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## Assurance maladie / Health Insurance

**Bramesfeld, A., et al. (2015). "Developing cross-sectoral quality assurance for cataract surgery in the statutory quality assurance program of the German health care system: Experiences and lessons learned." *Health Policy* 119(8): 1017-1022.**

Since 2001, statutory external quality assurance (QA) for hospital care has been in place in the German health system. In 2009, the decision was taken to expand it to cross-sectoral procedures. This novel and unprecedented form of national QA aims at (1) making the quality procedures comparable that are provided both in inpatient and outpatient care, (2) following-up outcomes of hospital care after patients' discharge and (3) measuring the quality of complex treatment chains across interfaces. As a pioneer procedure a QA procedure in cataract surgery QA was developed. Using this as an example, challenges of cross-sectoral QA are highlighted. These challenges relate, in particular, to three technical problems: triggering cases for documentation, following-up patients' after hospital discharge, and the burden of documentation in outpatient care. These problems resulted finally in the haltering of the development of the QA procedure. However, the experiences gained with this first development of cross-sectoral QA inspired the reorientation and further development of the field in Germany. Future cross-sectoral QA will rigorously aim at keeping burden of documentation small. It will draw data for QA mainly at three sources: routine data, patient surveys and peer reviews using indicators. Policy implications of this reorientation are discussed.

**Cylus, J. and I. Papanicolas (2015). "An analysis of perceived access to health care in Europe: How universal is universal coverage?" *Health Policy*, 119(9): 1133-1144.**

The objective of this paper is to examine variations in perceptions of access to health care across and within 29 European countries. Using data from the 2008 round of the European Social Survey, we investigate the likelihood of an individual perceiving that they will experience difficulties accessing health care in the next 12 months, should they need it (N=51,835). We find that despite most European countries having mandates for universal health coverage, individuals who are low income, in poor health, lack citizenship in the country where they reside, 20-30 years old, unemployed and/or female have systematically greater odds of feeling unable to access care. Focusing on the role of income, we find that while there is a strong association between low income and perceived access barriers across countries, within many countries, perceptions of difficulties accessing care are not concentrated uniquely among low-income groups. This implies that factors that affect all income groups, such as poor quality care and long waiting times may serve as important barriers to access in these countries. Despite commitments to move towards universal health coverage in Europe, our results suggest that there is still significant heterogeneity among individuals' perceptions of access and important barriers to accessing health care.

**Handel B.R., Kolstadt J.T. (2015). "Health Insurance for "Humans": Information Frictions, Plan Choice, and Consumer Welfare." *The American Economic Review* 105(8): 2449-2500.**

Traditional models of insurance choice are predicated on fully informed and rational consumers protecting themselves from exposure to financial risk. In practice, choosing an insurance plan is a complicated decision often made without full information. In this paper we combine new administrative data on health plan choices and claims with unique survey data on consumer information to identify risk preferences, information frictions, and hassle costs. Our additional friction measures are important predictors of choices and meaningfully impact risk preference estimates. We study the implications of counterfactual insurance allocations to illustrate the importance of distinguishing between these micro-foundations



for welfare analysis. (JEL D81, D8 3, G22, I13)

**Schmidt, H., and al. (2015). "Public health, universal health coverage, and Sustainable Development Goals: can they coexist?" Lancet, 386 (9996) : 928-930**

## Economie de la santé / Health Economics

**Caldbeck, S., et al. (2015). "The financial burden of out of pocket prescription drug expenses in Canada." International Journal of Health Economics and Management 15(3): 329-338.**

**Keehan, S. P., et al. (2015). "National Health Expenditure Projections, 2014-24: Spending Growth Faster Than Recent Trends." Health Aff (Millwood) 34(8): 1407-1417.**

Health spending growth in the United States is projected to average 5.8 percent for 2014-24, reflecting the Affordable Care Act's coverage expansions, faster economic growth, and population aging. Recent historically low growth rates in the use of medical goods and services, as well as medical prices, are expected to gradually increase. However, in part because of the impact of continued cost-sharing increases that are anticipated among health plans, the acceleration of these growth rates is expected to be modest. The health share of US gross domestic product is projected to rise from 17.4 percent in 2013 to 19.6 percent in 2024.

**Laires, P. A., et al. (2015). "Indirect costs associated with early exit from work attributable to rheumatic diseases." Eur J Public Health 25(4): 677-682.**

BACKGROUND: Rheumatic diseases (RD) cause physical disability that may lead to early exit from work, generating indirect costs to society. We aimed to measure these costs in a population approaching the statutory retirement age. METHODS: The analysis was based on the prevalence of self-reported RD using a bottom-up approach. Health and sociodemographic data were retrieved from the fourth National Health Survey (INS), for all people between 50 and 64 years of age (3762 men and 4241 women), whereas an official national database was used to estimate productivity values by gender, age group and region, using the human capital approach. The effects of RD on the likelihood of early exit from paid employment and the attributable fractions estimates were obtained at the individual level by logistic regression. RESULTS: At the time of the survey, 37.2% of the population aged 50-64 years self-reported at least one RD. Among these, 52.6% were not employed, compared with 40.7% of those without RD ( $P < 0.001$ ). The annual indirect costs following premature exit from work attributable to RD were euro650 million (euro892 per RD patient). Early retirement amounted to euro367 million, whereas early retirement and unemployment totalized euro385 million (euro504 and euro528 per RD patient, respectively). Females are responsible for about 60% of these costs; however, males contribute with higher individual productivity losses. CONCLUSION: Early exit from work attributable to RD amounts to approximately 0.4% of the national GDP. The public health concern and the economic impact highlight the need to prioritize investments in health and social protection policies targeting patients with rheumatic conditions.

**Petherick, E. S., et al. (2015). "Can different primary care databases produce comparable estimates of burden of disease: results of a study exploring venous leg ulceration." Family Practice 32(4): 374-380.**

Background. Primary care databases from the UK have been widely used to produce

evidence on the epidemiology and health service usage of a wide range of conditions. To date there have been few evaluations of the comparability of estimates between different sources of these data. Aim. To estimate the comparability of two widely used primary care databases, the Health Improvement Network Database (THIN) and the General Practice Research Database (GPRD) using venous leg ulceration as an exemplar condition. Design of study. Cross prospective cohort comparison. Setting. GPRD and the THIN databases using data from 1998 to 2006. Method. A data set was extracted from both databases containing all cases of persons aged 20 years or greater with a database diagnosis of venous leg ulceration recorded in the databases for the period 1998–2006. Annual rates of incidence and prevalence of venous leg ulceration were calculated within each database and standardized to the European standard population and compared using standardized rate ratios. Results. Comparable estimates of venous leg ulcer incidence from the GPRD and THIN databases could be obtained using data from 2000 to 2006 and of prevalence using data from 2001 to 2006. Conclusions. Recent data collected by these two databases are more likely to produce comparable results of the burden venous leg ulceration. These results require confirmation in other disease areas to enable researchers to have confidence in the comparability of findings from these two widely used primary care research resources.

**Seuring, T., et al. (2015). "The Economic Costs of Type 2 Diabetes: A Global Systematic Review." *Pharmacoeconomics* 33(8): 811-831.**

**BACKGROUND:** There has been a widely documented and recognized increase in diabetes prevalence, not only in high-income countries (HICs) but also in low- and middle-income countries (LMICs), over recent decades. The economic burden associated with diabetes, especially in LMICs, is less clear. **OBJECTIVE:** We provide a systematic review of the global evidence on the costs of type 2 diabetes. Our review seeks to update and considerably expand the previous major review of the costs of diabetes by capturing the evidence on overall, direct and indirect costs of type 2 diabetes worldwide that has been published since 2001. In addition, we include a body of economic evidence that has hitherto been distinct from the cost-of-illness (COI) work, i.e. studies on the labour market impact of diabetes. **METHODS:** We searched PubMed, EMBASE, EconLit and IBSS (without language restrictions) for studies assessing the economic burden of type 2 diabetes published from January 2001 to October 2014. Costs reported in the included studies were converted to international dollars (\$) adjusted for 2011 values. Alongside the narrative synthesis and methodological review of the studies, we conduct an exploratory linear regression analysis, examining the factors behind the considerable heterogeneity in existing cost estimates between and within countries. **RESULTS:** We identified 86 COI and 23 labour market studies. COI studies varied considerably both in methods and in cost estimates, with most studies not using a control group, though the use of either regression analysis or matching has increased. Direct costs were generally found to be higher than indirect costs. Direct costs ranged from \$242 for a study on out-of-pocket expenditures in Mexico to \$11,917 for a study on the cost of diabetes in the USA, while indirect costs ranged from \$45 for Pakistan to \$16,914 for the Bahamas. In LMICs-in stark contrast to HICs-a substantial part of the cost burden was attributed to patients via out-of-pocket treatment costs. Our regression analysis revealed that direct diabetes costs are closely and positively associated with a country's gross domestic product (GDP) per capita, and that the USA stood out as having particularly high costs, even after controlling for GDP per capita. Studies on the labour market impact of diabetes were almost exclusively confined to HICs and found strong adverse effects, particularly for male employment chances. Many of these studies also took into account the possible endogeneity of diabetes, which was not the case for COI studies. **CONCLUSIONS:** The reviewed studies indicate a large economic burden of diabetes, most directly affecting patients in LMICs. The magnitude of the cost estimates differs considerably between and within countries, calling

for the contextualization of the study results. Scope remains large for adding to the evidence base on labour market effects of diabetes in LMICs. Further, there is a need for future COI studies to incorporate more advanced statistical methods in their analysis to account for possible biases in the estimated costs.

## Etat de santé / Health Status

**Gustafsson, P. E., et al. (2015). "Cumulative contextual and individual disadvantages over the life course and adult functional somatic symptoms in Sweden." *Eur J Public Health* 25(4): 592-597.**

**BACKGROUND:** Disadvantage, originating in one's residential context or in one's past life course, has been shown to impact on health in adulthood. There is however little research on the accumulated health impact of both neighbourhood and individual conditions over the life course. This study aims to examine whether the accumulation of contextual and individual disadvantages from adolescence to middle-age predicts functional somatic symptoms (FSS) in middle-age, taking baseline health into account. **METHODS:** The sample is the age 16, 21, 30 and 42 surveys of the prospective Northern Swedish Cohort, with analytical sample size  $n = 910$  (85% of the original cohort). FSS at age 16 and 42, and cumulative socioeconomic disadvantage, social adversity and material adversity between 16 and 42 years were operationalized from questionnaires, and cumulative neighbourhood disadvantage between 16 and 42 years from register data. **RESULTS:** Results showed accumulation of disadvantages jointly explained 9-12% of FSS variance. In the total sample, cumulative neighbourhood and socioeconomic disadvantage significantly predicted FSS at age 42 in the total sample. In women, neighbourhood disadvantage but not socioeconomic disadvantage contributed significantly, whereas in men, socioeconomic but not neighbourhood disadvantage contributed significantly. In all analyses, associations were largely explained by the parallel accumulation of social and material adversities, but not by symptoms at baseline. **CONCLUSION:** In conclusion, the accumulation of diverse forms of disadvantages together plays an important role for somatic complaints in adulthood, independently of baseline health.

**Justet, A., et al. (2015). "[Current and prospective issues about adult asthma]." *Rev Mal Respir* 32(6): 629-638.**

The management of asthma treatment is likely to change in coming years, with the development of a more personalized approach. Biological therapies targeting Th2 cytokines (IL-4, IL-5 and IL-13) offer new treatment pathways for patients with severe asthma and high Th2 activity. Bronchial thermoplasty is the only treatment for severe asthma that could provide a long standing effect, but many questions still remain and its use is restricted to clinical research. Weight loss should be a goal during long-term management of obese asthmatics. Involvement of a new inflammatory pathway including IL-1 and IL-17 in a murine model of obesity and asthma may lead to new therapies in this subgroup of asthmatics.

**Keddem, S., et al. (2015). "Mapping the urban asthma experience: Using qualitative GIS to understand contextual factors affecting asthma control." *Soc Sci Med* 140: 9-17.**

Asthma is complex and connected to a number of factors including access to healthcare, crime and violence, and environmental triggers. A mixed method approach was used to examine the experiences of urban people with asthma in controlling their asthma symptoms. The study started with an initial phase of qualitative interviews in West Philadelphia, a

primarily poor African American community. Data from qualitative, semi-structured interviews indicated that stress, environmental irritants, and environmental allergens were the most salient triggers of asthma. Based on the interviews, the team identified six neighborhood factors to map including crime, housing vacancy, illegal dumping, tree canopy and parks. These map layers were combined into a final composite map. These combined methodologies contextualized respondents' perceptions in the framework of the actual community and built environment which tells a more complete story about their experience with asthma.

**Tamers, S. L., et al. (2015). "Effect of stressful life events on changes in smoking among the French: longitudinal findings from GAZEL." *Eur J Public Health* 25(4): 711-715.**

BACKGROUND: Changes in life events may play a contributing role in changes in smoking behaviors. The objective was to examine the impact of stressful life events (SLEs) on smoking among French adults. METHODS: We examined smoking prevalence in 20 625 employees of the French GAZEL cohort for up to 5 years before and after a SLE during three time periods (years -1 vs. -5; years +1 vs. -1; years +5 vs. +1). Repeated measures analysis of time series data indexed to events were used, employing generalized estimating equations. RESULTS: For women, comparing 1 year after vs. 1 year before SLEs, decreased odds of smoking were found for employment promotion (OR: 0.80; 95% CI = 0.67-0.95), marriage (OR: 0.57; 95% CI = 0.48-0.68) and divorce (OR: 0.78; 95% CI = 0.68-0.90). Comparing 5 years after to 1 year after SLEs, women had decreased odds of smoking for important purchase (OR: 0.87; 95% CI = 0.79-0.96), children leaving home (OR: 0.83; 95% CI = 0.74-0.93), retirement (OR: 0.73; 95% CI = 0.64-0.83) and death of loved one (OR: 0.86; 95% CI = 0.79-0.93). For men, decreased odds of smoking were observed in all three time periods for all SLEs except when comparing 1 year before to 5 years before marriage (OR: 1.66; 95% CI = 1.09-2.52) and divorce (OR: 1.49; 95% CI = 1.25-1.77). CONCLUSION: Time surrounding SLEs during which individuals are susceptible to changing smoking behaviors may be an important consideration.

## Géographie de la santé / Geography of Health

**Elek, P., et al. (2015). "Effects of Geographical Accessibility on the Use of Outpatient Care Services: Quasi-Experimental Evidence from Panel Count Data." *Health Econ* 24(9): 1131-1146.**

In 2010-2012, new outpatient service locations were established in Hungarian micro-regions, which had lacked such capacities before. We exploit this quasi-experiment to estimate the effect of geographical accessibility on outpatient case numbers using both individual-level and semi-aggregate panel data. We find a 24-27 per cent increase of case numbers as a result of the establishments. Our specialty-by-specialty estimates imply that a 1-min reduction of travel time to the nearest outpatient unit increases case numbers for example by 0.9 per cent in internal care and 3.1 per cent in rheumatology. The size of the new outpatient capacities has a separate effect, raising the possibility of the presence of supplier-induced demand. By combining a fixed-effects logit and a fixed-effects truncated Poisson estimator, we decompose the effects into increases in the probability of ever visiting a doctor on the one hand and an increase of the frequency of visits on the other hand. We find that new visits were dominant in the vast majority of specialties, whereas both margins were important for example in rheumatology. Finally, we demonstrate the usefulness of the fixed-effects truncated Poisson estimator in modelling count data by examining its robustness by simulations. Copyright (c) 2015 John Wiley & Sons, Ltd.

## Hôpital / Hospital

**Acosta, S. C. (2015). "Potentially Avoidable Hospitalizations In France." *Health Aff (Millwood)* 34(8): 1428-1429.**

**Baxter, P. E., et al. (2015). "Leaders' experiences and perceptions implementing activity-based funding and pay-for-performance hospital funding models: A systematic review." *Health Policy* 119(8): 1096-1110.**

INTRODUCTION: Providing cost-effective, accessible, high quality patient care is a challenge to governments and health care delivery systems across the globe. In response to this challenge, two types of hospital funding models have been widely implemented: (1) activity-based funding (ABF) and (2) pay-for-performance (P4P). Although health care leaders play a critical role in the implementation of these funding models, to date their perspectives have not been systematically examined. PURPOSE: The purpose of this systematic review was to gain a better understanding of the experiences of health care leaders implementing hospital funding reforms within Organisation for Economic Cooperation and Development countries. METHODS: We searched literature from 1982 to 2013 using: Medline, EMBASE, CINAHL, Academic Search Complete, Academic Search Elite, and Business Source Complete. Two independent reviewers screened titles, abstracts and full texts using predefined criteria. We included 2 mixed methods and 12 qualitative studies. Thematic analysis was used in synthesizing results. RESULTS: Five common themes and multiple subthemes emerged. Themes include: pre-requisites for success, perceived benefits, barriers/challenges, unintended consequences, and leader recommendations. CONCLUSIONS: Irrespective of which type of hospital funding reform was implemented, health care leaders described a complex process requiring the following: organizational commitment; adequate infrastructure; human, financial and information technology resources; change champions and a personal commitment to quality care.

**Bystrov, V., et al. (2015). "Effects of DRG-based hospital payment in Poland on treatment of patients with stroke." *Health Policy* 119(8): 1119-1125.**

A prospective payment system based on Diagnosis Related Groups (DRGs) presents strong financial incentives to healthcare providers. These incentives may have intended as well as unintended consequences for the healthcare system. In this paper we use administrative data on stroke admissions to Polish hospitals in order to demonstrate the response of hospitals to the incentives embedded in the design of stroke-related groups in Poland. The design was intended to motivate hospitals for the development of specialized stroke units by paying significantly higher tariffs for treatment of patients in these units. As a result, an extensive network of stroke units has emerged. However, as it is shown in the paper, there is no evidence that outcomes in hospitals with stroke units are significantly different from outcomes in hospitals without stroke units. It is also demonstrated that the reliance on the length of stay as a major grouping variable provides incentives for regrouping patients into more expensive groups by extending their length of stay in stroke units. The results of the study are limited by the incompleteness of the casemix data. There is a need to develop information and audit systems which would further inform a revision of the DRG system aimed to reduce the risk of regrouping and up-coding.

**Combes, J. B., et al. (2015). "Hospital staffing and local pay: an investigation into the impact of local variations in the competitiveness of nurses' pay on the staffing of hospitals in**

**France." *Eur J Health Econ* 16(7): 763-780.**

Spatial wage theory suggests that employers in different regions may offer different pay rates to reflect local amenities and cost of living. Higher wages may be required to compensate for a less pleasant environment or a higher cost of living. If wages in a competing sector within an area are less flexible and therefore less competitive this may lead to an inability to employ staff. This paper considers the market for nursing staff in France where there is general regulation of wages and public hospitals compete for staff with the private hospital and non-hospital sectors. We consider two types of nursing staff, registered and assistant nurses and first establish the degree of spatial variation in the competitiveness of pay of nurses in public hospitals. We then consider whether these spatial variations are associated with variation in the employment of nursing staff. We find that despite regulation of pay in the public and private sector, there are substantial local variations in the competitiveness of nurses' pay. We find evidence that the spatial variations in the competitiveness of pay are associated with relative numbers of assistant nurses but not registered nurses. While we find the influence of the competitiveness of pay is small, it suggests that nonpay conditions may be an important factor in adjusting the labour market as might be expected in such a regulated market.

**Grebla, R. C., et al. (2015). "Waiving The Three-Day Rule: Admissions And Length-Of-Stay At Hospitals And Skilled Nursing Facilities Did Not Increase." *Health Aff (Millwood)* 34(8): 1324-1330.**

The traditional Medicare program requires an enrollee to have a hospital stay of at least three consecutive calendar days to qualify for coverage of subsequent postacute care in a skilled nursing facility. This long-standing policy, implemented to discourage premature discharges from hospitals, might now be inappropriately lengthening hospital stays for patients who could be transferred sooner. To assess the implications of eliminating the three-day qualifying stay requirement, we compared hospital and postacute skilled nursing facility utilization among Medicare Advantage enrollees in matched plans that did or did not eliminate that requirement in 2006-10. Among hospitalized enrollees with a skilled nursing facility admission, the mean hospital length-of-stay declined from 6.9 days to 6.7 days for those no longer subject to the qualifying stay but increased from 6.1 to 6.6 days among those still subject to it, for a net decline of 0.7 day when the three-day stay requirement was eliminated. The elimination was not associated with more hospital or skilled nursing facility admissions or with longer lengths-of-stay in a skilled nursing facility. These findings suggest that eliminating the three-day stay requirement conferred savings on Medicare Advantage plans and that study of the requirement in traditional Medicare plans is warranted.

**Guerra, J., et al. (2015). "[Data validity in a French diagnosis-related group information program]." *Rev Epidemiol Santé Publique* 63(4): 247-252.**

**BACKGROUND:** Long-term intratracheal ventilated patients need continuous artificial ventilation support. After the acute periods, these patients may benefit from dedicated follow-up in rehabilitation care centers. In this paper, we aimed to study the validity of the data provided by a French diagnosis-related group (DRG) information system. **METHODS:** For a sample of intratracheal ventilated patients in two rehabilitation units, we compared the data provided in the DRG information system with the data available in the medical charts. Furthermore, we asked the medical, nursing and allied health staff to assess the data provided by the French DRG information system. **RESULTS:** The diagnosis was found accurate for 86% of hospital stays. In the DRG information system, 77% of the medical care, and 39% of the nursing and allied health care were mentioned correctly. Overall, 55% of the nursing and allied health care procedures in the DRG information system were not reported in the medical charts. The healthcare providers estimated that the frequency of the care provided

was underestimated in the DRG information system for 30% of the nursing and allied health care. CONCLUSION: The patients' main characteristics were found correctly reported in the DRG information system. However, the diversity and the frequency of the care provided were underestimated. These underestimates were mainly related to care frequently provided in these patients (for example, urinary catheterization, massages, counseling for relatives).

**Han, K. T., et al. (2015). "Effective strategy for improving health care outcomes: Multidisciplinary care in cerebral infarction patients." *Health Policy* 119(8): 1039-1045.**

Multidisciplinary teams provide effective patient treatment strategies. South Korea expanded its health program recently to include multidisciplinary treatment. This study characterized the relationship between multidisciplinary care and mortality within 30 days after hospitalization in cerebral infarction patients. We used the National Health Insurance claim data (n=63,895) from 120 hospitals during 2010-2013 to analyze readmission within 30 days after hospitalization for cerebral infarction. We performed chi(2) tests, analysis of variance and multilevel modeling to investigate the associations between multidisciplinary care and death within 30 days after hospitalization for stroke. Deaths within 30 days of hospitalization due to cerebral infarction was 3.0% (n=1898/63,895). Multidisciplinary care was associated with lower risk of death within 30 days in inpatients with cerebral infarction (odds ratio: 0.84, 95% confidence interval: 0.72-0.99). Patients treated by a greater number of specialists had lower risk of death within 30 days of hospitalization. Additional analyses showed that such associations varied by the combination of specialists (i.e., neurologist and neurosurgeon). In conclusion, death rates within 30 days of hospitalization for cerebral infarction were lower in hospitals with multidisciplinary care. Our findings certainly suggest that a high number of both neurosurgeon and neurologist is not always an effective alternative in managing stroke inpatients, and emphasize the importance of an optimal combination in the same number of hospital staffing.

**Kahn, C. N., 3rd, et al. (2015). "Assessing Medicare's Hospital Pay-For-Performance Programs And Whether They Are Achieving Their Goals." *Health Aff (Millwood)* 34(8): 1281-1288.**

Three separate pay-for-performance programs affect the amount of Medicare payment for inpatient services to about 3,400 US hospitals. These payments are based on hospital performance on specified measures of quality of care. A growing share of Medicare hospital payments (6 percent by 2017) are dependent upon how hospitals perform under the Hospital Readmissions Reduction Program, the Value-Based Purchasing Program, and the Hospital-Acquired Condition Reduction Program. In 2015 four of five hospitals subject to these programs will be penalized under one or more of them, and more than one in three major teaching hospitals will be penalized under all three. Interactions among these programs should be considered going forward, including overlap among measures and differences in scoring performance.

**Mercier, G., et al. (2015). "Avoidable Hospitalizations: The Authors Reply." *Health Aff (Millwood)* 34(8): 1429.**

**Mesman, R., et al. (2015). "Why do high-volume hospitals achieve better outcomes? A systematic review about intermediate factors in volume-outcome relationships." *Health Policy* 119(8): 1055-1067.**

OBJECTIVE: To assess the role of process and structural factors in volume-outcome relationships. DATA SOURCES: Pubmed electronic database, until March 2014. STUDY DESIGN: Systematic review. Based on a conceptual framework, peer-reviewed publications were included that presented evidence about explanatory factors in volume-outcome

associations. DATA COLLECTION: Two reviewers extracted information about study design, study population, volume and outcome measures, as well as explanatory factors. Included publications were appraised for methodological quality. PRINCIPAL FINDINGS: After screening 1756 titles, 27 met our inclusion criteria. Three main categories of explanatory factors could be identified: 1. Compliance to evidence based processes of care (n=7). 2. Level of specialization (n=11). 3. Hospital level factors (n=10). In ten studies, process and/or structural characteristics partly explained the established volume-outcome association. The median quality score of the 27 studies was 8 out of a possible 18 points. CONCLUSIONS: The vast majority of volume-outcome studies do not focus on the underlying mechanism by including process and structural characteristics as explanatory factors in their analysis. The methodological quality of studies is also modest, which makes us question the available evidence for current policies to concentrate care on the basis of volume.

**Sogaard, R., et al. (2015). "Incentivising effort in governance of public hospitals: Development of a delegation-based alternative to activity-based remuneration." *Health Policy* 119(8): 1076-1085.**

This paper is a first examination of the development of an alternative to activity-based remuneration in public hospitals, which is currently being tested at nine hospital departments in a Danish region. The objective is to examine the process of delegating the authority of designing new incentive schemes from the principal (the regional government) to the agents (the hospital departments). We adopt a theoretical framework where, when deciding about delegation, the principal should trade off an initiative effect against the potential cost of loss of control. The initiative effect is evaluated by studying the development process and the resulting incentive schemes for each of the departments. Similarly, the potential cost of loss of control is evaluated by assessing the congruence between focus of the new incentive schemes and the principal's objectives. We observe a high impact of the effort incentive in the form of innovative and ambitious selection of projects by the agents, leading to nine very different solutions across departments. However, we also observe some incongruence between the principal's stated objectives and the revealed private interests of the agents. Although this is a baseline study involving high uncertainty about the future, the findings point at some issues with the delegation approach that could lead to inefficient outcomes.

**Svederud, I., et al. (2015). "Patient perspectives on centralisation of low volume, highly specialised procedures in Sweden." *Health Policy* 119(8): 1068-1075.**

This study explores important considerations from a patient perspective in decisions regarding centralisation of specialised health care services. The analysis is performed in the framework of the Swedish National Board of Health and Welfare's ongoing work to evaluate and, if appropriate, centralise low volume, highly specialised, health services defined as National Specialised Medical Care. In addition to a literature review, a survey directed to members of patient associations and semi-structured interviews with patient association representatives and health care decision makers were conducted. The results showed that from a patient perspective, quality of care in terms of treatment outcomes is the most important factor in decisions regarding centralisation of low volume, highly specialised health care. The study also indicates that additional factors such as continuity of treatment and a well-functioning care pathway are highly important for patients. However, some of these factors may be dependent on the implementation process and predicting how they will evolve in case of centralisation will be difficult. Patient engagement and patient association involvement in the centralisation process is likely to be a key component in attaining patient focused care and ensuring patient satisfaction with the centralisation decisions.



**Tung, Y. C., et al. (2015). "Processes and outcomes of ischemic stroke care: the influence of hospital level of care." *Int J Qual Health Care* 27(4): 260-266.**

**OBJECTIVE:** Processes of stroke care play an increasingly important role in comparing hospital performance. The relationship between processes of care and outcomes for stroke is unclear. Moreover, in terms of stroke care regionalization, little information is available with regard to the relationships among hospital level of care, processes and outcomes of stroke care. We used nationwide population-based data to examine the relationship between processes of care and mortality and the relationships among hospital level of care, processes and mortality for ischemic stroke. **DESIGN:** Cross-sectional study. **SETTING:** General acute care hospitals throughout Taiwan. **PARTICIPANTS:** A total of 31 274 ischemic stroke patients admitted in 2010 through Taiwan's National Health Insurance Research Database. **MAIN OUTCOME MEASURES:** Processes of care and 30-day mortality. Multilevel models were used after adjustment for patient and hospital characteristics to test the relationship between processes of care and 30-day mortality and the relationships among hospital level of care, processes and 30-day mortality. **RESULTS:** The use of thrombolytic therapy, antithrombotic therapy, statin treatment and rehabilitation assessment was associated with lower mortality. Hospital level of care was associated with the use of thrombolytic therapy, antithrombotic therapy, statin treatment and rehabilitation assessment, and mortality. These processes of care were mediators of the relationship between hospital level of care and mortality. **CONCLUSIONS:** Outcomes among patients with ischemic stroke can be improved by thrombolytic therapy, antithrombotic therapy, statin treatment and rehabilitation assessment. Among patients with ischemic stroke, admission to designated stroke center hospitals may be associated with lower mortality through better processes of care.

## Inégalités de santé / Health Inequalities

**Beckfield, J., et al. (2015). "An institutional theory of welfare state effects on the distribution of population health." *Soc Theory Health* 13(3-4): 227-244.**

Social inequalities in health endure, but also vary, through space and time. Building on research that documents the durability and variability of health inequality, recent research has turned towards the welfare state as a major explanatory factor in the search for causes of health inequality. With the aims of (i) creating an organizing framework for this new scholarship, (ii) developing the fundamental-cause approach to social epidemiology and (iii) integrating insights from social stratification and health inequalities research, we propose an institutional theory of health inequalities. Our institutional theory conceptualizes the welfare state as an institutional arrangement - a set of 'rules of the game' - that distributes health. Drawing on the institutional turn in stratification scholarship, we identify four mechanisms that connect the welfare state to health inequalities by producing and modifying the effects of the social determinants of health. These mechanisms are: redistribution, compression, mediation and imbrication (or overlap). We describe how our framework organizes comparative research on the social determinants of health, and we identify new hypotheses our framework implies.

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**Bouchard, L., et al. (2015). "Research on health inequalities: A bibliometric analysis (1966–2014)." *Social Science & Medicine* **141**: 100-108.**

The objective of this study is to report on research production and publications on health inequalities through a bibliometric analysis covering publications from 1966 to 2014 and a content analysis of the 25 most-cited papers. A database of 49,294 references was compiled from the search engine Web of Science. The first article appears in 1966 and deals with equality and civil rights in the United States and the elimination of racial discrimination in access to medical care. By 2003, the term disparity has gained in prominence relative to the term inequality which was initially elected by the researchers. Marmot's 1991 article is one of the five papers with the largest number of citations and contributes to the central perspective of social determinants of health and the British influence on the international status of research on social inequalities of health.

**Chaupain-Guillot, S. and O. Guillot (2015). "Health system characteristics and unmet care needs in Europe: an analysis based on EU-SILC data." *Eur J Health Econ* **16**(7): 781-796.**

Using survey data from the 2009 wave of the European Union Statistics on Income and Living Conditions, this study examines the determinants of unmet needs for medical and dental care in European countries. Special emphasis is put on the impact of health system characteristics. Four factors are taken into account: the density of doctors or dentists, the rules governing access to practitioners, the method of paying primary care physicians, and the amount of out-of-pocket payments. The analysis is carried out using multilevel logistic regression models. Separate regressions are estimated for medical and dental services. The dependent variable is whether respondents reported that, at least once in the last 12 months, they needed care but did not receive it. The estimation results show that the probability of experiencing unmet medical or dental needs varies noticeably across countries. This inter-country variability seems to be partly explained by the differences in the financing of health care. Indeed, a positive link is found between the share of households' out-of-pocket payments in total health expenditure and the probability of unmet needs. The other contextual factors do not seem to play a significant role.

**Collins, C., et al. (2015). "Social theory and health inequalities: Critical realism and a transformative activist stance[quest]." *Soc Theory Health* **13**(3-4): 377-396.**

The failure successfully to project evidence on health inequalities into the policy imagination is likely related to the fact that the research community is yet to provide an appropriate critical theory of health determination - integrating different social phenomena through identifiable mechanisms and pathways across different levels and scales, and opening up a realistic perspective on how unjust outcomes might be subject to change. On what social-theoretical basis might this task most usefully be addressed? This article critically explores the utility of the work of Archer which has been applied to health inequalities by Scambler,

and argues that it is quite problematic in relation to the task of theorising health inequalities. It then proceeds to explore the relevance of a longer-standing tradition of work deriving from the early twentieth century Soviet school of /'psychology/' led by Lev Vygotsky and coalescing today under the heading of Cultural-Historical Activity Theory. Within this tradition, we highlight the particular contribution of Anna Stetsenko. We argue that this tradition, and the contribution of Stetsenko in particular, merits our close attention in developing a basis for a more expansive critical theory of health.

**Kapilashrami, A., et al. (2015). "What can health inequalities researchers learn from an intersectionality perspective[quest] Understanding social dynamics with an inter-categorical approach[quest]." *Soc Theory Health* 13(3-4): 288-307.**

The concept of intersectionality was developed by social scientists seeking to analyse the multiple interacting influences of social location, identity and historical oppression. Despite broad take-up elsewhere, its application in public health remains underdeveloped. We consider how health inequalities research in the United Kingdom has predominantly taken class and later socioeconomic position as its key axis in a manner that tends to overlook other crucial dimensions. We especially focus on international research on ethnicity, gender and caste to argue that an intersectional perspective is relevant for health inequalities research because it compels researchers to move beyond (but not ignore) class and socioeconomic position in analysing the structural determinants of health. Drawing on these theoretical developments, we argue for an inter-categorical conceptualisation of social location that recognises differentiation without reifying social groupings - thus encouraging researchers to focus on social dynamics rather than social categories, recognising that experiences of advantage and disadvantage reflect the exercise of power across social institutions. Such an understanding may help address the historic tendency of health inequalities research to privilege methodological issues and consider different axes of inequality in isolation from one another, encouraging researchers to move beyond micro-level behaviours to consider the structural drivers of inequalities.

**Labbe, E., et al. (2015). "A new reliable index to measure individual deprivation: the EPICES score." *Eur J Public Health* 25(4): 604-609.**

**BACKGROUND:** Deprivation is associated with inequalities in health care and higher morbidity and mortality. To assess the reliability of a new individual deprivation score, the EPICES score and to analyse the association between the Townsend index, the Carstairs index and the EPICES score and causes of death in one French administrative region. **METHODS:** Eligible patients were 16 years old or more who had come for consultation in Health Examination Centres of the French administrative region of Nord-Pas-de-Calais. An ecological study was performed between 2002 and 2007 in the 392 districts of this administrative region. The EPICES score was compared with the Townsend and the Carstairs indices. These three measurements of deprivation were compared with social characteristics, indicators of morbidity, health-care use and mortality and specific causes of death. The Pearson correlation coefficients were calculated to assess the reliability of the EPICES score. The association between deprivation and mortality was assessed by comparison of the standardized mortality ratio (SMR) between the most and least deprived districts. **RESULTS:** The EPICES score was strongly correlated with the Townsend and Carstairs indices and with the health indicators measured. SMR increased with deprivation and the higher the deprivation the higher the SMR for all-cause mortality, premature and avoidable deaths and for most specific causes of death. **CONCLUSION:** The individual deprivation EPICES score is reliable. Deprivation was related to excess death rate, which clearly indicates that deprivation is a determinant factor that should be considered systematically by health policy makers and health-care providers.

**Ljungdahl, S. and S. G. Bremberg (2015). "Might extended education decrease inequalities in health?-a meta-analysis." *Eur J Public Health* 25(4): 587-592.**

BACKGROUND: Health is substantially worse in less educated people, and extended education might potentially improve their health. A prerequisite for a beneficial health effect of education is that the effect is absolute. An absolute effect of education means that the health effect comes about independently of any effect on other persons. A relative effect, on the other hand, only contributes to individual competitiveness in relation to others. Studies of natural experiments of extended compulsory education, and other educational-policy changes, provide an option for the analysis of absolute effects of education. Published studies, however, present conflicting results. METHODS: A meta-analysis was performed of European studies where the health effects of extended compulsory or secondary level education on low-educated individuals were investigated. RESULTS: Twenty-two relevant publications were identified. The meta-analysis indicated statistically significant favourable effects of educational reforms on rates of mortality, self-reported poor health and obesity. The effects were, however, small, 1-4%. CONCLUSIONS: An educational reform that typically added one educational year in the least educated group was associated with a mean 2.1% reduction in mortality in men before age 40. This effect might be compared with the total educational gradients of mortality rates in Swedish men at ages 30-64. One extra year of education after compulsory education corresponds to a 41% reduction in mortality, which is 20 times more than the absolute effect of education found in this meta-analysis. Thus, it is unlikely that extended compulsory education will substantially improve the health of the least educated individuals.

**Mylius, M. and A. Frewer (2015). "Access to healthcare for undocumented migrants with communicable diseases in Germany: a quantitative study." *Eur J Public Health* 25(4): 582-586.**

BACKGROUND: Migrants without residence permits are de facto excluded from access to healthcare in Germany. There is one exception in relevant legislation: in the case of sexually transmitted infections and tuberculosis, the legislator has instructed the local Public Health Authorities to offer free and anonymous counseling, testing and, if necessary, treatment in case of apparent need. Furthermore, recommended vaccinations may be carried out free of charge. This study intends to comprehensively capture the services for undocumented migrants at Public Health Authorities in Germany. METHODS: An e-mail survey of all Local Public Health Authorities (n = 384) in Germany was carried out between January and March 2011 using a standardized questionnaire. RESULTS: One hundred thirty-nine of 384 targeted local Health Authorities completed the questionnaire (36.2%), of which approximately a quarter (n = 34) reported interaction with 'illegal' immigrants. Twenty-five authorities (18.4%) gave the indication to carry out treatment. This outpatient treatment option is mostly limited to patients afflicted with sexually transmitted infections with the distinct exception of human immunodeficiency virus/acquired immune deficiency syndrome. CONCLUSIONS: The study highlights the gap between legislation and the reality of restricted access to medical services for undocumented migrants in Germany. It underlines the need of increased financial and human resources in Public Health Authorities and, overall, the simplification of national legislation to assure the right to healthcare.

**Ribeiro, A. I., et al. (2015). "Development of a measure of multiple physical environmental deprivation. After United Kingdom and New Zealand, Portugal." *Eur J Public Health* 25(4): 610-617.**

BACKGROUND: Spatial inequalities in health have been identified, but the contribution of physical environment has been largely ignored. In Portugal, strong spatial differences in

morbidity and mortality remain unexplained. Based on previous United Kingdom (UK) and New Zealand (NZ) research, we aimed to develop a Portuguese measure of multiple environmental deprivation (PT-MEDix) to assist in understanding spatial inequalities in health. METHODS: PT-MEDix was built at municipality level in four stages: (i) identify health-relevant environmental factors; (ii) acquire datasets about selected environmental factors and calculate municipality-level measures using Geographical Information Systems; (iii) test associations between selected environmental factors and mortality using negative binomial models, adjusting for age, sex, socioeconomic deprivation and interactions and (iv) construct a summary measure and assess its association with mortality. RESULTS: We included five dimensions of the physical environment: air pollution, climate, drinking water quality, green space availability and industry proximity. PT-MEDix score ranged from -1 (least environmental deprivation) to +4 (most) and depicted a clear spatial pattern: least deprived municipalities in the depopulated rural areas and most deprived in urban and industrial settings. Comparing with those in the intermediate category of environment deprivation, less deprived municipalities showed lower mortality rate ratios (MRRs) and vice versa: MRRs for all-cause mortality were 0.962 (95% confidence interval: 0.934-0.991) and 1.209 (1.086-1.344), in the least and most deprived municipalities, respectively, and for cancer, 0.957 (0.911-1.006) and 1.345 (1.123-1.598). CONCLUSIONS: The methods used to create UK and NZ indexes have good transferability to Portugal. MEDix might contribute to untangle the complex pathways that link health, socioeconomic and physical environment.

**Scambler, G. and S. Scambler (2015). "Theorizing health inequalities: The untapped potential of dialectical critical realism." *Soc Theory Health* 13(3-4): 340-354.**

We here extend our previous contributions to a neo-Marxist sociology of health inequalities via an engagement with Roy Bhaskar's dialectical critical realism (DCR). We argue that Bhaskar's re-grounding of the philosophies of Marx and Engels has the potential to re-invigorate sociology's input into: (a) explanations of health inequalities and (b) interventions to reduce health inequalities. We also show that DCR provides rationale and opportunity for an action sociology beyond current professional, policy, critical and public sociologies. We briefly summarize current sociological models of health inequalities before protesting their lack of theoretical ambition. We then proffer a professional-cum-critical theory that emphasizes the continuing causal efficacy of social class in general, and of Britain's /governing oligarchy/' in particular, for any credible sociological account of health inequalities. Bhaskar's basic and dialectical critical realism are then introduced and the frame supplied by the latter commended for a deepening of the neo-Marxist theories of health inequalities being developed by us among others. The article concludes by drawing on this same frame to insist on a logical and moral commitment to an action sociology beyond any institutional constraints faced by practitioners of the discipline.

**Smith, K. E. (2015). "Understanding responses to the political context of health inequalities in research and policy: Can post-structural theories of power help[quest]." *Soc Theory Health* 13(3-4): 355-376.**

It is now widely accepted that health inequalities are directly linked to inequalities in power and material resources. Reflecting this, persuasive accounts of both the production of health inequalities and the failure of high-income countries to reduce these inequalities have been underpinned by references to structural (particularly neo-Marxist) theories of power. Such accounts highlight the importance of macro-level political and economic policies for health outcomes and, in particular, the unequally damaging impacts of policy reforms collectively referred to as /neo-liberal/'. This article draws on interviews with researchers, civil servants, politicians, documentary makers and journalists (all of whom have undertaken work concerning health inequalities) to examine what these conversations reveal about these

actors/' perceptions of, and responses to, the political context of health inequalities in the United Kingdom. In so doing, it illustrates the fluid and networked nature of political /`power/' and /`context/', findings that point to the potential utility of post-structural theories of power. This article argues that, if conceived of in ways that do not deny power differentials, post-structural theories can help: (i) call attention to /`neo-liberal/' inconsistencies and (ii) explain how and why individuals who are critical of dominant policy approaches nonetheless appear to participate in their ongoing production.

**Smith, K. E. and T. Schrecker (2015). "Theorising health inequalities: Introduction to a double special issue." *Soc Theory Health* 13(3-4): 219-226.**

**Van der Heide, I., et al. (2015). "Health literacy and informed decision making regarding colorectal cancer screening: a systematic review." *Eur J Public Health* 25(4): 575-582.**

Making an informed decision about participation in colorectal cancer (CRC) screening may be challenging for invitees with lower health literacy skills. The aim of this systematic review is to explore to what extent the level of a person's health literacy is related to their informed decision making concerning CRC screening. We searched for peer-reviewed studies published between 1950 and May 2013 in MEDLINE, EMBASE, SciSearch and PsycINFO. Studies were included when health literacy was studied in relation to concepts underpinning informed decision making (awareness, risk perception, perceived barriers and benefits, knowledge, attitude, deliberation). The quality of the studies was determined and related to the study results. The search returned 2254 papers. Eight studies in total were included, among which seven focused on knowledge, four focused on attitudes or beliefs concerning CRC screening, and one focused on risk perception. The studies found either no association or a positive association between health literacy and concepts underpinning informed decision making. Some studies showed that higher health literacy was associated with more CRC screening knowledge and a more positive attitude toward CRC screening. The results of studies that obtained a lower quality score were no different than studies that obtained a higher quality score. In order to obtain more insight into the association between health literacy and informed decision making in CRC cancer screening, future research should study the multiple aspects of informed decision making in conjunction instead of single aspects.

**Weinstock, D. M. (2015). "Health justice after the social determinants of health revolution." *Soc Theory Health* 13(3-4): 437-453.**

Social Determinants of Health (SDH) theorists claim that the distribution of social goods such as income, housing and education, has as great or greater an impact on health outcome than does health care, narrowly construed. This article attempts to integrate this claim into a plausible theory of justice. I argue that such a theory must be both political, in that it focuses on goods that states can distribute or regulate effectively and appropriately, and holistic, in that it must integrate the various values that are relevant to distribution into a plausible overall theory. While SDH-based theories are appropriately political, many of their exponents tend to undertake the task of integration in an implausibly monistic manner. I argue that monists about health are caught between the horns of an unattractive dilemma: either they employ a narrow conception of health, in which case their prescriptions are grounded in an implausible conception of the human good, and give rise to an extreme form of paternalism; or they use a broader conception of health, which leads them to address the challenge of holism in a purely rhetorical manner. I argue for a pluralistic mode of integration, one that accepts that social goods are regulated by both consequentialist and non-consequentialist considerations, and that the range of consequences that are relevant do not relate merely to health.

**Yu, G., et al. (2015). "A multilevel cross-lagged structural equation analysis for reciprocal relationship between social capital and health." *Soc Sci Med* 142: 1-8.**

We investigated the reciprocal relationship between individual social capital and perceived mental and physical health in the UK. Using data from the British Household Panel Survey from 1991 to 2008, we fitted cross-lagged structural equation models that include three indicators of social capital vis. social participation, social network, and loneliness. Given that multiple measurement points (level 1) are nested within individuals (level 2), we also applied a multilevel model to allow for residual variation in the outcomes at the occasion and individual levels. Controlling for gender, age, employment status, educational attainment, marital status, household wealth, and region, our analyses suggest that social participation predicts subsequent change in perceived mental health, and vice versa. However, whilst loneliness is found to be significantly related to perceived mental and physical health, reciprocal causality is not found for perceived mental health. Furthermore, we find evidence for reverse effects with both perceived mental and physical health appearing to be the dominant causal factor with respect to the prospective level of social network. Our findings thus shed further light on the importance of social participation and social inclusion in health promotion and aid the development of more effective public health policies in the UK.

## Médicaments / Pharmaceuticals

**Alfonso-Cristancho, R., et al. (2015). "Definition and Classification of Generic Drugs Across the World." *Appl Health Econ Health Policy* 13 Suppl 1: 5-11.**

Our aim was to systematically identify and compare how generic medications, as defined by the US Food and Drug Administration (FDA), World Health Organization (WHO), and European Medicines Agency (EMA), are classified and defined by regulatory agencies around the world. We focused on emerging markets and selected the most populated countries in each of the WHO regions: Africa, the Americas, Eastern Mediterranean, Europe, Southeast Asia, and Western Pacific. A structured review of published literature was performed through December 2013. Direct information from regulatory agencies and Ministries of Health for each country was extracted. Additionally, key informant interviews were performed for validation. Of the 21 countries selected, approximately half provided an official country-level definition for generic pharmaceuticals. The others did not have any definition or referred to the WHO. Only two-thirds of the countries had specific requirements for generic pharmaceuticals, often associated with clinical interchangeability. Most countries with requirements mention bioequivalence, but few required bioavailability studies explicitly. Over 30 % of the countries had other terms associated with generics in their definitions and processes. In countries with generic drug policies, there is reference to patent and/or data protection during the drug registration process. Several countries do not mention good manufacturing practices as part of the evaluation process. Countries in Africa and Eastern Mediterranean regions appear to have a less developed regulatory framework. In summary, there is significant variability in the definition and classification of generic drugs in emerging markets. Standardization of the definitions is necessary to make international comparisons viable.

**Dekker, A. R. J., et al. (2015). "Inappropriate antibiotic prescription for respiratory tract indications: most prominent in adult patients." *Family Practice* 32(4): 401-407.**

Background. Numerous studies suggest overprescribing of antibiotics for respiratory tract indications (RTIs), without really authenticating inappropriate prescription; the strict criteria

of guideline recommendations were not taken into account as information on specific diagnoses, patient characteristics and disease severity was not available. Objective. The aim of this study is to quantify and qualify inappropriate antibiotic prescribing for RTIs. Methods. This is an observational study of the (antibiotic) management of patients with RTIs, using a detailed registration of RTI consultations by general practitioners (GPs). Consultations of which all necessary information was available were benchmarked to the prescribing guidelines for acute otitis media (AOM), acute sore throat, rhinosinusitis or acute cough. Levels of overprescribing for these indications and factors associated with overprescribing were determined. Results. The overall antibiotic prescribing rate was 38%. Of these prescriptions, 46% were not indicated by the guidelines. Relative overprescribing was highest for throat (including tonsillitis) and lowest for ear consultations (including AOM). Absolute overprescribing was highest for lower RTIs (including bronchitis). Overprescribing was highest for patients between 18 and 65 years of age, when GPs felt patients' pressure for an antibiotic treatment, for patients presenting with fever and with complaints longer than 1 week. Underprescribing was observed in <4% of the consultations without a prescription. Conclusion. Awareness of indications and patient groups provoking antibiotic overprescribing can help in the development of targeted strategies to improve GPs' prescribing routines for RTIs.

**Garattini, L., et al. (2015). "Western European markets for biosimilar and generic drugs: worth differentiating." *Eur J Health Econ* 16(7): 683-687.**

**Gonçalves, R., et al. (2015). "Reference pricing in the presence of pseudo-generics." *International Journal of Health Economics and Management* 15(3): 281-305.**

**Gothe, H., et al. (2015). "The Impact of Generic Substitution on Health and Economic Outcomes: A Systematic Review." *Appl Health Econ Health Policy* 13 Suppl 1: 21-33.**

BACKGROUND: Generic drugs are considered therapeutically equivalent to their original counterparts and lower in acquisition costs. However, the overall impact of generic substitution (GS) on global clinical and economic outcomes has not been conclusively evaluated. OBJECTIVE: To test whether (1) generics and original products yield the same health outcomes, and (2) generic therapies save economic resources versus original therapies. METHODS: We performed a systematic literature review in Medline, Embase, and the Cochrane Database of Systematic Reviews to identify original studies that examine clinical or economic outcomes of GS. After standardized data extraction, reported outcomes were categorized as supporting or rejecting the hypotheses. Each reported outcome was assessed and accounted for supporting and opposing GS. One publication could provide multiple outcome comparisons. RESULTS: We included 40 studies across ten therapeutic areas. Fourteen studies examined patients on de novo therapy; 24 studies investigated maintenance drug therapy, and two studies considered both settings. Overall, 119 outcome comparisons were examined. Of 97 clinical outcome comparisons, 67 % reported no significant difference between generic drugs and their off-patent counterparts. Of 22 economic comparisons, 64 % suggested that GS increased costs. Consequently, hypothesis (1) was supported but hypothesis (2) was not. We found no major differences among studies that investigated clinical outcomes with de novo or maintenance therapy. CONCLUSION: The review suggests that clinical effects are similar after GS. However, economic savings are not guaranteed. More systematic research comparing clinical and economic outcomes with or without GS is needed to inform policy on the use of generic substitution.

**Han, E., et al. (2015). "Effects of pharmaceutical cost containment policies on doctors' prescribing behavior: Focus on antibiotics." *Health Policy*, 119 (9): 1245-1254**



**OBJECTIVES:** We analyzed the effect of the outpatient prescription incentive program and price cuts of listed medicines in South Korea on prescription drug expenditures and prescription behaviors, focusing on antibiotics for the most common infectious diseases. **METHODS:** We used the National Health Insurance claims data from January 1, 2009 through December 31, 2012. For 1625 primary clinics randomly sampled, we included all claims with principal diagnoses of acute upper respiratory tract infections (URTIs, J00-J06), acute lower respiratory tract infections (LRTIs, J20-J22), or otitis media (H65, H66). An interrupted time-series analysis was conducted. **RESULTS:** Pharmaceutical spending per claim dropped immediately after the outpatient prescription incentive program only for otitis media (adults), but the secular trend shifted downward after the incentive program for all target diseases. The incentive program lowered the trend of antibiotic prescribing rate in otitis media (adults). The program was associated with an increase of the number of antibiotics prescribed in URTI (adults) and LRTI (children) and decrease in otitis media (adults). The broad markdown of drug prices reduced pharmaceutical expenditures immediately for all diseases, but without lasting effect. **CONCLUSION:** The direct financial incentives to physicians to reduce in prescription spending had the intended effect over time and can be an important tool to improve pharmaceutical spending management.

**Lozano-Montoya, I., et al. (2015). "Potentially inappropriate prescribing detected by STOPP–START criteria: are they really inappropriate?"** *Age and Ageing* **44**(5): 861-866.

**Background:** the STOPP–START criteria were developed to detect potentially inappropriate prescribing (PIP) in older people. The reasons why multidisciplinary geriatric teams decide not to follow STOPP–START criteria have not been studied. **Objective:** to analyse compliance with the recommendations of the STOPP–START criteria in older inpatients. **Design:** ambispective, non-randomised study. **Subjects setting:** three hundred and eighty-eight consecutive patients aged 80 years or over admitted to the acute geriatric medicine unit of a University hospital. **Methods:** STOPP–START criteria were systematically used by a pharmacist to assess pre-admission treatments, and the multidisciplinary geriatric team decided what drugs were recommended after discharge. Two researches independently assessed how many STOPP–START recommendations were accepted by the team, and if they were not accepted, why. **Results:** two hundred and eighty-four PIPs were identified (0.8 per subject) according to STOPP criteria. Two hundred and forty-seven of these prescriptions (87.0%) were discontinued at discharge. STOPP recommendations were not accepted in 37 cases, mostly because the team considered other therapeutic priorities (lorazepam, n = 12; risperidone, n = 5; other, n = 18). Three hundred and ninety-seven PIPs were identified according to START criteria (1.1 per subject). START recommendations were not followed at discharge in 264 cases (66.5%). The most frequent reasons were as follows: severe disability (n = 90), the use of other effective treatments for the condition (n = 38) and high risk of severe adverse effects (n = 32). Not following START criteria was significantly associated with dependency for basic activities of daily living (ADLs) (odds ratio, OR: 0.66 for compliance with a recommendation; 0.49–0.89), dependency for instrumental ADLs (OR: 0.64; 0.48–0.85) or inability to walk (OR: 0.72; 0.54–0.98). **Conclusions:** potentially inappropriate drugs are usually discontinued, but many older hospitalised patients do not receive potentially recommended medications. More research on the reasons and consequences of this fact is needed.

**Mayer, S. and A. Osterle (2015). "Socioeconomic determinants of prescribed and non-prescribed medicine consumption in Austria." *Eur J Public Health* **25**(4): 597-603.**

**BACKGROUND:** Equitable access to health care is a goal subscribed to in many European economies. But while a growing body of literature studies socioeconomic inequalities in health service use, relatively little is still known about inequalities in medicine consumption.

Against this background, this study investigates the (socioeconomic) determinants of medicine use in the Austrian context. METHODS: Multivariate logistic regressions were estimated based on the European Health Interview Survey, including representative information of the Austrian population above age 25 (n = 13 291) for 2006/2007. As dependent variables, we used prescribed and non-prescribed medicine consumption as well as prescribed polypharmacy. Socioeconomic status was operationalized by employment status, education and net equivalent income. Health indicators (self-assessed health, chronic conditions), demographic characteristics (age, sex) and outpatient visits were included as control variables. RESULTS: Socioeconomic status revealed opposing utilization patterns: while individuals with higher education and income were more likely to consume non-prescribed medicines, the less educated were more likely to take prescribed medicines. Lower socioeconomic groups also showed a higher likelihood for prescribed polypharmacy. For the consumption of both medicine types, the main socioeconomic determinant was high income. In an additional analysis, lower socioeconomic groups were found to more likely report prescription purposes as the main reason for consulting a practitioner. CONCLUSION: These results point to different behavioural responses to ill health, not least determined by institutional incentives in the Austrian health care system.

**Norman, W. V. (2015). "Our struggle to implement best practices: the example of antibiotic prescription for respiratory tract infection." *Family Practice* 32(4): 365-366.**

**Pirolot, M., et al. (2015). "Homeopathy in France in 2011–2012 according to reimbursements in the French national health insurance database (SNIIRAM)." *Family Practice* 32(4): 442-448.**  
Background. The use of homeopathic medicine is poorly described and the frequency of combined allopathic and homeopathic prescriptions is unknown. Objective. To analyse data on medicines, prescribers and patients for homeopathic prescriptions that are reimbursed by French national health insurance. Methods. The French national health insurance databases (SNIIRAM) were used to analyse prescriptions of reimbursed homeopathic drugs or preparations in the overall French population, during the period July 2011–June 2012. Results. A total of 6,705,420 patients received at least one reimbursement for a homeopathic preparation during the 12-month period, i.e. 10.2% of the overall population, with a predominance in females (68%) and a peak frequency observed in children aged 0–4 years (18%). About one third of patients had only one reimbursement, and one half of patients had three or more reimbursements. A total of 120,110 healthcare professionals (HCPs) prescribed at least one homeopathic drug or preparation. They represented 43.5% of the overall population of HCPs, nearly 95% of general practitioners, dermatologists and pediatricians, and 75% of midwives. Homeopathy accounted for 5% of the total number of drug units prescribed by HCPs. Allopathic medicines were coprescribed with 55% of homeopathic prescriptions. Conclusion. Many HCPs occasionally prescribe reimbursed homeopathic preparations, representing however a small percentage of reimbursements compared to allopathic medicines. About 10% of the French population, particularly young children and women, received at least one homeopathic preparation during the year. In more than one half of cases, reimbursed homeopathic preparations are prescribed in combination with allopathic medicines.

**Toverud, E. L., et al. (2015). "A Systematic Review of Physicians' and Pharmacists' Perspectives on Generic Drug Use: What are the Global Challenges?" *Appl Health Econ Health Policy* 13 Suppl 1: 35-45.**

BACKGROUND AND OBJECTIVES: Generic substitution has been introduced in most countries in order to reduce costs and improve access to drugs. However, regulations and the generic drugs available vary between countries. It is the prescriber or dispenser of the drug who is

the final decision maker. Nevertheless, physicians' and pharmacists' perceptions of generic drug use are not well documented to date. This study presents a systematic review of physicians' and pharmacists' perspectives on generic drug use worldwide. **METHODS:** A systematic literature search was performed to retrieve all articles published between 2002 and 2012 regarding physicians' and/or pharmacists' experiences with generic drugs and generic substitution. **RESULTS:** Of 1322 publications initially identified, 24 were eligible for inclusion. Overall, the studies revealed that physicians and pharmacists were aware of the cost-saving function of generic drugs and their role in improving global access to drugs. Nevertheless, marked differences were observed between countries when studying physicians' and pharmacists' perceptions of the available generic drugs. In less mature healthcare systems, large variations regarding, for example, control routines, bioequivalence requirements, and manufacturer standards were reported. A lack of reliable information and mistrust in the efficacy and quality were also mentioned by these participants. In the most developed healthcare systems, the participants trusted the quality of the generic drugs and did not hesitate to offer them to all patients regardless of socioeconomic status. In general, pharmacists seemed to have better knowledge of the concept of bioequivalence and generic drug aspects than physicians. **CONCLUSIONS:** The present study indicates that physicians and pharmacists are aware of the role of generic drugs in the improvement of global access to drugs. However, there are marked differences regarding how these health professionals view the quality of generic drugs depending on the maturity of their country's healthcare system. This can be attributed to the fact that developed healthcare systems have more reliable public control routines for drugs in general as well as better bioequivalence requirements concerning generics in particular.

## Méthodologie – Statistique / Methodology - Statistics

**Chambe, J., et al. (2015). "Evaluating the validity of the French version of the Four-Dimensional Symptom Questionnaire with differential item functioning analysis." *Family Practice* 32(4): 474-479.**

**Background.** GPs are daily confronted with mental disorders and psychosomatic problems. The Four-Dimensional Symptom Questionnaire (4DSQ), measuring distress, depression, anxiety and somatization, was purposively developed for primary care. It has been translated into 12 languages and is commonly used in several countries. It was translated into French in 2008, by forward and backward translation, but it has not been validated for a primary care population. **Aim.** This study aimed to establish whether the French 4DSQ measured the same constructs in the same way as the original Dutch 4DSQ. **Method.** Two samples of French general practice patients were recruited during routine care to obtain as much variability as possible. One sample included consecutive patients, from the waiting room of rural GPs, over a period of 2 weeks and the other sample included patients with suspected psychological problems or unexplained symptoms. This population was compared to a matched Dutch sample using confirmatory factor analysis (CFA) and differential item functioning (DIF) analysis. **Results.** A total of 231 patients, from 15 French GPs, completed the questionnaire (Dutch reference group: 231). Mean age was 42.9 years (Dutch: 42.1); females numbered 71% in both samples. The multigroup CFA assessed configural invariance of one-factor models per 4DSQ scale. Thirteen of the total of 50 items in the 4DSQ, in three scales, were detected with DIF. However, DIF did not impact on the scale scores. **Conclusion.** French 4DSQ scales have the same latent structures and measure the same traits as the original Dutch 4DSQ.

**Cheng, T. C. and P. K. Trivedi (2015). "Attrition Bias in Panel Data: A Sheep in Wolf's Clothing? A Case Study Based on the Mabel Survey." *Health Econ* 24(9): 1101-1117.**

This paper investigates the nature and consequences of sample attrition in a unique longitudinal survey of medical doctors. We describe the patterns of non-response and examine if attrition affects the econometric analysis of medical labour market outcomes using the estimation of physician earnings equations as a case study. We compare the econometric estimates obtained from a number of different modelling strategies, which are as follows: balanced versus unbalanced samples; an attrition model for panel data based on the classic sample selection model; and a recently developed copula-based selection model. Descriptive evidence shows that doctors who work longer hours, have lower years of experience, are overseas trained and have changed their work location are more likely to drop out. Our analysis suggests that the impact of attrition on inference about the earnings of general practitioners is small. For specialists, there appears to be some evidence for an economically significant bias. Finally, we discuss how the top-up samples in the Medicine in Australia: Balancing Employment and Life survey can be used to address the problem of panel attrition. Copyright (c) 2015 John Wiley & Sons, Ltd.

**Elbasha, E. H. and J. Chhatwal (2015). "Characterizing Heterogeneity Bias in Cohort-Based Models." *Pharmacoeconomics* 33(8): 857-865.**

**PURPOSE:** Previous research using numerical methods suggested that use of a cohort-based model instead of an individual-based model can result in significant heterogeneity bias. However, the direction of the bias is not known a priori. We characterized mathematically the conditions that lead to upward or downward bias. **METHOD:** We used a standard three-state disease progression model to evaluate the cost effectiveness of a hypothetical intervention. We solved the model analytically and derived expressions for life expectancy, discounted quality-adjusted life years (QALYs), discounted lifetime costs and incremental net monetary benefits (INMB). An outcome was calculated using the mean of the input under the cohort-based approach and the whole input distribution for all persons under the individual-based approach. We investigated the impact of heterogeneity on outcomes by varying one parameter at a time while keeping all others constant. We evaluated the curvature of outcome functions and used Jensen's inequality to determine the direction of the bias. **RESULTS:** Both life expectancy and QALYs were underestimated by the cohort-based approach. If there was heterogeneity only in disease progression, total costs were overestimated, whereas QALYs gained, incremental costs and INMB were under- or overestimated, depending on the progression rate. INMB was underestimated when only efficacy was heterogeneous. Both approaches yielded the same outcome when the heterogeneity was only in cost or utilities. **CONCLUSION:** A cohort-based approach that does not adjust for heterogeneity underestimates life expectancy and may underestimate or overestimate other outcomes. Characterizing the bias is useful for comparative assessment of models and informing decision making.

**Hagger-Johnson, G., et al. (2015). "Identifying Possible False Matches in Anonymized Hospital Administrative Data without Patient Identifiers." *Health Serv Res* 50(4): 1162-1178.**

**OBJECTIVE:** To identify data linkage errors in the form of possible false matches, where two patients appear to share the same unique identification number. **DATA SOURCE:** Hospital Episode Statistics (HES) in England, United Kingdom. **STUDY DESIGN:** Data on births and re-admissions for infants (April 1, 2011 to March 31, 2012; age 0-1 year) and adolescents (April 1, 2004 to March 31, 2011; age 10-19 years). **DATA COLLECTION/EXTRACTION METHODS:** Hospital records pseudo-anonymized using an algorithm designed to link multiple records belonging to the same person. Six implausible clinical scenarios were considered possible

false matches: multiple births sharing HESID, re-admission after death, two birth episodes sharing HESID, simultaneous admission at different hospitals, infant episodes coded as deliveries, and adolescent episodes coded as births. **PRINCIPAL FINDINGS:** Among 507,778 infants, possible false matches were relatively rare (n = 433, 0.1 percent). The most common scenario (simultaneous admission at two hospitals, n = 324) was more likely for infants with missing data, those born preterm, and for Asian infants. Among adolescents, this scenario (n = 320) was more common for males, younger patients, the Mixed ethnic group, and those re-admitted more frequently. **CONCLUSIONS:** Researchers can identify clinically implausible scenarios and patients affected, at the data cleaning stage, to mitigate the impact of possible linkage errors.

**Kaambwa, B., et al. (2015). "Investigating consumers' and informal carers' views and preferences for consumer directed care: A discrete choice experiment." *Soc Sci Med* **140**: 81-94.**

Consumer directed care (CDC) is currently being embraced internationally as a means to promote autonomy and choice for consumers (people aged 65 and over) receiving community aged care services (CACs). CDC involves giving CACS clients (consumers and informal carers of consumers) control over how CACSs are administered. However, CDC models have largely developed in the absence of evidence on clients' views and preferences. We explored CACS clients' preferences for a variety of CDC attributes and identified factors that may influence these preferences and potentially inform improved design of future CDC models. Study participants were clients of CACSs delivered by five Australian providers. Using a discrete choice experiment (DCE) approach undertaken in a group setting between June and December 2013, we investigated the relative importance to CACS consumers and informal (family) carers of gradations relating to six salient features of CDC (choice of service provider(s), budget management, saving unused/unspent funds, choice of support/care worker(s), support-worker flexibility and level of contact with service coordinator). The DCE data were analysed using conditional, mixed and generalised logit regression models, accounting for preference and scale heterogeneity. Mean ages for 117 study participants were 80 years (87 consumers) and 74 years (30 informal carers). All participants preferred a CDC approach that allowed them to: save unused funds from a CACS package for future use; have support workers that were flexible in terms of changing activities within their CACS care plan and; choose the support workers that provide their day-to-day CACSs. The CDC attributes found to be important to both consumers and informal carers receiving CACSs will inform the design of future CDC models of service delivery. The DCE approach used in this study has the potential for wide applicability and facilitates the assessment of preferences for elements of potential future aged care service delivery not yet available in policy.

**Maass, C., et al. (2015). "Are administrative data valid when measuring patient safety in hospitals? A comparison of data collection methods using a chart review and administrative data." *Int J Qual Health Care* **27**(4): 305-313.**

**OBJECTIVE:** To evaluate the validity and reliability of German Diagnosis Related Group administrative data to measure indicators of patient safety in comparison to clinical records. **DESIGN:** A cross-sectional study was conducted using chart review (CR) as gold standard and screening of associated administrative data based on DRG coding. **SETTING:** Three German somatic acute care hospitals for adults. **PARTICIPANTS:** A total of 3000 cases treated between May and December, 2010. **MAIN OUTCOME MEASURES:** Eight indicators were used to analyse the incidence of associated adverse events (AEs): pressure ulcers, catheter-related infections, respiratory failure, deep vein thromboses, hospital-acquired pneumonia, acute renal failure, acute myocardial infarction and wound infections. We calculated sensitivity, specificity, positive predictive value (PPV) and Cohen's Kappa with 95% confidence intervals. **RESULTS:** Screening of administrative data identified 171 AEs and 456 were identified by CR.

A number of 135 identical events were identified by both methods. Sensitivities for the detection of AEs using administrative data ranged from 6 to 100%. Specificities ranged from 99 to 100%. PPV were 33 to 100% and reliabilities were 12 to 85%. CONCLUSIONS: Indicators based on German administrative data deviate widely from indicators based on clinical data. Therefore, hospitals should be cautious to use indicators based on administrative data for quality assurance. However, some might be useful for case findings and quality improvement. The precision of the evaluated indicators needs further development to detect AEs by the valid use of administrative data.

**Mühlbacher, A. C., et al. (2015). "Patient Preferences for Features of Health Care Delivery Systems: A Discrete Choice Experiment." *Health Serv Res*, ahead of print.**

**Objective** To estimate the relative importance of organizational-, procedural-, and interpersonal-level features of health care delivery systems from the patient perspective. **Data Sources/Study Setting** We designed four discrete choice experiments (DCEs) to measure patient preferences for 21 health system attributes. Participants were recruited through the online patient portal of a large health system. We analyzed the DCE data using random effects logit models. **Data Collection/Extraction Methods** DCEs were performed in which respondents were provided with descriptions of alternative scenarios and asked to indicate which scenario they prefer. Respondents were randomly assigned to one of the three possible health scenarios (current health, new lung cancer diagnosis, or diabetes) and asked to complete 15 choice tasks. Each choice task included an annual out-of-pocket cost attribute. **Principal Findings** A total of 3,900 respondents completed the survey. The out-of-pocket cost attribute was considered the most important across the four different DCEs. Following the cost attribute, trust and respect, multidisciplinary care, and shared decision making were judged as most important. The relative importance of out-of-pocket cost was consistently lower in the hypothetical context of a new lung cancer diagnosis compared with diabetes or the patient's current health. **Conclusions** This study demonstrates the complexity of patient decision making processes regarding features of health care delivery systems. Our findings suggest the importance of these features may change as a function of an individual's medical conditions.

**Naessens, J. M., et al. (2015). "Incorporating the Last Four Digits of Social Security Numbers Substantially Improves Linking Patient Data from De-identified Hospital Claims Databases." *Health Serv Res* 50: 1339-1350.**

**Objective** Assess algorithms for linking patients across de-identified databases without compromising confidentiality. **Data Sources/Study Setting** Hospital discharges from 11 Mayo Clinic hospitals during January 2008–September 2012 (assessment and validation data). Minnesota death certificates and hospital discharges from 2009 to 2012 for entire state (application data). **Study Design** Cross-sectional assessment of sensitivity and positive predictive value (PPV) for four linking algorithms tested by identifying readmissions and posthospital mortality on the assessment data with application to statewide data. **Data Collection/Extraction Methods** De-identified claims included patient gender, birthdate, and zip code. Assessment records were matched with institutional sources containing unique identifiers and the last four digits of Social Security number (SSNL4). **Principal Findings** Gender, birthdate, and five-digit zip code identified readmissions with a sensitivity of 98.0 percent and a PPV of 97.7 percent and identified postdischarge mortality with 84.4 percent sensitivity and 98.9 percent PPV. Inclusion of SSNL4 produced nearly perfect identification of readmissions and deaths. When applied statewide, regions bordering states with unavailable hospital discharge data had lower rates. **Conclusion** Addition of SSNL4 to administrative data, accompanied by appropriate data use and data release policies, can enable trusted repositories to link data with nearly perfect accuracy without compromising patient

confidentiality. States maintaining centralized de-identified databases should add SSNL4 to data specifications.

**Pierron, A., et al. (2015). "[Evaluation of the metrological quality of the medico-administrative data for perinatal indicators: A pilot study in 3 university hospitals]." *Rev Epidemiol Sante Publique* 63(4): 237-246.**

**BACKGROUND:** In order to assess public health policies for the perinatal period, routinely produced indicators are needed for the whole population. In France, these indicators are used to compare the national public health policy with those of other European countries. French administrative and medical data (PMSI) are straightforward and reliable and may be a valuable source of information for research. This study aimed to measure the quality of PMSI data from three university health centers for core indicators in perinatal health. **METHOD:** PMSI data were compared with medical files in 2012 from 300 live births after 22 weeks of amenorrhea, drawn at random from University Hospitals in Dijon, Paris and Nancy. The variables were chosen based on the Europeristat Project's core and recommended indicators, as well as those of the French National Perinatal survey conducted in 2010. The information gathered blindly from the medical files was compared with the PMSI data positive predictive value (PPV) and the sensitivity was used to assess data quality. **RESULTS:** Data on maternal age, parity and mode of delivery as well as the rates of premature births were superimposable for the two sources. The PPV for epidural injection was 96.2% and 94.3% for perineal tears. Overall, maternal morbidity was underdocumented in the PMSI, so the PPV was 100.0% for pre-existing diabetes, 88.9% for gestational diabetes and 100.0% for high blood pressure with a rate of 9.0% in PMSI and 6.3% in the medical files. The PPV for bleeding during labor was 89.5%. **CONCLUSION:** To conclude, PMSI data are apparently becoming more and more reliable for two reasons: on one hand, the importance of these data for budgetary promotion in hospitals; on the other, the increasing use of this information for statistical and epidemiological purposes.

**Ryan, A. M., et al. (2015). "Why We Should Not Be Indifferent to Specification Choices for Difference-in-Differences." *Health Serv Res* 50(4): 1211-1235.**

**OBJECTIVE:** To evaluate the effects of specification choices on the accuracy of estimates in difference-in-differences (DID) models. **DATA SOURCES:** Process-of-care quality data from Hospital Compare between 2003 and 2009. **STUDY DESIGN:** We performed a Monte Carlo simulation experiment to estimate the effect of an imaginary policy on quality. The experiment was performed for three different scenarios in which the probability of treatment was (1) unrelated to pre-intervention performance; (2) positively correlated with pre-intervention levels of performance; and (3) positively correlated with pre-intervention trends in performance. We estimated alternative DID models that varied with respect to the choice of data intervals, the comparison group, and the method of obtaining inference. We assessed estimator bias as the mean absolute deviation between estimated program effects and their true value. We evaluated the accuracy of inferences through statistical power and rates of false rejection of the null hypothesis. **PRINCIPAL FINDINGS:** Performance of alternative specifications varied dramatically when the probability of treatment was correlated with pre-intervention levels or trends. In these cases, propensity score matching resulted in much more accurate point estimates. The use of permutation tests resulted in lower false rejection rates for the highly biased estimators, but the use of clustered standard errors resulted in slightly lower false rejection rates for the matching estimators. **CONCLUSIONS:** When treatment and comparison groups differed on pre-intervention levels or trends, our results supported specifications for DID models that include matching for more accurate point estimates and models using clustered standard errors or permutation tests for better inference. Based on our findings, we propose a checklist for DID analysis.

**Roelen, C. A., et al. (2015). "Health measures in prediction models for high sickness absence: single-item self-rated health versus multi-item SF-12." *Eur J Public Health* 25(4): 668-672.**

**BACKGROUND:** Self-rated health (SRH) has been found to predict sickness absence (SA). The present study investigated the effect of replacing single-item SRH by a multi-item health measure on SA predictions. **METHODS:** Longitudinal study of 2059 Norwegian nurses with assessments in three waves each separated by 1 year. Health was measured by single-item SRH and multi-item SF-12 in waves 1 and 2. SA was self-reported in all three waves and high SA was defined as more than or equal to 31 SA days within the last 12 months. Predictions of high SA by a model including age, prior SA and single-item SRH were compared with predictions by a model including age, prior SA and multi-item SF-12. Both models were bootstrapped to correct for over-optimism and prospectively validated for their predictions in a new time frame. **RESULTS:** 1253 nurses (61%) had complete data for analysis. The SF-12 model predicted the risk of high SA more accurately ( $\chi^2 = 4.294$ ;  $df = 8$ ) and was more stable over time than the SRH model (model  $\chi^2 = 14.495$ ;  $df = 8$ ). Both prediction models correctly discriminated between high-risk and low-risk individuals in 73% of the cases at wave 2 and in 71% of the cases at wave 3. **CONCLUSIONS:** The accuracy of predictions increased when single-item SRH was replaced by multi-item SF-12, but the discriminative ability did not improve. Single-item SRH suffices to identify employees at increased risk of high SA.

## Politique de santé / Health Policy

**Boccia, S. (2015). "Credibility of observational studies: why public health researchers should care?" *Eur J Public Health* 25(4): 554-555.**

**Coudin, E., et al. (2015). "GP responses to price regulation: evidence from a French nationwide reform." *Health Econ* 24(9): 1118-1130.**

This paper uses a French reform to evaluate the impacts of overbilling restrictions on general practitioner (GP) care provision, fees and incomes. Since 1990, this reform has introduced conditions self-employed GPs must fulfil to be permitted to bill freely. We exploit 2005 and 2008 public health insurance administrative data on GP activity and fees. We use fuzzy regression discontinuity techniques to estimate local causal impacts for GPs who established practices in 1990 and who were constrained by the new regulation to charge regulated prices (compliers). We find that those GPs practices to income effects. In the regulated fee regime, GPs face prices lower by 42% and provide 50% more care than they would do in the unregulated fee regime. Male care provision increasing reaction is larger than the female one, which results in a higher male labour income in the regulated fee regime than with unregulated fees, whereas it is the opposite for women. With regulated fees, GPs limit side-salaried activities, use more lump-sum payment schemes and occupy more often gatekeeper positions. Copyright (c) 2015 John Wiley & Sons, Ltd.

**Habicht, T., et al. (2015). "Strategic purchasing reform in Estonia: Reducing inequalities in access while improving care concentration and quality." *Health Policy* 119(8): 1011-1016.**

As of 2014, the Estonian Health Insurance Fund has adopted new purchasing procedures and criteria, which it now has started to implement in specialist care. Main changes include (1) redefined access criteria based on population need rather than historical supply, which aim to achieve more equal access of providers and specialties; (2) stricter definition and use of



optimal workload criteria to increase the concentration of specialist care (3) better consideration of patient movement; and (4) an increased emphasis on quality to foster quality improvement. The new criteria were first used in the contract cycle that started in 2014 and resulted in fewer contracted providers for a similar volume of care compared to the previous contract cycle. This implies that provision of specialized care has become concentrated at fewer providers. It is too early to draw firm conclusions on the impact on care quality or on actors, but the process has sparked debate on the role of selective contracting and the role of public and private providers in Estonian health care. Lastly, the Estonian experience may hold important lessons for other countries looking to overcome inequalities in access while concentrating care and improving care quality.

**Okem, Z. G. and M. Cakar (2015). "What have health care reforms achieved in Turkey? An Appraisal of the "Health Transformation Programme".** *Health Policy*, **119** (9) : 1153-1163. Poor health status indicators, low quality care, inequity in the access to health services and inefficiency due to fragmented health financing and provision have long been problems in Turkey's health system. To address these problems a radical reform process known as the Health Transformation Programme (HTP) was initiated in 2003. The health sector reforms in Turkey are considered to have been among the most successful of middle-income countries undergoing reform. Numerous articles have been published that review these reforms in terms of, variously, financial sustainability, efficiency, equity and quality. Evidence suggests that Turkey has indeed made significant progress, yet these achievements are uneven among its regions, and their long-term financial sustainability is unresolved due to structural problems in employment. As yet, there is no comprehensive evidence-based analysis of how far the stated reform objectives have been achieved. This article reviews the empirical evidence regarding the outcomes of the HTP during 10 years of its implementation. Strengthening the strategic purchasing function of the Social Security Institution (SSI) should be a priority. Overall performance can be improved by linking resource allocation to provider performance. More emphasis on prevention rather than treatment, with an effective referral chain, can also bring better outcomes, greater efficiency gains and contribute to sustainability.

**Dyakova, M., et al. (2015). "The Europe we want-a Transatlantic Health and Wellbeing Partnership?"** *Eur J Public Health* **25**(4): 553-554.

## Prévention / Prevention

**Thibodeau, P. H., et al. (2015). "The relationship between narrative classification of obesity and support for public policy interventions."** *Soc Sci Med* **141**: 27-35.

In 2013, the American Medical Association made the controversial decision to classify obesity as a "disease" in the hopes of encouraging research, reducing stigma, and ultimately lowering the prevalence of the condition. Critics argued that the disease label would reduce feelings of personal responsibility among the obese and therefore discourage healthy self-regulation, a possibility that has received some recent support in the psychological literature. However, public health issues such as obesity are complex and depend not only on personal action, but also on wider societal trends such as social policy interventions. In the present study, we systematically investigated the relationship between four narrative classifications of obesity ("sin", "addiction", "disorder" and "environment") and support for a variety of policy interventions designed to address the issue. An initial norming study revealed that the

obesity narratives differed reliably in how much they attributed blame for the condition to the individual versus the environment. A correlational study showed that participants who agreed with narratives that blamed the individual were more likely to support policy interventions that penalized people for being overweight while participants who agreed with narratives that blamed the environment were more likely to support policy interventions designed to protect people suffering from obesity. A follow-up experiment revealed that these narratives had causal power as well: participants exposed to just one of the narratives were more likely to support policy interventions consistent with the blame attribution of the narrative for both obesity as well as anorexia. Individual differences in political ideology and personal experience with weight issues also influenced agreement with the narratives and support for particular policy interventions across these studies. These findings suggest that public messaging campaigns that utilize extended narratives may be a useful tool for increasing support for effective policy interventions.

## Soins de santé primaires / Primary Health Care

**Buja, A., et al. (2015). "What determines frequent attendance at out-of-hours primary care services?"** *Eur J Public Health* **25**(4): 563-568.

**BACKGROUND:** A detailed description of the characteristics of frequent attenders (FAs) at primary care services is needed to devise measures to contain the phenomenon. The aim of this population-registry-based research was to sketch an overall picture of the determinants of frequent attendance at out-of-hours (OOH) services, considering patients' clinical conditions and socio-demographic features, and whether the way patients' general practitioners (GPs) were organized influenced their likelihood of being FAs. **METHODS:** This study was a retrospective cohort study on electronic population-based records. The dataset included all OOH primary care service contacts from 1 January to 31 December 2011, linked with the mortality registry and with patients' exemption from health care charges. A FA was defined as a patient who contacted the service three or more times in 12 months. A logistic regression model was constructed to identify independent variables associated with this outcome. **RESULTS:** Multivariate analysis showed that not only frailty and clinical variables such as psychiatric disease are associated with FA status, but also socio-demographic variables such as sex, age and income level. Alongside other environmental factors, the GP's gender and mode of collaboration in the provision of health services were also associated with OOH FA. **CONCLUSION:** Our study demonstrates that the determinants of OOH FA include not only patients' clinical conditions, but also several socio-economic characteristics (including income level) and their GPs' organizational format.

**Friedberg, M. W., et al. (2015). "Effects of a medical home and shared savings intervention on quality and utilization of care."** *JAMA Internal Medicine* **175**(8): 1362-1368.

**Importance** Published evaluations of medical home interventions have found limited effects on quality and utilization of care. **Objective** To measure associations between participation in the Northeastern Pennsylvania Chronic Care Initiative and changes in quality and utilization of care. **Design, Setting, and Participants** The northeast region of the Pennsylvania Chronic Care Initiative began in October 2009, included 2 commercial health plans and 27 volunteering small primary care practice sites, and was designed to run for 36 months. Both participating health plans provided medical claims and enrollment data spanning October 1, 2007, to September 30, 2012 (2 years prior to and 3 years after the pilot inception date). We analyzed medical claims for 17 363 patients attributed to 27 pilot and 29 comparison

practices, using difference-in-difference methods to estimate changes in quality and utilization of care associated with pilot participation. Exposures The intervention included learning collaboratives, disease registries, practice coaching, payments to support care manager salaries and practice transformation, and shared savings incentives (bonuses of up to 50% of any savings generated, contingent on meeting quality targets). As a condition of participation, pilot practices were required to attain recognition by the National Committee for Quality Assurance as medical homes. Main Outcomes and Measures Performance on 6 quality measures for diabetes and preventive care; utilization of hospital, emergency department, and ambulatory care. Results All pilot practices received recognition as medical homes during the intervention. By intervention year 3, relative to comparison practices, pilot practices had statistically significantly better performance on 4 process measures of diabetes care and breast cancer screening; lower rates of all-cause hospitalization (8.5 vs 10.2 per 1000 patients per month; difference,  $-1.7$  [95% CI,  $-3.2$  to  $-0.03$ ]), lower rates of all-cause emergency department visits (29.5 vs 34.2 per 1000 patients per month; difference,  $-4.7$  [95% CI,  $-8.7$  to  $-0.9$ ]), lower rates of ambulatory care-sensitive emergency department visits (16.2 vs 19.4 per 1000 patients per month; difference,  $-3.2$  [95% CI,  $-5.7$  to  $-0.9$ ]), lower rates of ambulatory visits to specialists (104.9 vs 122.2 per 1000 patients per month; difference,  $-17.3$  [95% CI,  $-26.6$  to  $-8.0$ ]); and higher rates of ambulatory primary care visits (349.0 vs 271.5 per 1000 patients per month; difference,  $77.5$  [95% CI,  $37.3$  to  $120.5$ ]). Conclusions and Relevance During a 3-year period, this medical home intervention, which included shared savings for participating practices, was associated with relative improvements in quality, increased primary care utilization, and lower use of emergency department, hospital, and specialty care. With further experimentation and evaluation, such interventions may continue to become more effective.

**Kantarevic, J. and B. Kralj (2015). "Physician Payment Contracts in the Presence of Moral Hazard and Adverse Selection: The Theory and Its Application in Ontario." Health Economics, ahead of print.**

We develop a stylized principal-agent model with moral hazard and adverse selection to provide a unified framework for understanding some of the most salient features of the recent physician payment reform in Ontario and its impact on physician behavior. These features include the following: (i) physicians can choose a payment contract from a menu that includes an enhanced fee-for-service contract and a blended capitation contract; (ii) the capitation rate is higher, and the cost-reimbursement rate is lower in the blended capitation contract; (iii) physicians sort selectively into the contracts based on their preferences; and (iv) physicians in the blended capitation model provide fewer services than physicians in the enhanced fee-for-service model. Copyright © 2015 John Wiley & Sons, Ltd.

**Kok, L., et al. (2015). "Remuneration of medical specialists. Drivers of the differences between six European countries." Health Policy, 119 (9) : 1188-1996**

Between countries there are large differences in the remuneration of medical specialists. We compared the remuneration levels in 2010 in six countries: Belgium, Denmark, England, France, Germany and the Netherlands. We used OECD figures for the remuneration levels, but corrected them extensively for differences in measurement between countries. English doctors earned most in 2010, French doctors earned least. For the six countries under study the number of doctors per capita is most consistent with the differences in income. Surprisingly, the payment scheme (salaried or fee-for-service) does not seem to account for differences between countries, although within countries fee-for-service specialists earn more than their salaried counterparts. Differences in the role of the GP, differences in workload, composition of the workforce and education could not account for differences in remuneration between these six countries. As our conclusions are based on only six

countries more research involving a larger number of countries is needed to confirm these findings.

**Panteli, D., et al. (2015). "Continuity of care in the cross-border context: insights from a survey of German patients treated abroad." *Eur J Public Health* 25(4): 557-563.**

**BACKGROUND:** Continuity of care is important for outcomes and patient satisfaction and includes additional considerations in the context of cross-border health care. Although this has been discussed in research and was picked up in the recently transposed Directive on patients' rights (2011/24/EU), there is limited evidence about related issues actually encountered by patients crossing borders. **METHODS:** An anonymous postal survey was carried out by the Techniker Krankenkasse, one of the largest sickness funds in Germany. The questionnaire was sent to 45 189 individuals who had received treatment in EU/EEA countries and included items on relational, management and informational continuity. **RESULTS:** The survey had a response rate of 41% (n = 17 543). Of those respondents who had travelled for care (n = 3307), approximately 19% (n = 570) did so due to a relationship of trust with a given provider. Only 8% of all respondents required emergency follow-up services due to complications, the majority of which was obtained back in Germany. Twelve percentage of those who were prescribed medication abroad (n = 4208) reported problems, spanning unknown products, dispensation and reimbursement. Information exchange between providers across borders was rare and largely carried out by the patients themselves. **CONCLUSIONS:** Although relational continuity may be important to specific groups of patients travelling for care, it is primarily informational continuity and its interrelation with management continuity that need to be addressed in the cross-border context. Information exchange should be endorsed at European level. Additional focus is required on informing patients about documentation rights and requirements and providing health records that are comprehensive and comprehensible.

**Rudkjøbing, A., et al. (2015). "Evaluation of a policy to strengthen case management and quality of diabetes care in general practice in Denmark." *Health Policy* 119(8): 1023-1030.**

**OBJECTIVES:** To evaluate the utilization of a policy for strengthening general practitioner's case management and quality of care of diabetes patients in Denmark incentivized by a novel payment mode. We also want to elucidate any geographical variation or variation on the basis of practice features such as solo- or group practice, size of practice and age of the GP. **METHODS:** On the basis registers encompassing reimbursement data from GPs and practice specific information about geographical location (region), type of practice (solo- or group-practice), size of practice (number of patients listed) and age of the GP were able to determine differences in use of the policy in relation to the practice-specific information. **RESULTS:** At the end of the study period (2007-2012) approximately 30% of practices have enrolled extending services to approximately 10% of the diabetes population. There is regional - as well as organizational differences between GPs who have enrolled and the national averages with enrolees being younger, from larger practices and with more patients listed. **CONCLUSIONS:** Our study documents an organizationally and regionally varied and limited utilization with the overall incentive structure defined in the policy not strong enough to move the majority of GPs to change their way of delivering and financing care for patients with diabetes within a period of more than 5 years.

**Rudoler, D., et al. (2015). "Paying for Primary Care: The Factors Associated with Physician Self-selection into Payment Models." *Health Econ* 24(9): 1229-1242.**

To determine the factors associated with primary care physician self-selection into different payment models, we used a panel of eight waves of administrative data for all primary care physicians who practiced in Ontario between 2003/2004 and 2010/2011. We used a mixed

effects logistic regression model to estimate physicians' choice of three alternative payment models: fee for service, enhanced fee for service, and blended capitation. We found that primary care physicians self-selected into payment models based on existing practice characteristics. Physicians with more complex patient populations were less likely to switch into capitation-based payment models where higher levels of effort were not financially rewarded. These findings suggested that investigations aimed at assessing the impact of different primary care reimbursement models on outcomes, including costs and access, should first account for potential selection effects. Copyright (c) 2015 John Wiley & Sons, Ltd.

**Tsiachristas, A., et al. (2015). "Costs and effects of new professional roles: Evidence from a literature review." *Health Policy*, **119** (9) : 1176-86**

One way in which governments are seeking to improve the efficiency of the health care sector is by redesigning health services to contain labour costs. The aim of this study was to investigate the impact of new professional roles on a wide range of health service outcomes and costs. A systematic literature review was performed by searching in different databases for evaluation papers of new professional roles (published 1985-2013). The PRISMA checklist was used to conduct and report the systematic literature review and the EPHP-*Quality Assessment Tool* to assess the quality of the studies. Forty-one studies of specialist nurses (SNs) and advanced nurse practitioners (ANPs) were selected for data extraction and analysis. The 25 SN studies evaluated most often quality of life (10 studies), clinical outcomes (8), and costs (8). Significant advantages were seen most frequently regarding health care utilization (in 3 of 3 studies), patient information (5 of 6), and patient satisfaction (4 of 6). The 16 ANP studies evaluated most often patient satisfaction (8), clinical outcomes (5), and costs (5). Significant advantages were seen most frequently regarding clinical outcomes (5 of 5), patient information (3 of 4), and patient satisfaction (5 of 8). Promoting new professional roles may help improve health care delivery and possibly contain costs. Exploring the optimal skill-mix deserves further attention from health care professionals, researchers and policy makers.

**Tsiantou, V., et al. (2015). "General practitioners' intention to prescribe and prescribing patterns in selected European settings: The OTCSOCIOMED project." *Health Policy*, **119**(9) : 1265-74**

The aim of this paper is to explore general practitioners' (GPs) prescribing intentions and patterns across different European regions using the Theory of Planned Behavior (TPB). A cross-sectional study was undertaken in selected geographically defined Primary Health Care areas in Cyprus, Czech Republic (CZ), France, Greece, Malta, Sweden and Turkey. Face-to-face interviews were conducted using a TPB-based questionnaire. The number of GP participants ranged from 39 to 145 per country. Possible associations between TPB direct measures (attitudes, subjective norms (SN) and perceived behavioral control (PBC)) and intention to prescribe were assessed by country. On average, GPs thought positively of, and claimed to be in control of, prescribing. Correlations between TPB explanatory measures and prescribing intention were weak, with TPB direct measures explaining about 25% of the variance in intention to prescribe in Malta and CZ but only between 3% and 5% in Greece, Sweden and Turkey. SN appeared influential in GPs from Malta; attitude and PBC were statistically significant in GPs from CZ. GPs' prescribing intentions and patterns differed across participating countries, indicating that country-specific interventions are likely to be appropriate. Irrational prescribing behaviors were more apparent in the countries where an integrated primary care system has still not been fully developed and policies promoting the rational use of medicines are lacking. Demand-side measures aimed at modifying GPs prescribing behavior are deemed necessary.

## Systemes de santé / Health Systems

**Ashton, T. (2015). "Measuring health system performance: A new approach to accountability and quality improvement in New Zealand." *Health Policy* 119(8): 999-1004.**

In February 2014, the New Zealand Ministry of Health released a new framework for measuring the performance of the New Zealand health system. The two key aims are to strengthen accountability to taxpayers and to lift the performance of the system's component parts using a 'whole-of-system' approach to performance measurement. Development of this new framework - called the Integrated Performance and Incentive Framework (IPIF) - was stimulated by a need for a performance management framework which reflects the health system as a whole, which encourages primary and secondary providers to work towards the same end, and which incorporates the needs and priorities of local communities. Measures within the IPIF will be set at two levels: the system level, where measures are set nationally, and the local district level, where measures which contribute towards the system level indicators will be selected by local health alliances. In the first year, the framework applies only at the system level and only to primary health care services. It will continue to be developed over time and will gradually be extended to cover a wide range of health and disability services. The success of the IPIF in improving health sector performance depends crucially on the willingness of health sector personnel to engage closely with the measurement process.

**Hall, J. (2015). "Australian Health Care — The Challenge of Reform in a Fragmented System." *New England Journal of Medicine* 373(6): 493-497.**

**Peacock, G., et al. "Health Care for Americans with Disabilities — 25 Years after the ADA." *New England Journal of Medicine*, ahead of print.**

## Travail et santé / Occupational Health

**Cleal, B., et al. (2015). "A prospective study of occupational status and disability retirement among employees with diabetes in Denmark." *Eur J Public Health* 25(4): 617-619.**

The aim of this study was to examine the extent and distribution of disability retirement among people with diabetes in the workforce. Using four population registries, the study examined the relative rates of disability retirement among employees in Denmark over a 10-year period. The findings highlight that the risk of disability retirement increases as occupational status decreases. With an ageing workforce and increasing prevalence of diabetes, it is important to target primary, secondary and tertiary prevention to the groups that need it most in attempts to prolong the working lives of individuals.

**Janlert, U., et al. (2015). "Length of unemployment and health-related outcomes: a life-course analysis." *Eur J Public Health* 25(4): 662-667.**

**BACKGROUND:** Most previous studies on the effects of length of unemployment on health have focused on the duration of continuous spells of unemployment rather than on the cumulative length of intermittent spells. This study analysed the relationship between the cumulative length of intermittent spells of unemployment and different health-related outcomes using data from a longitudinal study of school leavers. **METHODS:** All pupils who completed compulsory schooling in 1981 in a medium-sized town in northern Sweden (N =

1083) were followed for 14 years with repeated questionnaires including questions about unemployment, health and health behaviour. RESULTS: Men tended to react with a steady state or a levelling off of health symptoms with increased unemployment, whereas women showed deteriorating health symptoms. For health behaviour the reverse occurred. Women's health behaviour was less connected with increased unemployment while men's health behaviour tended to deteriorate. CONCLUSION: Cumulative length of unemployment is correlated with deteriorated health and health behaviour. Long-term unemployment, even as a result of cumulated shorter employment spells over a number of years should be an urgent target for policy makers.

## Vieillessement / Ageing

**Benavides, F. G., et al. (2015). "Labour market trajectories and early retirement due to permanent disability: a study based on 14 972 new cases in Spain." *Eur J Public Health* 25(4): 673-677.** BACKGROUND: To analyse the impact of labour market trajectory indicators on early retirement, measured by age at onset of permanent disability (PD). METHODS: Four labour market trajectory indicators were reconstructed in 14 972 new cases of PD recognized between 2004 and 2010: (1) number of employment contracts, (2) number of unemployment periods, (3) number of periods without social security affiliation and (4) percentage of time spent in inactivity. The outcome was measured as the age at onset of PD. Median differences and 95% confidence intervals (95%CI) were compared using a median regression. Analyses were stratified by sex and adjusted for occupational category and total time elapsed between the beginning of working life and the age at onset of PD: separately for each labour market indicator, and adjusted for each other. RESULTS: In men, the age at the onset of PD for workers with 15 or more employment contracts decreased by 4.8 years; and for workers with five or more periods without affiliation it decreased by 4.6 years. In women, the corresponding decreases were 5.8 years for 15 or more contracts and 7.2 years for five or more unaffiliated periods. The results for four indicators slightly changed when they were mutually adjusted. CONCLUSIONS: Poor employment conditions, such as having a high number of periods without affiliation, a high number of contracts (in men) and a higher percentage of inactive time (in women) are associated with early retirement due to PD.

**Conroy, S. and G. Chikura (2015). "Emergency care for frail older people—urgent AND important—but what works?" *Age and Ageing* 44(5): 724-725.**

**Godfrey, M. (2015). "Qualitative research in age and ageing: enhancing understanding of ageing, health and illness." *Age and Ageing* 44(5): 726-727.**

**Harrison, J. K., et al. (2015). "Managing frailty as a long-term condition." *Age and Ageing* 44(5): 732-735.**

Frailty is a distinctive late-life health state in which apparently minor stressor events are associated with adverse health outcomes. This article considers how the conceptualisation of frailty as a long-term condition offers new management approaches based on systematically applied preventative and proactive interventions. Frailty shares the key features of the common long-term conditions: it can be ameliorated but not cured; it is costly at an individual and societal level; it is progressive; it impacts adversely on life experience and it has episodic crises. The recognition of frailty as a long-term condition is not merely a semantic issue—a wide range of benefits can be anticipated. Primary care-based registers for

frailty could be established and chronic disease models applied systematically for co-ordinated and person-centred preventative and proactive care. A team approach is a key component of long-term condition management, incorporating support, follow-up and behaviour change interventions that go beyond the scope of a traditional medical approach. This approach would ideally require changes in secondary care to embrace greater community-based working and closer relationships with the primary health and care team. Although our understanding of interventions to modify or treat frailty has improved, there is considerable scope for further development. Identifying frailty as a long-term condition would be an important step in distinguishing people with frailty as a discrete population for new research.

**Hörder, H., et al. (2015). "Secular trends in frailty: a comparative study of 75-year olds born in 1911–12 and 1930." *Age and Ageing* 44(5): 817-822.**

Background: while there is a trend towards a compression of disability, secular trends in physiological frailty have not been investigated. The aim of this paper was to report physiological frailty in two cohorts of 75-year olds examined in 1987 and 2005. Methods: a repeated cross-sectional study. Two population-based birth cohorts of community-dwelling 75-year olds from Gothenburg, Sweden, born in 1911–12 (n = 591) and 1930 (n = 637) were examined with identical methods in 1987 and 2005. Measures were three frailty criteria from Fried's frailty phenotype: low physical activity, slow gait speed and self-reported exhaustion. Results: seventy-five-year olds examined in 2005 were less frail according to the criteria low physical activity compared with those examined in 1987 (3 versus 18%,  $P < 0.001$ ). This was seen both in women and in men, and among those with basic and more than basic educational level. Further, men with basic education were less frail in 2005 compared with those in 1987 in slow gait speed (non-significant when adjusted for body height) and low self-rated fitness, while no cohort differences were seen in men with more than basic education. Women with more than basic education were less frail in 2005 compared with those in 1987 in slow gait speed and self-rated fitness, while no cohort difference was seen in women with basic education. Conclusion: less 75-year olds were physiologically frail in 2005 compared with those in 1987, with the exception of women with low educational level, suggesting that this is a disadvantaged group that needs to receive particular attention with regard to physiological frailty.

**Lowthian, J. A., et al. (2015). "Discharging older patients from the emergency department effectively: a systematic review and meta-analysis." *Age and Ageing* 44(5): 761-770.**

Background: a decline in health state and re-attendance are common in people aged  $\geq 65$  years following emergency department (ED) discharge. Diverse care models have been implemented to support safe community transition. This review examined ED community transition strategies (ED-CTS) and evaluated their effectiveness. Methods: a systematic review and meta-analysis using multiple databases up to December 2013 was conducted. We assessed eligibility, methodological quality, risk of bias and extracted published data and then conducted random effects meta-analyses. Outcomes were unplanned ED representation or hospitalisation, functional decline, nursing-care home admission and mortality. Results: five experimental and four observational studies were identified for qualitative synthesis. ED-CTS included geriatric assessment with referral for post-discharge community-based assistance, with differences apparent in components and delivery methods. Four studies were included in meta-analysis. Compared with usual care, the evidence indicates no appreciable benefit for ED-CTS for unplanned ED re-attendance up to 30 days (odds ratio (OR) 1.32, 95% confidence interval (CI) 0.99–1.76; n = 1,389), unplanned hospital admission up to 30 days (OR 0.90, 95% CI 0.70–1.16; n = 1,389) or mortality up to 18 months (OR 1.04, 95% CI 0.83–1.29; n = 1,794). Variability between studies precluded



analysis of the impact of ED-CTS on functional decline and nursing-care home admission. Conclusions: there is limited high-quality data to guide confident recommendations about optimal ED community transition strategies, highlighting a need to encourage better integration of researchers and clinicians in the design and evaluation process, and increased reporting, including appropriate robust evaluation of efficacy and effectiveness of these innovative models of care.

**Van den Block, L., et al. (2015). "Transitions between health care settings in the final three months of life in four EU countries." *Eur J Public Health* 25(4): 569-575.**

**BACKGROUND:** Transitions between care settings may be related to poor quality in end-of-life care. Yet there is a lack of cross-national population-based data on transitions at the end of life. **METHOD:** International mortality follow-back study with data collection in Belgium, Netherlands, Italy and Spain (2009-11) via existing representative epidemiological surveillance networks of general practitioners (GPs). All general practitioners reported weekly, on a standardized registration form, every deceased patient ( $\geq 18$  years) in their practice and identified those who died 'non-suddenly'. **RESULTS:** Among 4791 non-sudden deaths in Belgium, Netherlands, Italy and Spain, 59%, 55%, 60% and 58%, respectively, were transferred between care settings at least once in the final 3 months of life (10%, 8%, 10% and 13% in final 3 days of life); 10%, 5%, 8% and 12% were transferred three times or more ( $P < 0.001$  in multivariate analyses adjusting for country differences in age, sex, cause of death, presence of dementia). In all countries, transitions were more frequent among patients residing at home (61-73%) than among patients residing in a care home (33-40%). Three months before death 5-7% of patients were in hospital, and this rose to 27-39% on the day of death. Patient wishes were cited as the reason for the last transition before death in 27%, 39%, 9% and 6% of cases in Belgium, Netherlands, Italy and Spain, respectively ( $P < 0.001$ ). **CONCLUSION:** End-of-life transitions between health care settings are common across EU countries, in particular late hospitalizations for people residing at home. Frequency, type and reasons for terminal hospitalizations vary between countries.