exception reporting according to gender and socio-economic position is low. CONCLUSIONS: Although QOF seems not to be socially selective at first glance, this does not mean QOF does not contribute to the inverse care law. Introducing different targets for specific patient groups and including appropriate, non-disease specific and patient-centred indicators that grasp the complexity of primary care might refine the equity dimension of the evaluation of QOF. Also, information on the actual uptake of care, information at the patient level and monitoring of individuals' health care utilisation tracks could make large contributions to an in-depth evaluation. Finally, evaluating pay-for-quality initiatives in a broader health systems impact assessment strategy with equity as a full assessment criterion is of utmost importance

De Bruin, S. R., et al. (2011). "Pay-for-performance in disease management: a systematic review of the literature." BMC Health Serv Res **11**: 272.

BACKGROUND: Pay-for-performance (P4P) is increasingly implemented in the healthcare system to encourage improvements in healthcare quality. P4P is a payment model that rewards healthcare providers for meeting pre-established targets for delivery of healthcare services by financial incentives. Based on their performance, healthcare providers receive either additional or reduced payment. Currently, little is known about P4P schemes intending to improve delivery of chronic care through disease management. The objectives of this paper are therefore to provide an overview of P4P schemes used to stimulate delivery of chronic care through disease management and to provide insight into their effects on healthcare quality and costs. METHODS: A systematic PubMed search was performed for English language papers published between 2000 and 2010 describing P4P schemes related to the implementation of disease management. Wagner's chronic care model was used to make disease management operational. RESULTS: Eight P4P schemes were identified, introduced in the USA (n = 6), Germany (n = 1), and Australia (n = 1). Five P4P schemes were part of a larger scheme of interventions to improve quality of care, whereas three P4P schemes were solely implemented. Most financial incentives were rewards, selective, and

granted on the basis of absolute performance. More variation was found in incented entities and the basis for providing incentives. Information about motivation, certainty, size, frequency, and duration of the financial incentives was generally limited. Five studies were identified that evaluated the effects of P4P on healthcare quality. Most studies showed positive effects of P4P on healthcare quality. No studies were found that evaluated the effects of P4P on healthcare costs. CONCLUSION: The number of P4P schemes to encourage disease management is limited. Hardly any information is available about the effects of such schemes on healthcare quality and costs.

Alshamsan, R., et al. (2010). "Has pay for performance improved the management of diabetes in the United Kingdom?" Prim Care Diabetes **4**(2): 73-78.

Over the past decade the UK government has introduced a number of major policy initiatives to improve the quality of health care. One such initiative was the introduction of the Quality and Outcomes Framework (QOF), a pay for performance scheme launched in April 2004, which aims to improve the primary care management of common chronic conditions including diabetes. Some evidence suggest that introduction of QOF has been associated with improvements in the quality indicators for diabetes care included in the framework. However, it is difficult to disentangle the impact of QOF from other quality initiatives as few studies adjusted for underlying trends in quality. There is some evidence that QOF may have reduced inequalities in diabetes care between affluent and deprived areas but women and individuals from ethnic minority groups appear to have benefited least from this initiative. Less is known about the impact of QOF on aspects of diabetes care not reflected in the framework, including self-management and continuity of care.

Alshamsan, R., et al. (2010). "Impact of pay for performance on inequalities in health care: systematic review." J Health Serv Res Policy **15**(3): 178-184.

OBJECTIVES: To assess the impact of pay for performance programmes on inequalities in the quality of health care in relation to age, sex, ethnicity and socioeconomic status. METHODS: Systematic search and appraisal of experimental or observational studies that assessed quantitatively the impact of a monetary incentive on health care inequalities. We searched published articles in English identified in the MEDLINE, EMBASE, PsycINFO and Cochrane databases. RESULTS: Twenty-two studies were identified, 20 of which were conducted in the United Kingdom and examined the impact of the Quality and Outcomes Framework. Sixteen studies used practice level data rather than patient level data. Socioeconomic status was the most frequently examined inequality; age, sex and ethnic inequalities were less frequently assessed. There was some weak evidence that the use of financial incentives reduced inequalities in chronic disease management between socioeconomic groups. Inequalities in chronic disease management between age, sex and ethnic groups persisted after the use of such incentives. CONCLUSION: Inequalities in chronic disease management have largely persisted after the introduction of the Quality and Outcome Framework. Pay for performance programmes should be designed to reduce inequalities as well as improve the overall quality of care.

Carlson, J. J., et al. (2010). "Linking payment to health outcomes: a taxonomy and examination of performance-based reimbursement schemes between healthcare payers and manufacturers." Health Policy **96**(3): 179-190.

OBJECTIVE: To identify, categorize and examine performance-based health outcomes reimbursement schemes for medical technology. METHODS: We performed a review of

performance-based health outcomes reimbursement schemes over the past 10 years (7/98-010/09) using publicly available databases, web and grey literature searches, and input from healthcare reimbursement experts. We developed a taxonomy of scheme types by inductively organizing the schemes identified according to the timing, execution, and health outcomes measured in the schemes. RESULTS: Our search yielded 34 coverage with evidence development schemes, 10 conditional treatment continuation schemes, and 14 performance-linked reimbursement schemes. The majority of schemes are in Europe and Australia, with an increasing number in Canada and the U.S. CONCLUSION: These schemes have the potential to alter the reimbursement and pricing landscape for medical technology, but significant challenges, including high transaction costs and insufficient information systems, may limit their long-term impact. Future studies regarding experiences and outcomes of implemented schemes are necessary.

Peckham, S. et Wallace, A. (2010). "Pay for performance schemes in primary care: what have we learnt?" Qual Prim Care **18**(2): 111-116.

BACKGROUND: Pay for performance (P4P) schemes have become increasingly popular innovations in primary care and have generated questions about their effect on improving quality of care. AIMS: To provide a brief outline of the international evidence on the relationship between P4P schemes and quality improvement. METHOD: We conducted a literature search using relevant databases and reference lists of retrieved articles which discussed P4P schemes, quality in primary care and the Quality and Outcomes Framework (QOF). These included two recent systematic reviews of P4P schemes. RESULTS: Evidence on the effect of P4P on quality is limited. What we can say is that P4P schemes can have an effect on the behaviour of physicians and can lead to better clinical management of disease, but that there is cause for concern about the impact on the quality of care. CONCLUSION: P4P schemes need to take more account of broader definitions of quality, as whilst they can have a positive impact on incentivised clinical processes, it is not clear that this translates into improving the experience and outcome of care.

Van, H. P., et al. (2010). "Systematic review: Effects, design choices, and context of pay-for-performance in health care." BMC Health Serv Res **10**: 247.
PM:20731816

BACKGROUND: Pay-for-performance (P4P) is one of the primary tools used to support healthcare delivery reform. Substantial heterogeneity exists in the development and implementation of P4P in health care and its effects. This paper summarizes evidence, obtained from studies published between January 1990 and July 2009, concerning P4P effects, as well as evidence on the impact of design choices and contextual mediators on these effects. Effect domains include clinical effectiveness, access and equity, coordination and continuity, patient-centeredness, and cost-effectiveness. METHODS: The systematic review made use of electronic database searching, reference screening, forward citation tracking and expert consultation. The following databases were searched: Cochrane Library, EconLit, Embase, Medline, PsychINFO, and Web of Science. Studies that evaluate P4P effects in primary care or acute hospital care medicine were included. Papers concerning other target groups or settings, having no empirical evaluation design or not complying with the P4P definition were excluded. According to study design nine validated quality appraisal tools and reporting statements were applied. Data were extracted and summarized into evidence tables independently by two reviewers. RESULTS: One hundred twenty-eight evaluation studies provide a large body of evidence -to be interpreted with caution- concerning the effects of P4P on clinical effectiveness and equity of care. However, less evidence on the

impact on coordination, continuity, patient-centeredness and cost-effectiveness was found. P4P effects can be judged to be encouraging or disappointing, depending on the primary mission of the P4P program: supporting minimal quality standards and/or boosting quality improvement. Moreover, the effects of P4P interventions varied according to design choices and characteristics of the context in which it was introduced.Future P4P programs should (1) select and define P4P targets on the basis of baseline room for improvement, (2) make use of process and (intermediary) outcome indicators as target measures, (3) involve stakeholders and communicate information about the programs thoroughly and directly, (4) implement a uniform P4P design across payers, (5) focus on both quality improvement and achievement, and (6) distribute incentives to the individual and/or team level. CONCLUSIONS: P4P programs result in the full spectrum of possible effects for specific targets, from absent or negligible to strongly beneficial. Based on the evidence the review has provided further indications on how effect findings are likely to relate to P4P design choices and context. The provided best practice hypotheses should be tested in future research

Van Herck, P., et al. (2010). "Systematic review: Effects, design choices, and context of pay-for-performance in health care." BMC Health Serv Res **10**: 247.

BACKGROUND: Pay-for-performance (P4P) is one of the primary tools used to support healthcare delivery reform. Substantial heterogeneity exists in the development and implementation of P4P in health care and its effects. This paper summarizes evidence, obtained from studies published between January 1990 and July 2009, concerning P4P effects, as well as evidence on the impact of design choices and contextual mediators on these effects. Effect domains include clinical effectiveness, access and equity, coordination and continuity, patient-centeredness, and cost-effectiveness. METHODS: The systematic review made use of electronic database searching, reference screening, forward citation tracking and expert consultation. The following databases were searched: Cochrane Library, EconLit, Embase, Medline, PsychINFO, and Web of Science. Studies that evaluate P4P effects in primary care or acute hospital care medicine were included. Papers concerning other target groups or settings, having no empirical evaluation design or not complying with the P4P definition were excluded. According to study design nine validated quality appraisal tools and reporting statements were applied. Data were extracted and summarized into evidence tables independently by two reviewers. RESULTS: One hundred twenty-eight evaluation studies provide a large body of evidence -to be interpreted with caution- concerning the effects of P4P on clinical effectiveness and equity of care. However, less evidence on the impact on coordination, continuity, patient-centeredness and cost-effectiveness was found. P4P effects can be judged to be encouraging or disappointing, depending on the primary mission of the P4P program: supporting minimal quality standards and/or boosting quality improvement. Moreover, the effects of P4P interventions varied according to design choices and characteristics of the context in which it was introduced.Future P4P programs should (1) select and define P4P targets on the basis of baseline room for improvement, (2) make use of process and (intermediary) outcome indicators as target measures, (3) involve stakeholders and communicate information about the programs thoroughly and directly, (4) implement a uniform P4P design across payers, (5) focus on both quality improvement and achievement, and (6) distribute incentives to the individual and/or team level. CONCLUSIONS: P4P programs result in the full spectrum of possible effects for specific targets, from absent or negligible to strongly beneficial. Based on the evidence the review has provided further indications on how effect findings are likely to relate to P4P design choices and context. The provided best practice hypotheses should be tested in future research.

Crosson, J. C., et al. (2009). "A comparison of chronic illness care quality in US and UK family medicine practices prior to pay-for-performance initiatives." Fam Pract **26**(6): 510-516.

BACKGROUND: The Quality and Outcomes Framework (QOF) has contributed to modest improvements in chronic illness care in the UK. US policymakers have proposed similar pay-for-performance (P4P) approaches to improve care. Since previous studies have not compared chronic illness care quality in US and UK primary care practices prior to the QOF, the relative preparedness of practices to respond to P4P incentives is unknown. OBJECTIVE: To compare US and UK practices on P4P measures prior to program implementation. METHODS: We analysed medical record data collected before QOF implementation from randomly selected patients with diabetes or coronary artery disease (CAD) in 42 UK and 55 US family medicine practices. We compared care processes and intermediate outcomes using hierarchical logistic regression. RESULTS: While we found gaps in chronic illness care quality across both samples, variation was lower in UK practices. UK patients were more likely to receive recommended care processes for diabetes [odds ratio (OR), 8.94; 95% confidence interval (CI), 4.26-18.74] and CAD (OR, 9.18; 95% CI, 5.22-16.17) but less likely to achieve intermediate diabetes outcome targets (OR, 0.50; 95% CI, 0.39-0.64). CONCLUSIONS: Following National Health Service (NHS) investment in primary care preparedness, but prior to the QOF, UK practices provided more standardized care but did not achieve better intermediate outcomes than a sample of typical US practices. US policymakers should focus on reducing variation in care documentation to ensure the effectiveness of P4P efforts while the NHS should focus on moving from process documentation to better patient outcomes.

Eldridge, C. et Palmer, N. (2009). "Performance-based payment: some reflections on the discourse, evidence and unanswered questions." Health Policy Plan **24**(3): 160-166.

Performance-based payment (PBP) is increasingly advocated as a way to improve the performance of health systems in low-income countries. This study conducted a systematic review of the current literature on this topic and found that while it is a popular term, there was little consensus about the meaning or the use of the concept of PBP. Significant weaknesses in the current evidence base on the success of PBP initiatives were also found. The literature would be strengthened by multi-disciplinary case studies that present both the advantages and disadvantages of PBP, influential factors for success, and more details about the projects from which this evidence is drawn. Where possible, data from control facilities where PBP is not being implemented would be an important addition. This paper suggests a further agenda for research, including assessing optimal conditions for implementation of PBP schemes in less developed health systems, the impact of adopting measures of performance as targets, and the requirements for monitoring PBP adequately.

Greene, S. E. et Nash, D. B. (2009). "Pay for performance: an overview of the literature." Am J Med Qual **24**(2): 140-163.

Bernstein, D. (2008). "Le paiement à la performance des médecins généralistes anglais a-t-il atteint ses objectifs ? Un premier bilan." Actualité et Dossier en Sante Publique(65). http://www.hcsp.fr/hcspi/docspdf/adsp/adsp-65/ad654952.pdf

Le Quality and Outcomes Framework des médecins généralistes anglais constitue la première expérience de paiement à la performance à grande échelle en Europe. Quelques années après sa mise en place, ses objectifs ont-ils été atteints ?

Rochaix, L. (2000). Performance-tied payment systems for physicians. In : Saltman, R.B, éd. Critical challenges for Health Care Reform in Europe. Buckingham : Open University Press

NOUVEAUX MODES DE REMUNERATION

Agarwal, R., Liao, J. M., Gupta, A., et al. (2020). "The Impact Of Bundled Payment On Health Care Spending, Utilization, And Quality: A Systematic Review." Health Aff (Millwood) 39(1): 50-57.

> The Centers for Medicare and Medicaid Services (CMS) has promoted bundled payment programs nationwide as one of its flagship value-based payment reforms. Under bundled payment, providers assume accountability for the quality and costs of care delivered during an episode of care. We performed a systematic review of the impact of three CMS bundled payment programs on spending, utilization, and quality outcomes. The three programs were the Acute Care Episode Demonstration, the voluntary Bundled Payments for Care Improvement initiative, and the mandatory Comprehensive Care for Joint Replacement model. Twenty studies that we identified through search and screening processes showed that bundled payment maintains or improves quality while lowering costs for lower extremity joint replacement, but not for other conditions or procedures. Our review also suggests that policy makers should account for patient-level heterogeneity and include risk stratification for specific conditions in emerging bundled payment programs.

Leguelinel-Blache, G., Bussieres, J. F. et al.. (2019). "Le financement à l'épisode de soins : un modèle efficient pour renforcer le lien ville-hôpital en France et au Québec ? In : Panorama de droit pharmaceutique - 2018." Revue Generale De Droit Medical(6): 211-226.

> Après avoir été expérimenté aux États-Unis et en Europe, le financement à l'épisode de soins s'impose aujourd'hui en France et au Québec comme un modèle économique alternatif à la tarification à l'activité (T2A) et à la dotation globale historique dans les établissements de santé et au paiement à l'acte pour les professionnels de santé libéraux. Il s'agit de proposer un paiement forfaitaire global pour l'ensemble des prestations pluri-professionnelles engagées en ville et à l'hôpital afin de résoudre un problème de santé sur une période limitée. Ce concept nécessite de standardiser la prise en charge thérapeutique selon des recommandations de bonnes pratiques, en utilisant des indicateurs de performance. Ce mode de financement pourrait renforcer la coordination intra- et extrahospitalière et consolider l'efficience des soins en évitant la multiplication des actes inutiles au profit d'une plus grande qualité et sécurité des soins, et en s'appuyant sur des forfaits ajustés au risque.

Steenhuis, S., Struijs, J., Koolman, X., et al. (2020). "Unraveling the Complexity in the Design and Implementation of Bundled Payments: A Scoping Review of Key Elements From a Payer's Perspective." Milbank Q **98**(1): 197-222.

> Policy Points Because bundled payments are relatively new and require a different type of collaboration among payers, providers, and other actors, their design and implementation process is complex. By sorting the 53 key elements that contribute to this complexity into specific pre- and postcontractual phases as well as the actors involved in the health system, this framework provides a comprehensive overview of this complexity from a payer's perspective.

De Vries, E. F., Drewes, H. W., Struijs, J. N., et al. (2019). "Barriers to payment reform: Experiences from nine Dutch population health management sites." Health Policy **123**(11): 1100-1107.

https://www.sciencedirect.com/science/article/pii/S016885101930226X

> Population health management (PHM) initiatives aim for better population health, quality of care and reduction of expenditure growth by integrating and optimizing services across domains. Reforms shifting payment of providers from traditional fee-for-service towards value-based payment models may support PHM. We aimed to gain insight into payment reform in nine Dutch PHM sites. Specifically, we investigated 1) the type of payment models implemented, and 2) the experienced barriers towards payment reform. Between October 2016 and February 2017, we conducted 36 (semi-)structured interviews with program managers, hospitals, insurers and primary care representatives of the sites. We addressed the structure of payment models and barriers to payment reform in general. After three years of PHM, we found that four shared savings models for pharmaceutical care and five extensions of existing (bundled) payment models adding providers into the model were implemented. Interviewees stated that reluctance to shift financial accountability to providers was partly due to information asymmetry, a lack of trust and conflicting incentives between providers and insurers, and last but not least a lack of a sense of urgency. Small steps to payment reform have been taken in the Dutch PHM sites, which is in line with other international PHM initiatives. While acknowledging the autonomy of PHM sites, governmental stewardship (e.g. long-term vision, supporting knowledge development) can further stimulate value-based payment reforms.

Saulsberry, L. et Peek, M. (2019). "Financing Diabetes Care in the U.S. Health System: Payment Innovations for Addressing the Medical and Social Determinants of Health." Curr Diab Rep **19**(11): 136.

> PURPOSE OF REVIEW: Review innovations in health care financing promoting health system investments in addressing medical and social determinants of health (SDH) for patients with diabetes. RECENT FINDINGS: Particular payment models implemented in the public and private sectors increasingly offer flexibility in health care organizations (HCOs) to allocate resources towards helping patients with diabetes overcome the medical and socio-economic problems driving poor population and individual health. The barriers imposed by the traditional fee-for-service (FFS) payment model to incorporating SDH into health care delivery across the health system are being overcome with new payment approaches rewarding the quality of care provided rather than strictly the volume of health services rendered. Evidence suggests health care financing changes will facilitate the realization of health reform goals to provide the right care to the right people at the right time through the expansion of the role of integrated care teams that can address patients' medical and health-related social needs.

Song, Z., Ji, Y., Safran, D. G., et al. (2019). "Health Care Spending, Utilization, and Quality 8 Years into Global Payment." New England Journal of Medicine **381**(3): 252-263.
https://www.nejm.org/doi/full/10.1056/NEJMsa1813621

(2018). "Medicare: Voluntary and Mandatory Episode-Based Payment Models and Their Participants". Washington GAO.
https://www.gao.gov/products/GAO-19-156

> Can Medicare save money and improve health care quality—just by changing the way it pays? To find out, Medicare is testing alternatives to the way it pays the hospitals and physicians who provide health care services. We reviewed tests of models that pay per "health care episode," such as a hospitalization for surgery. We found advantages to using

either voluntary or mandatory participants in these tests. Volunteers are motivated to do well, which can help Medicare determine whether a novel payment approach could work. Mandatory participation, however, allows Medicare to test with a more diverse group of participants.

Stead, S. W. et Merrick, S. K. (2018). "Bundled Payments and Hidden Costs." Anesthesiol Clin **36**(2): 241-258.

In a fee-for-service environment, anesthesiologists are paid for the volume of services billed, with little relation to the cost of delivering the services. In bundled payments, anesthesiologists are paid a set fee for an episode of care inclusive of all the anesthesia, pain medicine, and related services for the surgical episode and a period of time after the initial procedure to cover complications and redo procedures. When calculating a bundled payment, all the services typically used by a patient must be counted when calculating both the costs and expected payment.

Stokes, J., Struckmann, V., Kristensen, S. R., et al. (2018). "Towards incentivising integration: A typology of payments for integrated care." Health Policy **122**(9): 963-969. https://www.sciencedirect.com/science/article/pii/S0168851018302185

Traditional provider payment mechanisms may not create appropriate incentives for integrating care. Alternative payment mechanisms, such as bundled payments, have been introduced without uniform definitions, and existing payment typologies are not suitable for describing them. We use a systematic review combined with example integrated care programmes identified from practice in the Horizon2020 SELFIE project to inform a new typology of payment mechanisms for integrated care. The typology describes payments in terms of the scope of payment (Target population, Time, Sectors), the participation of providers (Provider coverage, Financial pooling/sharing), and the single provider/patient involvement (Income, Multiple disease/needs focus, and Quality measurement). There is a gap between rhetoric on the need for new payment mechanisms and those implemented in practice. Current payments for integrated care are mostly sector- and disease-specific, with questionable impact on those with the most need for integrated care. The typology provides a basis to improve financial incentives supporting more effective and efficient integrated care systems.

Agha, L., et al. (2017). Causes and Consequences of Fragmented Care Delivery: Theory, Evidence, and Public Policy. NBER Working Paper Series ; n° 23078. Cambridge NBER**:**

Fragmented health care occurs when care is spread out across a large number of poorly coordinated providers. We analyze care fragmentation, an important source of inefficiency in the US healthcare system, by combining an economic model of regional practice styles with an empirical study of Medicare enrollees who move across regions. Roughly sixty percent of cross-regional variation in care fragmentation is independent of patients' clinical needs or preferences for care. A one standard deviation increase in regional fragmentation is associated with a 10% increase in utilization. Our analysis also identifies conditions under which anti-fragmentation policies can improve efficiency.

Carroll, C., et al. (2017). Effects of Episode-Based Payment on Health Care Spending and Utilization: Evidence from Perinatal Care in Arkansas. NBER Working Paper Series ; 23926. Cambridge NBER**:** http://www.nber.org/papers/w23926.pdf

We study how physicians respond to financial incentives imposed by episode-based bundled payment (EBP), which encourages lower spending and improved quality for an entire episode of care. Specifically, we study the impact of the Arkansas Health Care Payment Improvement Initiative, a multi-payer program that requires providers in the state to enter into EBP arrangements for perinatal care. Because of its multi-payer nature and the requirement that providers participate, the program covers the vast majority of births in the state. Unlike fee-for service reimbursement, EBP holds physicians responsible for all care within a discrete clinical episode, rewarding physicians not only for efficient use of their own services but also for efficient management of other health care inputs. In a difference-in-differences analysis of commercial claims, we find that perinatal spending decreased by 3.8% overall in Arkansas after the introduction of EBP, compared to surrounding states. We find that the decrease was driven by reduced spending on non-physician health care inputs, specifically the prices paid for inpatient facility care, and that our results are robust to a number of sensitivity and placebo tests. We additionally find that EBP was associated with a limited improvement in quality of care

Girault, A., Gervès-Pinquié, C. et Minvielle, É. (2017). "Les modes de paiements à la coordination : État des lieux et pistes pour une application en France." Journal de gestion et d'économie médicales **35**(2): 109-127.
https://www.cairn.info/revue-journal-de-gestion-et-d-economie-medicales-2017-2-page-109.htm

L'émergence de nouveaux modes de paiement occupe une place majeure dans la transformation du système de soins. Parmi eux, les « paiements à la coordination » retiennent l'attention des pouvoirs publics, désireux d'améliorer la coordination des soins. L'objectif de ce travail est de dresser un état des lieux de ces paiements et de proposer des pistes pour leur mise en œuvre dans le contexte français. Pour cela, nous avons conduit une revue intégrative de la littérature à partir des bases de données Medline, Econlit et Cochrane. Nous avons identifié 569 papiers puis, après application de nos critères, notre recherche a finalement inclus 39 papiers. Peu de preuves robustes peuvent, pour le moment, être portées au crédit de ces paiements, malgré quelques signes prometteurs. Les papiers sélectionnés concernaient en grande majorité des expériences aux Etats-Unis. Différents écueils à éviter ont été identifiés concernant notamment le niveau d'intégration des offreurs de soins, la question du transfert de risque du payeur vers les offreurs de soins ainsi que la variabilité des prises en charge. Cette analyse critique a également permis de dessiner les différents jalons pour la construction d'un tel paiement. Une fois le type de paiement choisi et la pathologie ciblée, différentes étapes sont à suivre : définir un parcours standard en collaboration avec les offreurs de soins ; calculer le montant du paiement ; définir des critères qualité qui serviront de variables d'ajustement éventuelles ; et enfin, s'entendre sur la clé de répartition du paiement entre les organisations concernées. De même, des évaluations externes de ces nouveaux modes de paiement sont nécessaires pour tester la valeur-ajoutée du dispositif. L'ensemble constitue des pistes pour une éventuelle application dans le contexte français.

Jacofsky, D. J. (2017). "Episodic payments (bundling): PART I." Bone Joint J **99-b**(10): 1280-1285.

Episodic, or bundled payments, is a concept now familiar to most in the healthcare arena, but the models are often misunderstood. Under a traditional fee-for-service model, each provider bills separately for their services which creates financial incentives to maximise volumes. Under a bundled payment, a single entity, often referred to as a convener (maybe the hospital, the physician group, or a third party) assumes the risk through a payer contract for all services provided within a defined episode of care, and receives a single (bundled)

payment for all services provided for that episode. The time frame around the intervention is variable, but defined in advance, as are included and excluded costs. Timing of the actual payment in a bundle may either be before the episode occurs (prospective payment model), or after the end of the episode through a reconciliation (retrospective payment model). In either case, the defined costs over the defined time frame are borne by the convener. Cite this article: Bone Joint J 2017;99-B:1280-5.

Jacofsky, D. J. (2017). "Population-based contracting (population health): part II." Bone Joint J **99-b**(11): 1431-1434.

Modern healthcare contracting is shifting the responsibility for improving quality, enhancing community health and controlling the total cost of care for patient populations from payers to providers. Population-based contracting involves capitated risk taken across an entire population, such that any included services within the contract are paid for by the risk-bearing entity throughout the term of the agreement. Under such contracts, a risk-bearing entity, which may be a provider group, a hospital or another payer, administers the contract and assumes risk for contractually defined services. These contracts can be structured in various ways, from professional fee capitation to full global per member per month diagnosis-based risk. The entity contracting with the payer must have downstream network contracts to provide the care and facilities that it has agreed to provide. Population health is a very powerful model to reduce waste and costs. It requires a deep understanding of the nuances of such contracting and the appropriate infrastructure to manage both networks and risk.

Nolte E. (2017). Financing and reimbursement. In Hamelung V. et al. (éd). Handbook integrated care. New York : Springer

This chapter provides an overview of the ways countries have sought to change financing and payment mechanisms at different levels in order to enable better coordination between among providers in the delivery of health services and between health and social care and thus support integration. The chapter begins with a brief overview of the principles underlying the financing of and payment for services and the advantages and challenges inherent in different approaches. It then reviews examples from several countries that have experimented with innovative ways to enhance coordination and integration of service delivery. It then reflects on the evidence of impact of different approaches. It concludes with a set of overarching observations.

Sood, N., et al. (2017). "Effects of payment reform in more versus less competitive markets." J Health Econ **51**: 66-83.

Policymakers are increasingly interested in reducing healthcare costs and inefficiencies through innovative payment strategies. These strategies may have heterogeneous impacts across geographic areas, potentially reducing or exacerbating geographic variation in healthcare spending. In this paper, we exploit a major payment reform for home health care to examine whether reductions in reimbursement lead to differential changes in treatment intensity and provider costs depending on the level of competition in a market. Using Medicare claims, we find that while providers in more competitive markets had higher average costs in the pre-reform period, these markets experienced larger proportional reductions in treatment intensity and costs after the reform relative to less competitive markets. This led to a convergence in spending across geographic areas. We find that much

of the reduction in provider costs is driven by greater exit of "high-cost" providers in more competitive markets.

Strumpf, E., et al. (2017). "The impact of team-based primary care on health care services utilization and costs: Quebec's family medicine groups." J Health Econ **55**: 76-94.

We investigate the effects on health care costs and utilization of team-based primary care delivery: Quebec's Family Medicine Groups (FMGs). FMGs include extended hours, patient enrolment and multidisciplinary teams, but they maintain the same remuneration scheme (fee-for-service) as outside FMGs. In contrast to previous studies, we examine the impacts of organizational changes in primary care settings in the absence of changes to provider payment and outside integrated care systems. We built a panel of administrative data of the population of elderly and chronically ill patients, characterizing all individuals as FMG enrollees or not. Participation in FMGs is voluntary and we address potential selection bias by matching on GP propensity scores, using inverse probability of treatment weights at the patient level, and then estimating difference-in-differences models. We also use appropriate modelling strategies to account for the distributions of health care cost and utilization data. We find that FMGs significantly decrease patients' health care services utilization and costs in outpatient settings relative to patients not in FMGs. The number of primary care visits decreased by 11% per patient per year among FMG enrolees and specialist visits declined by 6%. The declines in costs were of roughly equal magnitude. We found no evidence of an effect on hospitalizations, their associated costs, or the costs of ED visits. These results provide support for the idea that primary care organizational reforms can have impacts on the health care system in the absence of changes to physician payment mechanisms. The extent to which the decline in GP visits represents substitution with other primary care providers warrants further investigation.

Tschudy, M. M., et al. (2017). "Something new in the air: Paying for community-based environmental approaches to asthma prevention and control." J Allergy Clin Immunol **140**(5): 1244-1249.

Despite the recommendation in national asthma guidelines to target indoor environmental exposures, most insurers generally have not covered the outreach, education, environmental assessments, or durable goods integral to home environmental interventions. However, emerging payment approaches offer new potential for coverage of home-based environmental intervention costs. These opportunities are becoming available as public and private insurers shift reimbursement to reward better health outcomes, and their key characteristic is a focus on the value rather than the volume of services. These new payment models for environmental interventions can be divided into 2 categories: enhanced fee-for-service reimbursement and set payments per patient that cover asthma-related costs. Several pilot programs across the United States are underway, and as they prove their value and as payment increasingly becomes aligned with better outcomes at lower cost, these efforts should have a bright future. Physicians should be aware that these new possibilities are emerging for payment of the goods and services needed for indoor environmental interventions for their patients with asthma.

Wranik, W. D., et al. (2017). "Funding and remuneration of interdisciplinary primary care teams in Canada: a conceptual framework and application." BMC Health Serv Res **17**(1): 351.

BACKGROUND: Reliance on interdisciplinary teams in the delivery of primary care is on the rise. Funding bodies strive to design financial environments that support collaboration between providers. At present, the design of financial arrangements has been fragmented

and not based on evidence. The root of the problem is a lack of systematic evidence demonstrating the superiority of any particular financial arrangement, or a solid understanding of options. In this study we develop a framework for the conceptualization and analysis of financial arrangements in interdisciplinary primary care teams. METHODS: We use qualitative data from three sources: (i) interviews with 19 primary care decision makers representing 215 clinics in three Canadian provinces, (ii) a research roundtable with 14 primary care decision makers and/or researchers, and (iii) policy documents. Transcripts from interviews and the roundtable were coded thematically and a framework synthesis approach was applied. RESULTS: Our conceptual framework differentiates between team level funding and provider level remuneration, and characterizes the interplay and consonance between them. Particularly the notions of hierarchy, segregation, and dependence of provider incomes, and the link between funding and team activities are introduced as new clarifying concepts, and their implications explored. The framework is applied to the analysis of collaboration incentives, which appear strongest when provider incomes are interdependent, funding is linked to the team as a whole, and accountability does not have multiple lines. Emergent implementation issues discussed by respondents include: (i) centrality of budget negotiations; (ii) approaches to patient rostering; (iii) unclear funding sources for space and equipment; and (iv) challenges with community engagement. The creation of patient rosters is perceived as a surprisingly contentious issue, and the challenges of funding for space and equipment remain unresolved. CONCLUSIONS: The development and application of a conceptual framework is an important step to the systematic study of the best performing financial models in the context of interdisciplinary primary care. The identification of optimal financial arrangements must be contextualized in terms of feasibility and the implementation environment. In general, financial hierarchy, both overt and covert, is considered a barrier to collaboration.

Bernstein, D. (2016). Avis sur les innovations et système de santé. Document 8 : L'organisation du parcours de soins - les expériences étrangères. Paris HCAAM
http://www.securite-sociale.fr/IMG/pdf/document_8_-_l_organisation_du_parcours_de_soins_-_les_experiences_etrangeres.pdf

L'objectif de cette contribution est d'éclairer la notion de parcours de soins à la lumière des expériences étrangères.

Srivastava, D., et al. (2016). Better Ways to Pay for Health Care, Paris : OCDE
http://www.oecd.org/health/health-systems/better-ways-to-pay-for-health-care-9789264258211-en.htm

Payers for health care are pursuing a variety of policies as part of broader efforts to improve the quality and efficiency of care. Payment reform is but one policy tool to improve health system performance that requires supportive measures in place such as policies with well-developed stakeholder involvement, information on quality, clear criteria for tariff setting, and embedding evaluation as part of the policy process. Countries should not, however, underestimate the significant data challenges when looking at price setting processes. Data access and ways to overcome its fragmentation require well-developed infrastructures. Policy efforts highlight a trend towards aligning payer and provider incentives by using evidence-based clinical guidelines and outcomes to inform price setting. There are signs of increasing policy focus on outcomes to inform price setting. These efforts could bring about system-wide effects of using evidence along with a patient-centred focus to improve health care delivery and performance in the long-run

Struckmann, V., et al. (2016). How to strengthen financing mechanisms to promote care for people with multimorbidity in Europe ? Copenhague, OMS Bureau régional de l'Europe

> Payment mechanisms that take multiple chronic conditions into account and actually promote better integration of care are sadly lacking. This policy brief examines the steps policy makers must take if they are to adapt financing systems to support people with multimorbidity better. It looks at securing sustainable funding ; options for upgrading payment mechanisms ; and how financing mechanisms can stimulate good quality integrated care for people with multimorbidity. Key messages include that : Payment mechanisms can provide key incentives for providers to collaborate, enable better care and create efficiency savings (while paying individual providers separately tends to block integration). Innovative payment mechanisms (shared savings models, bundled payments, pay for performance) can be combined with more traditional models (budget, capitation, fee for service) but are inevitably complex. They need to adequately account for the complexity of cases treated which means drawing on very extensive data on cost and quality and considerable technical expertise. Policy makers, who are working to make financing support integrated care, need to give a strong leadership signal and create supportive national and programme structures. They must : Put in place information and support systems to deal with the complexity ; Give proper thought to local conditions (and local capacity to cope) ; Consider funding guarantees and other strategies for mainstreaming new approaches so that providers are encouraged to innovate, and take an incremental and long-term approach to change (including ongoing evaluation).

Youn, S., et al. (2016). Hospital Quality, Medical Charge Variation, and Patient Care Effciency: Implications for Bundled Payment Reform Models. College Station Texas A&M University

> Patient-centric healthcare reform models pursue lower healthcare costs, improved care quality, and better patient population health outcomes. Many patient-centric reform models focus on standardizing treatment protocols and reducing care delivery variability. Yet the structure of reform models themselves may lead to unintended process variability, the implications of which researchers should analyze. Prior research has not determined whether the reform models can potentially drive better patient-centric outcomes. A distinct challenge in analyzing their potential impact concerns a lack of publicly available historical data on reform models. We circumvent this challenge by recasting available data into relevant metrics, and examining how variation in hospital medical charges relates to patient-centric reform model goals. To do so, we develop a hospital-condition level measure called weighted average coefficient of variation (WACV) to identify the degree of variation in hospital medical charges resulting from underlying care process variability. WACV contributes by capturing unwarranted process variation in medical care protocols after controlling for warranted variation due to patient distributions of illness severity. Using Medicare data from New York state, we find evidence that higher charge variation (WACV) levels are indeed associated with lower hospital technical efficiency. Secondly, we show that prior-period process quality (that measures how well a hospital adheres to evidence-based medical guidelines) has a significant negative association with WACV. In contrast, the prior-period outcome quality measures are not associated with WACV. For policy-makers, the results imply that managerial incentives and interventions based on process quality may be more effective for changing operational behaviors, compared to basing incentives and interventions solely on outcome quality. Further, the results imply that WACV should play a role in the design of healthcare reform models. We examine these implications for bundled payment programs, which fix the amount of reimbursement for hospitals within a predefined boundary of patient care episode. Empirical results suggest that the current bundled payment provider

selection mechanism does not consider the degree of unwarranted variation in charges, which we claim to be the improvement opportunity for each participating provider. In doing so, our results contribute by demonstrating that existing bundled payment program policies may not achieve intended goals.

Brun Fain, E. (2015). Quelle rémunération pour les médecins exerçant dans des structures interprofessionnelles ambulatoires, aux États-Unis, au Canada, aux Pays Bas et au Royaume Uni ? Revue de la littérature. Paris Université de Paris Dauphine. **Master Evaluation Médico-Economique et accès au marché (ENAM) ; Université Paris Dauphine:** 53.

Le projet de loi de santé de « Modernisation de notre système de santé » prévoit une évolution de la rémunération des médecins généralistes français. Or, « le droit à des honoraires pour tout malade soigné et le paiement direct par le malade » est un des principes de la chartre fondatrice de la médecine libérale de 1927, d'où l'indignation de nombreux médecins généralistes à ce propos. Bien qu'ils perçoivent aujourd'hui une partie de leur rémunération selon d'autres modalités (forfait par patient dont ils sont le médecin traitant, par patient présentant une maladie chronique, Rémunération sur Objectifs de Santé Publique) la plupart craint une évolution de son mode de rémunération, ainsi qu'une perte d'autonomie, chère à la médecine libérale. Or, le système de soins primaires français est aujourd'hui face à la nécessité d'évoluer : le vieillissement de la population et la croissance exponentielle du nombre de malades chroniques le place devant un défi considérable de financement mais avant cela même, d'organisation des soins. En 2008, la Loi de Financement de la Sécurité Sociale a mis en place une Expérimentation de Nouveaux Modes de Rémunération. destinés aux structures interprofessionnelles visant à valoriser les initiatives de coordination et de coopération. Ce système de rémunération a été généralisé en 2015, mais son évolution dépendra des résultats de l'évaluation de ces Nouveaux Modes de Rémunération (NMR) ainsi que d'éléments de comparaison étrangers. Afin de répondre à ce dernier objectif, cette étude propose une revue de la littérature visant à décrire différents modes de rémunération alternatifs au paiement à l'acte, à destination de groupes interprofessionnels aux Etats-Unis, au Canada, au Royaume Uni et aux Pays Bas. Dans une première partie, elle définit des concepts utiles à la compréhension du sujet, puis expose la méthode utilisée pour la recherche bibliographique. Dans une partie consacrée aux résultats, elle présente séparément pour chaque pays, le contexte d'évolution du système de santé, les structures interprofessionnelles en ambulatoire qui s'y sont développées et leur mode de financement. L'impact de ces modes de financement sera analysé de façon globale dans une courte seconde partie.

Chen, L. M., et al. (2015). "Medicare's Bundled Payments for Care Improvement initiative: expanding enrollment suggests potential for large impact." Am J Manag Care **21**(11): 814-820.

OBJECTIVES: Aiming to encourage care coordination and cost efficiency, the Center for Medicare and Medicaid Innovation (CMMI) launched the Bundled Payments for Care Improvement (BPCI) initiative in 2013. To help gauge the program's potential impact and generalizability, we describe early and current participants. STUDY DESIGN: We examined the cross-sectional association between BPCI participation and providers' structural and cost characteristics. METHODS: Using data from October 2013 and June 2014, we quantified changes in BPCI participation. We described structural differences between participating and nonparticipating hospitals using t tests and chi2 tests, and we used the Cochrane-Armitage test to assess whether participants were more likely be in higher 90-day episode cost quintiles than their peers at baseline (2009-2010). RESULTS: Overall (risk-bearing and non-risk-bearing) participation in BPCI increased from about 400 in October 2013 to more than

2000 in June 2014-attributable, in part, to Model 2, the most comprehensive of the 4 models offered by CMMI for provider participation. Model 2 hospitals increasingly resemble eligible but nonparticipating hospitals. For the most commonly chosen condition of hip replacement, Model 2 hospitals were not costlier than their peers. Hospitals used to make up 97% of Model 2 participants, but physician practices now comprise a substantial number of Model 2 participants. However, most BPCI participants have not yet begun to bear financial risk. Risk-bearing Model 2 hospitals are a smaller and less representative group, with higher baseline costs for hip replacement than their peers. CONCLUSIONS: Growing participation in BPCI suggests strong interest in bundled payments. The long-term impact of BPCI will depend on CMMI's ability to persuade interested but non-risk-bearing participants to bear risk.

Ellis, R. P., et al. (2015). Provider Payment Methods and Incentives. International Encyclopedia of Public Health**:** 27.
http://d.repec.org/n?u=RePEc:bos:wpaper:wp2015-023&r=hea

Diverse provider payment systems create incentives that affect the quantity and quality of health care services provided. Payments can be based on provider characteristics, which tend to minimize incentives for quality and quantity. Or payments can be based on quantities of services provided and patient characteristics, which provide stronger incentives for quality and quantity. Payments methods using both broader bundles of services and larger numbers of payment categories are growing in prevalence. The recent innovation of performance-based payment attempts to target payments on key patient attributes so as to improve incentives, better manage patients, and control costs.

Friedberg, M. W., et al. (2015). Effects of Health Care Payment Models on Physician Practice in the United States. Santa Monica Rand corporation
http://www.rand.org/pubs/research_reports/RR869.html

The project reported here, sponsored by the American Medical Association (AMA), aimed to describe the effects that alternative health care payment models (i.e., models other than fee-for-service payment) have on physicians and physician practices in the United States. These payment models included capitation, episode-based and bundled payment, shared savings, pay for performance, and retainer-based practice. Accountable care organizations and medical homes, which are two recently expanding practice and organizational models that frequently participate in one or more of these alternative payment models, were also included. Project findings are intended to help guide efforts by the AMA and other stakeholders to make improvements to current and future alternative payment programs and help physician practices succeed in these new payment models — i.e., to help practices simultaneously improve patient care, preserve or enhance physician professional satisfaction, satisfy multiple external stakeholders, and maintain economic viability as businesses. The report provides both findings and recommendations.

Freund, T., et al. (2015). "Skill mix, roles and remuneration in the primary care workforce: who are the healthcare professionals in the primary care teams across the world?" Int J Nurs Stud **52**(3): 727-743.

World-wide, shortages of primary care physicians and an increased demand for services have provided the impetus for delivering team-based primary care. The diversity of the primary care workforce is increasing to include a wider range of health professionals such as nurse practitioners, registered nurses and other clinical staff members. Although this development is observed internationally, skill mix in the primary care team and the speed of progress to

deliver team-based care differs across countries. This work aims to provide an overview of education, tasks and remuneration of nurses and other primary care team members in six OECD countries. Based on a framework of team organization across the care continuum, six national experts compare skill-mix, education and training, tasks and remuneration of health professionals within primary care teams in the United States, Canada, Australia, England, Germany and the Netherlands. Nurses are the main non-physician health professional working along with doctors in most countries although types and roles in primary care vary considerably between countries. However, the number of allied health professionals and support workers, such as medical assistants, working in primary care is increasing. Shifting from 'task delegation' to 'team care' is a global trend but limited by traditional role concepts, legal frameworks and reimbursement schemes. In general, remuneration follows the complexity of medical tasks taken over by each profession. Clear definitions of each team-member's role may facilitate optimally shared responsibility for patient care within primary care teams. Skill mix changes in primary care may help to maintain access to primary care and quality of care delivery. Learning from experiences in other countries may inspire policy makers and researchers to work on efficient and effective teams care models worldwide.

Gray, D., Hogg, W., Green, M. E., et al. (2015). "Did Family Physicians Who Opted into a New Payment Model Receive an Offer They Should Not Refuse? Experimental Evidence from Ontario." Canadian Public Policy / Analyse de Politiques **41**(2): 151-165.
http://www.jstor.org/stable/24365161

[On croit très souvent que la façon la plus courante de rémunérer les médecins qui offrent des soins de santé primaires – la rémunération à l'acte – n'est pas celle qui offre les meilleurs incitatifs, et plusieurs proposent alors un autre type de rémunération qui implique une forme ou une autre de capitation. Notre objectif est d'évaluer les bénéfices qu'ont retirés des médecins de famille qui, autrefois rémunérés à l'acte, sont maintenant rémunérés selon un barème mixte impliquant une forme de capitation. Notre étude porte sur la période 2004–2004, en Ontario, durant laquelle deux nouveaux types de rémunération ont été mis en place. Nos données proviennent d'une enquête menée auprès de médecins de famille, de renseignements administratifs qui décrivent la pratique de ces médecins et d'informations tirées de leurs déclarations de revenus. Nous utilisons des techniques d'évaluation non expérimentales et diverses techniques empiriques pour évaluer l'impact du changement de type de rémunération sur les revenus de ces médecins. Nos résultats indiquent que, tel que le soutient le gouvernement de l'Ontario, un type mixte de rémunération permettrait d'augmenter le revenu des médecins, puisque nous estimons que les revenus des médecins qui ont changé de type de rémunération ont maintenant, toutes choses étant égales par ailleurs, des revenus plus élevés d'environ 25 %. It is widely believed that the traditional way of remunerating primary care physicians–namely, the fee-for-service (FFS) mechanism–generates suboptimal incentives to health care providers. The alternative payment scheme that is typically preferred involves some form of capitation. The objective of this paper is to investigate the degree to which family physicians (FPs) benefited financially after having switched from the traditional FFS mode of payment to a blended scheme involving capitation. The setting is Ontario over the period 2000–2004, during which two new payment models were implemented. We utilize a special survey of FPs that is merged with unique administrative data describing their medical practices as well as with income data drawn from their tax returns. We apply the methods of the non-experimental program evaluation literature to assess the impact of a change in remuneration scheme on FPs' income levels. Applying a battery of empirical techniques, our findings support the Ontario government's claims that adopting a blended payment model would increase the incomes of FPs. We

estimate that physicians who switched remuneration schemes earned incomes that were approximately 25 percent higher, ceteris paribus.]

Mason, A., et al. (2015). "Integrating funds for health and social care: an evidence review." J Health Serv Res Policy **20**(3): 177-188.

OBJECTIVES: Integrated funds for health and social care are one possible way of improving care for people with complex care requirements. If integrated funds facilitate coordinated care, this could support improvements in patient experience, and health and social care outcomes, reduce avoidable hospital admissions and delayed discharges, and so reduce costs. In this article, we examine whether this potential has been realized in practice. METHODS: We propose a framework based on agency theory for understanding the role that integrated funding can play in promoting coordinated care, and review the evidence to see whether the expected effects are realized in practice. We searched eight electronic databases and relevant websites, and checked reference lists of reviews and empirical studies. We extracted data on the types of funding integration used by schemes, their benefits and costs (including unintended effects), and the barriers to implementation. We interpreted our findings with reference to our framework. RESULTS: The review included 38 schemes from eight countries. Most of the randomized evidence came from Australia, with nonrandomized comparative evidence available from Australia, Canada, England, Sweden and the US. None of the comparative evidence isolated the effect of integrated funding; instead, studies assessed the effects of 'integrated financing plus integrated care' (i.e. 'integration') relative to usual care. Most schemes (24/38) assessed health outcomes, of which over half found no significant impact on health. The impact of integration on secondary care costs or use was assessed in 34 schemes. In 11 schemes, integration had no significant effect on secondary care costs or utilisation. Only three schemes reported significantly lower secondary care use compared with usual care. In the remaining 19 schemes, the evidence was mixed or unclear. Some schemes achieved short-term reductions in delayed discharges, but there was anecdotal evidence of unintended consequences such as premature hospital discharge and heightened risk of readmission. No scheme achieved a sustained reduction in hospital use. The primary barrier was the difficulty of implementing financial integration, despite the existence of statutory and regulatory support. Even where funds were successfully pooled, budget holders' control over access to services remained limited. Barriers in the form of differences in performance frameworks, priorities and governance were prominent amongst the UK schemes, whereas difficulties in linking different information systems were more widespread. Despite these barriers, many schemes - including those that failed to improve health or reduce costs - reported that access to care had improved. Some of these schemes revealed substantial levels of unmet need and so total costs increased. CONCLUSIONS: It is often assumed in policy that integrating funding will promote integrated care, and lead to better health outcomes and lower costs. Both our agency theory-based framework and the evidence indicate that the link is likely to be weak. Integrated care may uncover unmet need. Resolving this can benefit both individuals and society, but total care costs are likely to rise. Provided that integration delivers improvements in quality of life, even with additional costs, it may, nonetheless, offer value for money.

(2014). Nouveaux modes de rémunération : Eclairage international de pratiques économiques innovantes dans le domaine de la santé. Modèles et incidences sur la formation et l'emploi de l'usage du numérique dans les services de l'administration. Annexes du rapport de phase 1 «Modèle opérationnels ». Monographies de l'étude de cas., Paris : OPIIEC**:** 121-140

Présentation des nouveaux modes de rémunération en France; Modes de rémunération en Grande-Bretagne, Etats-Unis, Pays-Bas.

Damberg, C. L., et al. (2014). Measuring Success in Health Care Value-Based Purchasing Programs. Summary and recommendations. Santa-Monica The Rand**:** 66.
http://www.rand.org/pubs/research_reports/RR306.html

Value-based purchasing (VBP) refers to a broad set of performance-based payment strategies that link financial incentives to health care providers' performance on a set of defined measures in an effort to achieve better value. The U.S. Department of Health and Human Services is advancing the implementation of VBP across an array of health care settings in the Medicare program in response to requirements in the 2010 Patient Protection and Affordable Care Act, and policymakers are grappling with many decisions about how best to design and implement VBP programs so that they are successful in achieving stated goals. This report summarizes the current state of knowledge about VBP based on a review of the published literature, a review of publicly available documentation from VBP programs, and discussions with an expert panel composed of VBP program sponsors, health care providers and health systems, and academic researchers with VBP evaluation expertise. Three types of VBP models were the focus of the review: (1) pay-for-performance programs, (2) accountable care organizations, and (3) bundled payment programs. The authors report on VBP program goals and what constitutes success; the evidence on the impact of these programs; factors that characterize high- and low-performing providers in VBP programs; the measures, incentive structures, and benchmarks used by VBP programs; evidence on spillover effects and unintended consequences; and gaps in the knowledge base.

Mason, A., et al. (2014). Financial Mechanisms for Integrating Funds for Health and Social Care: An Evidence Review. 67, York : University of York
http://www.york.ac.uk/media/che/documents/papers/researchpapers/CHERP97_Financial_mechanisms_integrating_funds_healtthcare_social_care_.pdf

Integrated care is often perceived as a solution for some of the major challenges faced by health and social care systems. In these systems, 20% of the population accounts for 80% of the expenditure on care [1]. These 'high users' are typically people with one or more long-term conditions and who have complex needs that straddle health and social care boundaries; the population includes, but is not limited to, older people. By coordinating care at the level of the individual, decision makers should in theory identify problems earlier in the care pathway and shift care closer to home, improve the patient experience, prevent or reduce avoidable hospital admissions and delayed discharges, improve health outcomes and reduce unnecessary duplication of care. However, empirical studies of integrated care systems suggest that the reality falls far short of these high expectations. While some evaluations have identified cost savings or improved outcomes, most find no significant benefits, and in those that do identify improvements, the effects are small

Sheiman, I. (2014). Integrated Health Care Payment Methods: Typology, Evidence And Pre-Conditions Of Implementation. Higher School of Economics Research Paper No. WP BRP 18/PA/2014. Moscou HSE
http://www.hse.ru/data/2014/09/25/1315606082/18PA2014.pdf

Many countries have recently started the search for new payments methods with the specific objective to encourage integration in health care delivery – teamwork of providers, their coordination and continuity of care. This paper suggests the typology of three major

integrated payment methods – pay-for-performance, episode based bundled payment and global payment. A brief overview of these methods in the USA and Europe, including Russia, indicates that there is still no strong evidence of their effects on integration and other dimensions of medical service delivery performance. It is argued that relative to other integrated methods global payment is the most promising method, since it provides incentives for comprehensive organizational changes. The major pre-conditions for global payment implementation are risk bearing in integrated networks, shared savings schemes, performance transparency system, infrastructure for coordination and collaboration. It is also argued that global payment is hard to implement – mostly due to a high probability of excessive financial risks placed on providers in integrated networks. The activities to mitigate these risks are discussed based on the approaches piloted in Russia.

Hernandez-Quevado, C., et al. (2013). "Incentivising Integrated Care." Eurohealth **19**(2): 52. http://www.lse.ac.uk/LSEHealthAndSocialCare/pdf/eurohealth/Eurohealth_volume_19_issue_2.pdf

This issue of EuroHealth considers the role of integrated care models (ICMs) in health systems, examining innovative ICMs, payment schemes and financial incentives in case studies of eight countries. An article on Canada looks at this country's weak performance in primary care when compared internationally. The authors maintain that the protected status of Canadian doctors as fee-for-service contractors is not suited to primary care practice.

Bourgueil, Y. (2013). "La mutation des modes de paiement des professionnels en soins primaires au Canada et en France." Rémunérer les services de santé.(40): 63-68.

Cet article fait état des évolutions en cours dans les modes de rémunération dans le domaine des soins primaires en comparant le Canada et la France, deux pays qui présentent des systèmes de santé proches et qui s'influencent depuis de nombreuses années. La description des modes innovants de paiement des médecins, leurs processus d'implantation, les résistances auxquelles ils font face et les résultats obtenus permettent de mettre en évidence les orientations communes des politiques menées dans les deux pays et de souligner la nécessaire continuité et globalité de ces politiques pour impacter durablement l'organisation des soins (résumé de l'éditeur).

(2012). Reforming payment for health care in Europe to achieve better value. Londres Nuffield Trust http://www.nuffieldtrust.org.uk/sites/files/nuffield/publication/120823_reforming-payment-for-health-care-in-europev2.pdf

This report compares different payment systems for health care used across Europe and examines their role in improving the efficiency and quality of care. Findings are based on discussions at the Nuffield Trust and KPMG summit for European health leaders, held in January 2012.

Bakker, D. H. d., et al. (2012). "Early results from adoption of bundled payment for diabetes care in the Netherlands show improvement in care coordination." Health Affairs **31**(2): 724-733.

Blumenthal, D. et Dixon, J. (2012). "Health-care reforms in the USA and England: areas for useful learning." The Lancet **380**(9850): 1352-1357.

Two landmark and controversial bills reforming health care in the USA and England were recently passed. Despite the different history and context to health care in both countries,

there is much room for mutual learning. This paper identifies three areas relating to financing, organisation, and information technology. For example, new payment mechanisms to encourage higher quality and efficiency are being developed and tested, particularly bundled payments, pay for performance, and value-based purchasing. In the USA, new national bodies to scrutinise payments in health care and to test promising new interventions to improve quality and efficiency will have lessons for the NHS. The faster adoption of electronic health records and their use in England to assess quality is a useful lesson for the USA. The new accountable care organisations and clinical commissioning groups have much to learn from each other as they develop

Huckfeldt, P. J., et al. (2012). Effects of Medicare Payment Reform: Evidence from the Home Health Interim and Prospective Payment Systems. NBER Working Paper Series ; 17870. Cambridge NBER

Medicare continues to implement payment reforms that shift reimbursement from fee-for-service towards episode-based payment, affecting average and marginal reimbursement. This contrasts the effects of two reforms for home health agencies. The Home Health Interim Payment System in 1997 lowered both types of reimbursement; the conceptual model used in this paper predicts a decline in the likelihood of use and costs, both of which we find. The Home Health Prospective Payment System in 2000 raised average but lowered marginal reimbursement with theoretically ambiguous effects; we find a modest increase in use and costs. We find little substantive effect of either policy on readmissions or mortality.

Hussey, P. S., et al. (2012). Bundled Payment: Effects on Health Care Spending and Quality. Closing the Quality Gap: Revisiting the State of the Science. Rockville Agency for Healthcare Research and Quality
http://www.effectivehealthcare.ahrq.gov/ehc/products/324/1235/EvidenceReport208_CQGBundledPayment_FinalReport_20120823.pdf

Bundled payment is a method in which payments to health care providers are related to the predetermined expected costs of a grouping, or bundle, of related health care services. The intent of bundled payment systems is to decrease health care spending while improving or maintaining the quality of care. The purpose of this report is to systematically review studies of the effects of bundled payment on health care spending and quality, and to examine key design and contextual features of bundled payment programs and their association with program effectiveness. The review addressed three Key Questions: What does the evidence show on the effects of bundled payment versus usual (predominantly fee-for-service) payment on health care spending and quality measures? Does the evidence show differences in the effects of bundled payment systems by key design features ? Does the evidence show differences in the effects of bundled payment systems by key contextual factors ?

Polton, D., et al.(2011) ? Les modes incitatifs de rémunération des soins. Actes du séminaire.
Au cours de ce séminaire a été abordé : Panorama des modes de rémunération, regard international; Considérations théoriques sur la rémunération des acteurs de santé; paiement à la performance dans le monde; la convention médicale; L'expérimentation sur les maisons de santé (DSS).

Sood, N., et al. (2011). "Medicare's bundled payment pilot for acute and postacute care: analysis and recommendations on where to begin." Health Affairs **30**(9): 724-733.

Lewis, R. Q., et al. (2010). Where next for integrated care organisations in the English NHS ? Londres, Nuffield Trust

Since the 1950s, the NHS has been looking at ways of improving care coordination. Lord Darzi's NHS Next Stage Review introduced a new concept, that of the integrated care organisation (ICO). Since then, the Government has begun piloting schemes that offer different models of integrated care. This report, published jointly by The Nuffield Trust and The King's Fund, examines some of these new models. It focuses in particular on organisations that combine commissioner and provider roles. These, the authors suggest, offer the most promise for aligning incentives to produce efficient care across primary, community and acute services. This report forms part of work by both The Nuffield Trust and The King's Fund examining new forms of structuring and delivering care over the coming decade.

Schneider, E. C., et al. (2010). Payment Reform Analysis of Models and Performance Measurement Implications. Santa Monica Rand corporation
http://www.rand.org/content/dam/rand/pubs/technical_reports/2011/RAND_TR841.pdf

Insurers and purchasers of health care in the United States are on the verge of potentially revolutionary changes in the approaches they use to pay for health care. Recently, purchasers and insurers have been experimenting with payment approaches that include incentives to improve quality and reduce the use of unnecessary and costly services. The Patient Protection and Affordable Care Act of 2010 is likely to accelerate payment reform based on performance measurement. This technical report catalogues nearly 100 implemented and proposed payment reform programs, classifies each of these programs into one of 11 payment reform models, and identifies the performance measurement needs associated with each model. A synthesis of the results suggests near-term priorities for performance measure development and identifies pertinent challenges related to the use of performance measures as a basis for payment reform. The report is also intended to create a shared framework for analysis of future performance measurement opportunities. This report is intended for the many stakeholders tasked with outlining a national quality strategy in the wake of health care reform legislation.

(2009). Improving incentives in the Medicare Program : report to the Congress. Washington MEDPAC
http://www.medpac.gov/documents/Jun09_EntireReport.pdf

Recent studies show that the U.S. health care system is not buying enough recommended care and is buying too much unnecessary care, much of it at very high prices, resulting in a system that costs significantly more per capita than in any other country. These facts strongly indicate that our health care system is not delivering value for its stakeholders. As a major payer, the Medicare program shares in these problems. For decades, researchers have documented the wide variation across the United States in Medicare spending and rates of service use. For example, they find that rates of use for certain kinds of care, referred to as supply-sensitive services (i.e., likely driven by a geographic area?s supply of specialists and technology), differ greatly from one region to another. The higher rates of use are often not associated with better outcomes or quality and instead suggest inefficiencies. One recent analysis shows that, at the state level, no relationship exists between health care spending per capita and mortality amenable to medical care, that an inverse relationship exists between spending and rankings on quality of care, and that spending is highly correlated with both preventable hospitalizations and hospitalizations for ambulatory-care-sensitive conditions. These findings point to inefficient spending patterns that result in poor value for our health care dollars. At the same time, they point to opportunities for improvement. In this report, the Commission discusses a number of issues and challenges for Medicare

payment and delivery system reform. The issues range broadly but focus on how incentives in the current Medicare payment systems could be changed to reward value not volume.

Berenson, R. A. et Howell, J. (2009). Structuring, Financing and Paying for Effective Chronic Care Coordination. Washington The Urban Institute
http://www.urban.org/uploadedpdf/1001316_chronic_care.pdf

Growing evidence demonstrates that certain approaches to financing and paying for chronic care coordination for patients are effective not only for improving patient well-being but can also reduce health care spending. However, chronic care approaches should vary for different patient populations and can be carried out effectively by diverse organizations and professionals reflecting the heterogeneity of health care delivery throughout the US. The Report considers the different populations in need of care coordination, summarizes current evidence of effectiveness, describes the various entities that can serve as focal points for coordinating care, and details the possible financing and payment options that can support these approaches.

De Brantes. F., et al. (2009). "Building a Bridge from Fragmentation to Accountability ? The Prometheus Payment Model." New England Journal of Medicine (the) **361**(11): 1033-1036.
http://content.nejm.org/cgi/reprint/NEJMp0906121.pdf

Samy, S. A. (2009). "The Prometheus Payment model." N Engl J Med **361**(24): 2389; author reply 2389.

Rosenthal, M. B. (2008). "Beyond Pay for Performance ? Emerging Models of Provider-Payment Reform." New England Journal of Medicine (the) **359**(12): 1197-1200.
http://content.nejm.org/cgi/reprint/359/12/1197.pdf