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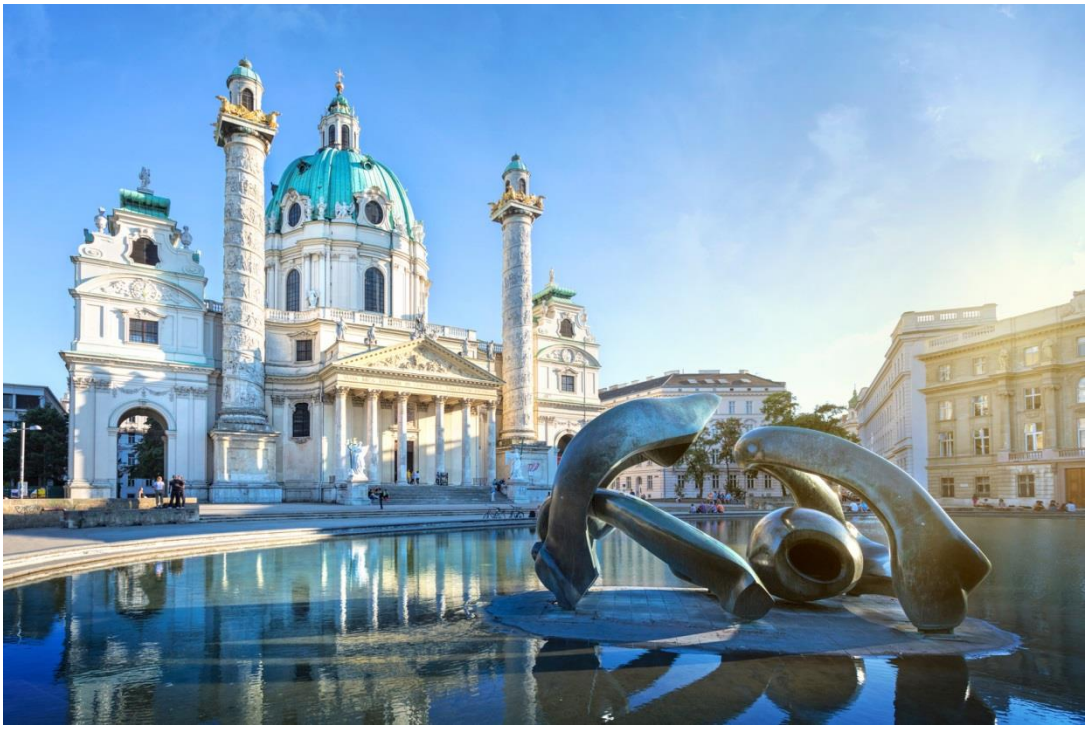

2nd ATHEA Conference for Health Economics

„Efficiency and equality in health systems“

Vienna, 25th and 26th of February 2016

Conference venue

Address:

Institute for Advanced Studies (IHS)

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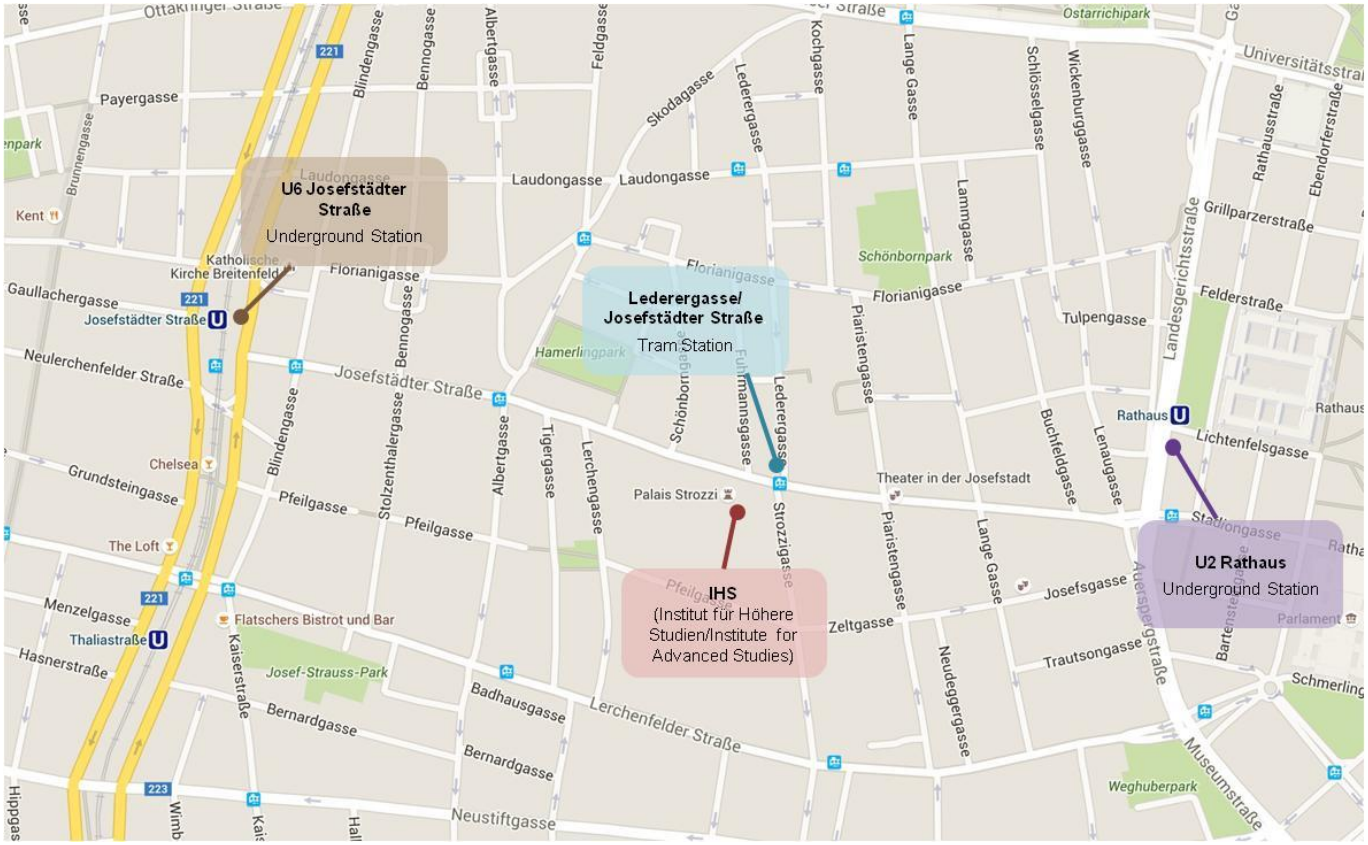

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Title: Explaining variations in health care expenditures – What is the role of practice styles?

Authors: Alexander Ahammer[1], Thomas Schober[1]

[1] University of Linz

Abstract:

Variations in the use of medical resources both across and within geographical regions have been widely documented. Whenever these variations cannot be explained by differences in patient needs or preferences, they may result in some individuals being over-treated while others being under-treated. From a welfare point of view, this raises questions on the equity and efficiency of health care systems. One explanation for observed differences which has been suggested in the literature are medical practice styles, i.e., doctors may develop different treatment patterns because they differ in their believes about the efficacy of medical interventions.

In this paper, we use a large administrative dataset from Upper Austria to study practice styles among primary care physicians. Based on the. Abowd et al. (1999, ECTA) framework, we decompose different health care services such as fees billed by the doctor, days of sick leave, days of hospitalization, or drug expenses into one part that is explained by patient characteristics, a second part that is explained by a time-invariant doctor fixed-effect, and stochastic health shocks. The doctor fixed-effects, which reflect heterogeneities in prescription behaviors when health status of the patient is held constant, are then interpreted as a measure of practice styles.

Preliminary results suggest that these practice styles indeed play an important role in explaining variations in the prescription of medical services. Although the effect is somewhat smaller than expected, we still observe deviations in prescriptions of up to 30% which cannot be explained by patient characteristics or health shocks. In a second step, we explore correlates of these practice style measures. We find, for instance, that high fixed-effect doctors are on average older and more likely to be female. Furthermore, doctors who graduated from Innsbruck seem to prescribe more on average compared to Graz or Vienna graduates.

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Title: Antibiotic prescriptions as an unintended consequence of physician competition: Evidence from England*

Authors: Albrecht Bohne[1], Sebastian Panthöfer[2]

[1] Universität Mannheim

[2] Universidad Carlos III de Madrid

Abstract:

We analyze the impact of competition between general practitioners (GPs) on antibiotic prescriptions using instrumental variables. While increased competition between hospitals has been shown to lead to improved health outcomes without raising costs (Kessler & McClellan 2000; Gaynor et al. 2013), it is less clear whether competition is socially desirable in physician markets. Specifically, there are theoretical and empirical concerns that physician competition induces overprescribing (Allard et al. 2009; Kann et al. 2010). In this paper, we draw on rich administrative data from the UK National Health Service (NHS), encompassing the universe of public GP practices in England, to evaluate the impact of competition in a highly regulated market, in which the incentives for GPs to compete on non-price dimensions, such as prescriptions, are particularly strong. We focus our attention on antibiotics because of their severe negative externalities in the form of increased antibiotic resistance and because over-prescribing of antibiotics is a well-documented phenomenon (Gonzales et al. 2001; Shapiro et al. 2014). One natural concern that arises at the estimation stage is that the level of competition may be endogenous to observed and unobserved characteristics of doctors and patients in a given market. To address this issue, we rely on an instrumental variables approach and exploit two plausibly exogenous instruments for our measure of competition, the Herfindahl-Hirschman-Index (HHI).

Preliminary findings suggest that increased competition indeed leads to more antibiotic prescriptions. We are currently expanding this analysis to gain a deeper understanding of the mechanisms driving this effect, especially to what extent patients choose doctors who prescribe more antibiotics. Moreover, in ongoing analysis we investigate whether these competition-induced prescriptions are related to health outcomes, such as local MRSA infection rates and sick leaves.

* Email addresses: albrecht.bohne@gess.uni-mannheim.de, spanthof@eco.uc3m.es. We would like to thank Matilde Machado, Kathleen Nosal, Jan Stuhler, and participants of the 4th Madrid Microeconomics Graduate Workshop for helpful comments

Title: Pharmaceutical policy measures in European countries during the global financial crisis

Authors: Sabine Vogler[1], Nina Zimmermann[1], Margit Gombocz[1], Peter Schneider[1]

[1] WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, Health Economics Department, Gesundheit Österreich GmbH (Austrian Public Health Institute), Vienna, Austria

Abstract:

Background

Since 2007, several European countries were hit, to different extents and at different stages in time, by the global financial crisis. Countries reacted by considering and implementing austerity measures, also in the area of health care, including pharmaceutical care. The aim of this study is to survey which pharmaceutical policy measures were taken by European countries during the last years and to analyse them in relation to the evolution of pharmaceutical spending.

Methods

We conducted a survey with competent authorities for pharmaceutical pricing and reimbursement that are members of the Pharmaceutical Pricing and Reimbursement Information (PPRI) network. PPRI network members were asked to inform about pharmaceutical policy measures in their country according to a pre-filled template. The survey was first launched in 2010, and it has been repeated twice a year since then. For this study, we considered the responses received from the EU Member States (all EU Member States except Luxemburg replied), as well as Norway, Iceland, Serbia, Switzerland and Turkey. The regular data collection was supplemented by poster presentations of competent authorities' representatives about implemented and planned policy measures during bi-annual PPRI network meetings. Pharmaceutical expenditure data were retrieved from OECD and Eurostat databases.

Results

In the period from 2010 to 2015, 520 pharmaceutical policy measures were reported to have been implemented in the 32 surveyed European countries. The focus was on measures related to pricing (254 measures), adding to reimbursement policies (195) and other measures (71). The most frequently implemented measures were price changes (e.g. price cuts or price freezes), changes (mostly increases) in patient co-payments, adaptions of the reimbursement lists (major exclusion and/or inclusion of medicines into public funding) and changes of the regulation of the wholesale and/or pharmacy margins. Countries that reported most measures were Portugal, Belgium, France, Iceland, the Czech Republic, Germany and Spain. Most measures were indicated for the year 2012 (126 measures), followed by the year 2013 (96). In the years of 2010 until 2013 (latest comparable data available), in nearly all surveyed countries pharmaceutical expenditure had annual growth rates of less than 3

percent or even, quite frequently, negative rates. In particular, the share of public pharmaceutical expenditure decreased in some countries.

Conclusion

The survey suggested that countries had implemented a range of policies. Several measures had apparently been taken in response to the global financial crisis. These were particularly measures that could be implemented rather swiftly because they did not require a fundamental change in the organisation of the pharmaceutical system and that were able to achieve short-term savings in public pharmaceutical expenditure. More research, through country case studies for instance, is needed to analyse the effects of these policies, including possible negative impacts on equitable access to medicines.

Title: Fairness and eligibility to home care services for dependent elderly: An analysis of inequality of access to long-term care in Europe

Authors: Stefania Ilinca[1], Ricardo Rodrigues[1], Andrea Schmidt[1]

[1] European Centre for Social Welfare Policy and Research

Abstract:

Background

There are significant differences across social protection systems in Europe in the scope, breadth and depth of coverage of the risk to need long-term care in old-age. Together with other factors, such as education, household structure or societal values regarding care for frail older people, these differences can have a significant impact on accessibility to long-term care and on distributional fairness. Further complicating an analysis of equity in this field, it is not always clear how to delineate fair from unfair inequalities as legislative and regulatory frameworks for access to long-term care services in European countries can vary in their treatment of key issues. A case in point is the restriction of eligibility based on household characteristics and the availability of informal support.

Data and methods

Using SHARE data, we analyze differences between 11 European countries in the use of formal care services across income groups, for older people living at home. Following an established literature on inequalities in health care utilization, we focus not only on *inequality* in the use of long-term care, but also on differences in use that persist after differences in need have been taken into consideration, i.e. horizontal *inequity*. For this purpose, concentration indices, concentration curves and horizontal inequity indices are estimated.

Results

Our results suggest that differences in use of home care services across income groups mostly reflect differences in need between those same groups. In other words, we find little evidence for horizontal inequality in the analyzed countries. Our conclusions do not change significantly, irrespective of whether we categorize household structures as sources for fair or unfair inequality.

Conclusion

Although the equity achievements of long-term care services in Europe are positive, irrespective of the treatment of household structures, restrictive policies are likely to over impact on low income families. As such, we encourage a policy discussion on eligibility for long-term care benefits and on what should be considered as an equitable outcome in terms of access to long-term care services.

Title: Do hospital discharges rates indicate need for treatment or interest of owners? Lessons learned from the CEPHOS-Link project in Austria, Italy and Slovenia

Authors: Michael Berger[1], Christa Straßmayr[1], Florian Endel[1], Heinz Katschnig[1]

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Abstract:

In international statistical comparisons on health care systems hospital in-patient discharge rates are a frequently used indicator for reflecting the functioning of a health care system (e.g. Indicator #67 of the European Core Health Indicators – ECHI - of EUROSTAT). In this presentation, we show evidence from three neighbouring countries Austria, Italy (Veneto region) and Slovenia highlighting how the institutional framework and the embedded remuneration systems can influence the reported discharge rates and partly invalidate their assumed meaning.

During the course of the European commission 7FP project "Comparative Effectiveness Research on Psychiatric Hospitalisation by Record Linkage of Large Administrative Data Sets" (CEPHOS-LINK, no. 603264, April 2014 to March 2017), data and information on health service utilization in six European countries (Austria, Finland, Italy-Veneto Region, Norway, Romania, Slovenia) were collected, both for general health and mental health care, specifically focusing on hospital discharges and readmissions. The present analysis compares findings from Austria, Slovenia and Veneto.

For Austria the hospital discharge rate for one year for any ICD-10 diagnosis was the highest (244,93 per 1.000 population), it was somewhat lower in Slovenia (193,66), and the Veneto region in Italy had less than half of the rate of Austria (120,82). While many factors influence hospital discharge rates (not the least the number of available beds) we have focused on the hospital inpatient care payment mechanisms as a potential explanatory factor for these differences, more specifically we have analysed the incentives built into these payment mechanisms. It is not improbable that hospital discharge rates can be more a reflection of the economic interest of hospital owners rather than of the patients' need for in-patient treatment. In Veneto the hospital payment system is based on global budgets covering both inpatient and outpatient care which creates no economic necessity for hospital owners or responsible bodies to admit a patient. In contrast, in Austria the DRG financing systems of hospitals (which is also completely separate from the financing of outpatient care) incentivizes the admission of patients and reduction of the length of stay. While in Slovenia a specific DRG system is used for physical health care, the peculiar situation exists that psychiatric hospitals have a contractually fixed number of in-patient episodes they have to achieve within one year, which restricts the flexibility of making decisions also based on a patient's need for inpatient care.

Our findings raise the issue that an imprudent use of hospital discharge rates as an indicator for judging the health care system can be misleading due to the gap between patients' need for treatment and hospitals'

interests. For policy makers and planners, the trade-off between ensuring equity in access to and adequate quality of health care while simultaneously trying to guarantee long-term fiscal sustainability has become an increasingly pressing issue. Decisions based on comparing hospital utilization indicators should consider the potential flaws in their validity.

Title: Access to health care and socioeconomic status: A study of Polish migrants in London, England and Edinburgh, Scotland

Authors: Robert Nartowski[1]

[1] University of Kent

Abstract:

Background

With over 650,000 Polish migrants living in the United Kingdom, the study of this population has attracted particular attention. The greatest migration wave came after Poland's accession to the European Union in 2004, prior to which the population of Poles was estimated at 80,000. London, England and Edinburg, Scotland have become home to the largest Polish migrant population. Previous studies have shown that both immigrants and individuals of lower socioeconomic status experience challenges in access to health care. There is little research specifically on Polish immigrants and whether their socioeconomic status has an impact on self-perceived access to health care.

Objectives

To examine the perceived access to health care services (family doctor, specialist physician, emergency facilities, and pharmaceuticals) among Polish migrants of various socioeconomic status living in London, England and Edinburgh, Scotland.

Methods

A cross-sectional study of Polish adult migrants was conducted in London and Edinburgh in 2014. A paper-and-pencil survey with multiple choice and open-ended responses was used. The initial sampling areas and respondents were selected through ethnographic maps and snowball sampling.

Results

119 respondents (76 from London, 43 from Edinburgh) participated. Respondents varied in income, educational attainment, employment status, settlement perspectives and work-education relavancy. Over 60% moved to the UK following 2004 with a quarter arriving the year prior. Respondents indicated having generally good access to health care with 79% having a family physician, 76% being able to access emergency health services, 70% being able to get a referral to a specialist when needed, and 70% feeling that their pharmaceutical coverage was adequate. 61% of the sample rated their access to health care as being about the same as in Poland.

Conclusions

Overall, Polish migrants in the UK reported having generally good access to health care services, although there were slight differences between cities. However, a quarter of the migrants indicated not having access to one or

more of the services. The findings from this study are beneficial for policy makers and agencies in the UK and Poland working with Polish immigrants.

Title: Towards a feminist economic theory of the care firm

Authors: Barbara Fuchs[1], Luise Gubitzer[2]

[1] Universität Liechtenstein

[2] Wirtschaftsuniversität Wien

Abstract:

During the past decades neoliberal politics[1] have transformed care[2] provisioning from a universal service available to all residents according to their needs into a new publicly managed service rationed by the purported pressures on public finances (Le Grand and Bartlett 1993, McGregor and McGregor 2001, Gilbert 2002, Misra et. al. 2006, Aldred 2008, Bode 2008, Andersson and Kvist 2014, Harcourt 2014). European governments have implemented policies that promote care quasi-markets[3] and encourage for-profit providers. As a result the care system has become more diverse, and quasi-markets for care in which public, not-for-profit and for-profit entities legally compete for contracts, have come into existence (Le Grand 1991, Bartlett et. al. 1998, Grohs 2004, Ungerson and Yeandle 2007, Brennan et. al. 2012, Andersson and Kvist 2014). Although the number of firms has increased rapidly, the care firm as well as firm behaviour and performance remain largely uncharted terrain in feminist care economics. In our research, we are thus interested in a better understanding of what a care firm is. We start our economic inquiry into care firms with a discussion of the concept of care. Drawing on feminist theory, care economics and theoretical approaches to define the economic activity of rendering services, we elaborate on care as a distinctive economic activity de-fined by the normativity of care, the rationality of caring and inherent service dimensions. In the third section, we apply the 5-Sector Model of the Economy (Gubitzer 2012) to develop avenues towards a material theory of the care firm. Building on our insights, we develop in the fourth section a set of microeconomic variables (type of services, ownership structure, organizational variables, capital intensity, innovation and competition) that allow for a differentiation of care firm types and to evaluate their potential contribution to the provisioning of good care and gender equality.

We believe that elaborating on for-profit care providers as we do fosters the analytic weight of care as a category in feminist care economics and more general analyses of care work com-modification and welfare state development (Daly and Lewis 2000). Quasi-markets raise considerable challenges for effective secondary

[1] Note: Neoliberal politics implemented strategies and instruments of new public management to restructure the provisioning of care.

[2] For a thorough discussion of the concepts of care and caring in German see Gubitzer and Mader 2011. For a critical appraisal of care in English see Rummery, K., & Fine, M. 2012. We use the term care synomously with the older term of caring. We apply care services when discussing the service rendering aspects of care. The term care work encompasses all material and normative conditions under which care is carried out in the economy.

[3] We use the term quasi-market in contrast to care markets. We describe care markets by voluntary transactions of specified goods and services between contractually capable individuals in absence of interpersonal relation-ships (i.e. in competition with each other), unequal power relations and hierarchy (Rosenbaum 2000). If these criteria of voluntarity, speficity and competition are not met, we talk about other social forms of transactions and resource allocation, e.g. through the creation of firms or within the household.

regulatory[4] measures to correct for market failure and government imperfections when entities with different objectives such as profit maximization or social provisioning compete with each other (Bartlett et. al. 1998, Grohs 2004, Pop and Radu 2013). Thus, a better understanding of for-profit care service providers is vital to assess to which extent care quasi-markets are delivering what has been claimed for them by neoliberal politics in terms of choice, efficiency and quality. Such evaluation will lead to the identification of areas of achievements, deficiencies and needed advancements in public policy to effectuate gender equality and empower women in all care providing entities.

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[4] With liberalization of markets (primary regulation), the role of the national government has changed from di-rectly steering the public care provisioning system to safeguarding the proper functioning of care markets and care quasi-market. Secondary regulations target for example the availability of information on price and quality to allow patients to choose between different care arrangement alternati ves. Secondary market regulations also comprise regulations on how different actors in the system have to cooperate, e.g. doctors with medical nurses and care providers.

Title: Medical care within an OLG economy with realistic demography

Authors: Michael Kuhn[1], Ivan Frankovic[1], Stefan Wrzaczek[1]

[1] Wittgenstein Centre (IIASA, VID/ÖAW, WU) Vienna Institute of Demography

Abstract:

We study the role of a health care market within a continuous time economy of overlapping generations subject to endogenous mortality. The economy consists of two sectors: final goods production and a health care sector, selling medical services to individuals. Individuals demand health care with a view to lowering mortality and morbidity over their life-cycle. We derive the age-specific individual demand for health care, based on the value of life, as well as the resulting aggregate demand for health care across the population. We then characterize the general equilibrium allocation of this economy, providing both an analytical and a numerical representation. We study the allocational impact of a medical innovation both in the presence and absence of anticipation; and a temporary baby boom. We place particular emphasis on disentangling general equilibrium from partial equilibrium impacts.

Title: Optimal contracts with personalized medicine

Authors: Izabela Jelovac[1], Samuel Kembou Nzale[2]

[1] Groupe d'Analyse et de Théorie Economique Lyon-St Etienne

[2] Aix-Marseille School of Economics, CNRS&EHESS

Abstract:

How a purchaser of healthcare (a regulator) should optimally contracts with a population of healthcare providers (physicians or groups of physicians) is extensively documented in the literature on the industrial organization of healthcare. The physician acts as an agent for both the patient and the regulator. The majority of theoretical papers have analyzed how a combination of three key ingredients (ability, concern for patient's health and effort) may alter the incentive role of usual payment contracts. This paper is in line with this previous literature but takes into account progress in medical science. In fact recent advances in genomic science have made possible to use some medical tests with a varying precision. Very precise tests (like some tests in cancer treatments) give very clear indications on what should be the physician's therapeutic decision (this is often referred to as "targeted medicine"). "Poor" tests (like some basic "routine" tests or those that do not have very clear therapeutic indications) will imply a costly and non-contractible effort from the physician in order to provide quality care to the patient. We consider that, as the quality of the medical test increases, the more medicine becomes "personalized". We analyze the physician's decision to exert some effort depending on the quality of the medical test. We also analyze how incentives to follow either "conventional medicine" (treating patients without any test) or targeted medicine vary with incentives. We are mainly interest in how instruments used by the regulator to give incentives to physicians vary as medicine becomes personalized. This regulator has a cost-containment and quality enhancement objective and the set of instruments that we consider are usual payment mechanisms (The Fee-For-Service FFS, the Capitation and a combination between Pay-For-Performance P4P and supply-side cost sharing). Some of the results are the following: (i) FFS does not provide incentives for targeted medicine. It increases under conventional medicine with physician's altruism and decreases with the precision of tests. (ii) When the physician's reservation utility is low, capitation does not provide incentives for targeted medicine. (ii) The combination between P4P and supply side cost sharing increases when diagnostic test's precision is low. It however decreases as physician's altruism increases. The promotion of each therapeutic strategy by the regulator depends on all the parameters of the model. In particular, the higher the costs of the diagnostic test, the more the regulator prefers targeted medicine. Moreover, as medicine becomes personalized, the more the regulator prefers targeted medicine over conventional medicine.

Title: 20 years of studies on technical and scale efficiency in the hospital sector: A review of methodological approaches

Authors: Monica Giancotti[1], Vito Pipitone[2], Marianna Mauro[1], Annamaria Guglielmo[3]

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[3] Magna Graecia University, Catanzaro; Department of Legal, Historical, Economic and Social Sciences

Abstract:

Background

The efficiency of health services is one of the most important issues in the current economic debate. Considerable savings can be attained by improving hospitals' efficiency (Ketabi, 2011). The literature availed itself of both parametric and non-parametric approaches, such as D.E.A. or Stochastic Frontier Analysis, to measure and analyse the productive performance of health care services. There is increasing need to determine the best policies and practice for engaging hospitals' efficiency amongst the administrators of health care systems worldwide (Arocena P, Garcia – Prado A; 2007), and it is an important issue for the quality of health care services.

Objectives

Our purpose was to analyse the most used methodological approaches for measuring technical and scale efficiency in the hospital sector. We aimed to summarise evidence, providing a map which shows the most appropriate method related to available data (number of beds, number of physician, or input price and cost data as DRG) and to research assumptions (parametric approach requires a behavioural assumption of cost minimization; non parametric approach shows the advantage of requiring no assumptions either about the functional form of the production frontier or the behaviour of actors).

Methods

A literature review for papers published from 1994 to 2014 on production efficiency measurements in the health care field was conducted.

Given the nature of what health economists mean by efficiency, it is important to establish how efficiency has been measured in health care (Hollinghsworth, 2008). To establish this, our research followed three steps: first, we introduced the theories of parametric and non-parametric approaches used in literature for hospitals efficiency measurement; second, we analysed 59 experimental articles about this topic, which are categorised by method, input and output variables, research settings, data source, and data analysis techniques; third, we presented our concluding remarks.

Results

Different approaches have advantages and disadvantages and the choice of the most appropriate estimation method should depend on the type of organization under investigation, the perspective taken, and the quality of available data. Our research showed that D.E.A. is the most used non-parametric method because it does not impose a strict functional form on the production frontier, hence it can accommodate wide-ranging actions. The most frequently used variables are number of beds and number of personnel as input variables; number of discharges as output variables. About research setting, most of the articles used a sample of public hospitals, which is not unexpected given the importance of resource management in those settings. The most frequently used data source were official databases, or Ministry of Health websites. Finally, regarding primary data analysis techniques, the most frequently used software was DEAP Version 2.1, a computer program written by Tim Coelli (1996).

Conclusions

The number of studies which aim to measure efficiency and productivity in health service has increased dramatically. The review provided in this article will offer an important support to future scale efficiency researchers, providing a "new" knowledge base regarding methods and variables that can be employed to evaluate hospitals' performance.

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Title: International price comparisons in the hospital sector: A discussion on EUROSTAT's new Purchasing Power Parity methodology

Authors: Lena Lepuschütz[1], Florian Bachner[1]

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Abstract:

Health services make up a significant share of the economy and thus constitute an important element of any general price level indices based on a representative basket of goods. Further, health economics research increasingly draws upon cross-country comparisons and thus the ability to know or control for different health-specific price levels is crucial.

Previously, Eurostat and the OECD relied on an input-based methodology, i.e. surveys collecting data on health personnel salary and capital consumption, to derive prices in the health sector. However, such an approach of using salaries to proxy for prices assumes equal productivity across all countries which is clearly not the case in the health sector. Thus, in 2013 Eurostat decided to move towards an output-based approach allowing productivity to differ across countries. However, such a new methodology brings its own challenges, as it requires directly deriving prices of defined, internationally comparable outputs in the hospital sector.

The new methodology is based on an annual Hospital Purchasing Power Parity Survey which collects data on 36 defined medical and surgical case-types and whose implementation is supported by the Austrian Public Health Institute. These case-types are based on previous OECD projects and have been further refined during pilot phases of the survey, with the aim to use a sample of services that are as internationally comparable and clearly defined as possible. Countries report “quasi-prices”, i.e. “prices” that are either administrative or negotiated based on the national system.

31 European countries participated in the most recent Eurostat 2015 Hospital PPP Survey, with results indicating an immense dispersion of prices in the hospital sector. Albania shows a price level which is around 12% of EU average, compared to Switzerland which is around 337% of EU average.

The hospital price level indices based on this new survey already form part of the official health sector purchasing power parity (PPP) figures used in many international studies as well as the overall official PPPs used to adjust GDP and other economic comparators. However, numerous challenges in the methodology remain to be addressed. Firstly, comparing specific case types and matching these to different national classifications remains challenging in particular with differently broadly defined categories. Secondly, countries use different costing methodologies to measure resource consumption in the hospital sector and thus an international comparisons mixes “quasi-prices” based on both micro- and gross-costing approaches. Analysis is ongoing, however first figures indicate that different costing approaches might lead to different results by around 10-15%. Lastly, the new methodology constitutes an improvement by loosening the assumption of equal productivity across

countries. However, quality of services still cannot be measured and taken into account, thus equal quality of output is still an implicit assumption in the current methodology constituting a challenge to the validity of price level results.

Title: Are we comparing apples with oranges? The pitfalls of international comparison of hospital discharge rates and length of stay derived from routine health care data

Authors: Christa Straßmayr[1], Florian Endel[1], Michael Berger[1], Heinz Katschnig[1]

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Abstract:

The indicators "hospital discharge rates" and "average length of stay" (ALOS) are frequently used in health system and health economic comparisons between countries and are meant to assist policy makers to identify the position of their own country compared to other countries. In the most recent published OECD report "Health at a Glance" (2015) hospital discharge rates and figures on average length of stay vary substantially between countries. These differences could reflect different types and degrees of utilisation due to different emphasis in health care systems on in- or outpatient care with different degrees of accessibility of hospitals (geographically, number of beds). However, these differences could as well be artefacts due to differences in the availability and quality of data, different reporting procedures, unclear concepts and terminologies and heterogeneity of incentives in provider payment mechanism.

In the framework of the European Commission 7FP funded project "Comparative Effectiveness Research on Psychiatric Hospitalisation by record linkage of large administrative data sets" (CEPHOS-LINK, no 603264, April 2014 to March 2017) data on hospital service utilisation collected in routine health care databases were compared in detail between six European countries (Austria, Finland, Italy, Norway, Romania, Slovenia).

Hospital episode statistics are usually derived from routinely collected health care data which, as a rule, are not generated for the purpose of research but most often for reimbursement reasons. In this presentation country specific peculiarities of routinely collected hospital episode data on mental health service utilisation are presented, which might jeopardize comparability between countries and are a warning against taking discharge rates and ALOS at their face value for carrying out health economic research.

The basic concepts of „discharge" and „length of stay" will be discussed considering the changing landscape of inpatient mental health care provision (e.g. inpatient care in some countries is not only provided in hospitals but also in community mental health centres; a hospital can be an organisational association of more than one institution; day care is increasing) and its implications on patients moving within and between inpatient services (intra-hospital transfer and inter-hospital-transfer). It will be shown by way of several examples for mental health services, which are also valid for physical health services, that different concepts and definitions of terms related to hospital inpatient care may severely blur comparability between countries.

Title: Economic evaluations and unit costs within the Austrian health care system: A systematic literature review

Authors: Susanne Mayer[1], Judit Simon[1], Noemi Kiss[1], Agata Łaszewska[1]

[1] Department of Health Economics, Centre for Public Health, Medical University of Vienna

Abstract:

Background

With rising costs in healthcare comes an increasing demand for evidence-based decision making using economic evaluations. Consequently, methodological issues including the use of unit costs are becoming increasingly important to make evaluations a valid tool for decision making purposes. This study thus aims to provide an overview of the status quo of economic evaluations on the Austrian health care sector, focusing on their methods of costing.

Methods

A systematic literature review was conducted to identify economic evaluations in an Austrian context in peer-reviewed and grey literature published between 2004 and 2015 in English or in German. The following electronic databases were searched in December 2015: MEDLINE, EMBASE, NHS Economic Evaluation Database (NHS EED). Data extracted included details on study characteristics, costing methods and unit cost reporting.

Preliminary results

Out of 2,677 unique records, 90 studies fulfilled all inclusion criteria. Approximately 90% of them were journal articles, the rest were reports. The highest number of studies were published in 2012 and 2013. While the majority of journal articles were published in English (76%), reports were typically published in German (78%). 42% of all studies were full economic evaluations, most commonly cost-effectiveness analyses. The remaining studies were partial economic evaluations (cost descriptions, cost analyses). With regards to costing and reporting, approximately 60% of the reviewed studies did not clearly state the study perspective, 26% did not provide the year of the unit cost, 28% did not list all the unit costs sources and 40% of the reviewed studies did not report the all unit costs.

Conclusion

The review highlights inconsistencies in costing methodology and reporting in economic analyses performed in the Austrian setting. To this end, detailed costing guidelines for economic evaluations for Austria should be developed to improve the comparability and quality of future costing studies.

Title: Epidemiology, economic burden and quality of life associated with mental illnesses in Austria – A systematic literature review

Authors: Agata Łaszewska[1], Judit Simon[1]

[1] Department of Health Economics, Centre for Public Health, Medical University of Vienna

Abstract:

Background and objective

Mental health diseases are associated with high economic burden both for the health and social care sector and for the society. Measured in years of healthy life lost, mental disorders are the cause of over 10% of the global burden of disease. The total cost of mental disorders account for 3-4% of the GDP in the European Union. The increasing direct and indirect costs of mental illnesses make the provision of good quality mental health care a public health priority. The objective of this study is to collect available information separately on the epidemiology and disease burden, economic burden and quality of life associated with mental illnesses in Austria in peer-reviewed and grey literature.

Methods

A systematic literature review is in progress to collect relevant information on the epidemiology, economic and disease burden of mental disorders and quality of life of mentally ill people in Austria. The following databases are searched: MEDLINE, EMBASE, Scopus, PsycINFO, CINAHL, ASSIA, Social Science Citation index, Cochrane Library and Economic Evaluation Database (NHS-EED). The search strategies applied are a combination of MeSH and Emtry terms, search filters and free-text keywords. Relevant evidence is collected from peer-reviewed English and German language literature. In addition, searching of the relevant websites such as Statistik Austria, LBI HTA and GÖG are included as part of the grey literature search.

Results

Preliminary screening of studies published between 2005 and 2016 showed that approximately 30% of the relevant papers were written in German and 70% in English. Around 50% of the eligible studies on the epidemiology and economic burden and more than 70% studies on quality of life were published in the last five years (2011-2015). Approximately half of the identified studies had data on the economic burden of mental disorders. One third of studies reported epidemiological information. Only a few papers were on quality of life. Schizophrenia and depression were the two most frequently researched conditions for which evidence is available.

Conclusion

Evidence on the epidemiology, disease and economic burden and quality of life associated with mental disorders in Austria is available in peer reviewed and grey literature, however, up to now, it has not been collated and

presented in a systematic and aggregated form nor have their limitations been assessed systematically. Final results of the systematic literature review will be presented at the conference with the aim of identifying the potential gaps in the evidence base for efficient health services planning.

Title: Regional variations in hospital admissions due to ACSC in Austria: An exploration of the socioeconomic gradient on preventable health care

Authors: Anna-Theresa Renner[1]

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Abstract:

Ambulatory care sensitive conditions (ACSC) are medical conditions for which hospitalisation can generally be avoided by timely high-quality primary care or by continuous disease management in the outpatient sector. A hospital admission due to an ACSC is therefore seen as an indicator for deficient provision of primary care or outpatient care. It has been shown that there is an association between the regional rates of ACSC admissions and socioeconomic determinants such as education or income on the regional level elsewhere. Under the premise that the quality of the provided service is independent of an individual's socioeconomic status, this association can be explained either by an actual lack of provided services in socioeconomically deprived regions or by impeded access to available primary care services for socioeconomically deprived individuals or a combination of both. In other words, the reason for regional variations in ACSC hospital admissions due to socioeconomic determinants could either be systematic underprovision or underutilisation of primary care services and outpatient care. To analyse what the drivers of regional variation in hospital admissions due to ACSC are in Austria, and more specifically, what the effects of socioeconomic characteristics on these are and if health care provision enforces or attenuates these effects, a multivariate econometric analysis of Austrian hospital admission data is conducted.

A panel analysis of recorded ACSC hospital admissions in 117 political districts in Austria from 2005 to 2013 is carried out using proxies for regional socioeconomic characteristics (gross regional product, unemployment, migration) and health care provision (physician and hospital density, hospital beds etc.) as main explanatory variables, and various demographic characteristics (population density, age, gender, life-expectancy) as control variables. To estimate the independent effects of the explanatory variables on the dependent variable different econometric models for panel data analysis (fixed effects, random effects, pooled OLS, Mundlak specification) are applied.

Preliminary results show that when controlling for service provision no independently significant effect of socioeconomic characteristics on the regional level can be found. However, the average travel time of the patients to a hospital significantly decreases the ACSC admissions ($p<0.01$), which could be interpreted as tentative evidence for supply induced demand for hospital care. Furthermore, a variable reflecting the experience of physicians is the share of specialists in the outpatient sector under the age of 40 years, which shows a significantly positive association with ACSC admissions ($p<0.05$). This might indicate that the quality of the delivered primary care has an influence on the regional variations of ACSC admissions. The only other highly

significant variable is the share of male general practitioners (GP) on the total number of GPs, which seems to be associated with a reduced number of admissions due to ACSC. A theory supporting this empirical finding has yet to be found.

Further analysis of single disease medical indications (e.g. diabetes mellitus), as well as predictive value estimations and hypothesis testing will be carried out in order to produce more conclusive evidence on the reasons for regional variations in ACSC hospital admissions.

Title: Hochkostenfälle im Morbiditätsbasierten Risikostrukturausgleich (Morbi-RSA)

Authors: Florian Buchner[1], Sonja Schillo[2], Jürgen Wasem[2], Gerald Lux[2]

[1] Fachhochschule Kärnten

[2] Universität Duisburg-Essen

Abstract:

Hintergrund

Im Gegensatz zu Österreich wurde in anderen Ländern mit sozialer Krankenversicherung Mitte der 90er Jahre zwischen den Krankenversicherungsträgern Wettbewerb kombiniert mit einem solidarischen Wettbewerbsrahmen eingeführt um Effizienz, Finanzierbarkeit und Zugangsgerechtigkeit im Gesundheitswesen zu verbessern. Teil eines solidarischen Wettbewerbsrahmens ist in aller Regel ein Ausgleichsmechanismus, der Ausgleichszahlungen entsprechend unterschiedlicher Risikostrukturen (Risikostrukturausgleich) zwischen den Versicherern organisiert.

Fragestellung

Hochkostenfälle sind im deutschen Morbi-RSA zum Teil deutlich unterdeckt. Versicherte, die dauerhaft zu den Hochkostenfällen zählen und auch unter Berücksichtigung der Morbiditätsadjustierten Zahlungen aus dem RSA systematisch unterdeckt bleiben, unterliegen der Gefahr von Risikoselektion. Zusätzlich können bei solchen Fällen insbesondere für kleine Kassen Finanzierungsprobleme entstehen. Aus diesen Gründen ist ein Ausgleich extremer Unterdeckungen zumindest diskussionswürdig.

Methoden und Daten

Drei Konzepte zur verbesserten Berücksichtigung von Hochkostenfällen werden an Hand von Pseudo-R2, Pseudo-CPM sowie Vorhersagerelationen verglichen:

1) Hochkostengruppen: Es wird eine Hochkostengruppe (HKG) als zusätzliche Variable in der Regressionsgleichung gebildet (HKG1-Modell). Versicherte, deren Deckungslücke einen gesetzten Schwellenwert überschreitet, erhalten die HKG-Dummy-Variable. Beim HKG2-Modell werden statt nur einer Hochkostengruppe, abhängig von drei unterschiedlichen Schwellenwerten, drei HKG-Dummy-Variablen eingeführt.
2) Klassischer Hochkostenpool (HKP1-Modell): Aufgrund der Status-quo-Regression werden für die Versicherten Über- und Unterdeckungen berechnet. Übersteigt die Unterdeckung einen festgelegten Schwellenwert so werden Zahlungen aus dem Hochkostenpool ausgelöst. Anschließend werden die individuellen Ausgaben um die Zahlungen aus dem Hochkostenpool gekürzt und mit diesen verringerten Ausgaben wird die Regression wiederholt. Auf diese Weise kommt es zu einer „ursachengerechten“ Angleichung der Regressionskoeffizienten.

3) „Aufgussmodell“ (HKP2-Modell): Das Poolvolumen wird im Vorhinein festgelegt, es wird über eine Absenkung der Grundpauschale gegenfinanziert. Alle Versicherten werden entsprechend ihrer Deckungslücken absteigend sortiert und die Deckungslücken der Versicherten werden aus dem Poolbudget so „aufgegossen“ bzw. gedeckt. Nachdem das Poolbudget aufgebraucht ist, sind die Deckungslücken der einzelnen Versicherten auf einen maximalen Wert begrenzt.

Für die Berechnungen wurde ein Datensatz mit ca. 7 Millionen Versicherten verwendet.

Ergebnisse

Das R^2 für den Status Quo liegt bei 27,58 % für das HKG1- und das HKG2-Modell bei 50,98 % bzw. 62,89 % sowie für HKP1 und HKP2 bei 78,14 % und 77,83 %. Beim CPM ergibt sich eine andere Rangfolge: die Modelle HKG1 und HKG2 schneiden mit 35,30% und 38,01 % ab, HKP1 und HKP2 mit 35,51% und 40,35 % gegenüber dem Status Quo mit 25,40%. Es wird auch dargestellt inwieweit die Morbi-RSA-Zuzahlungen aufgrund von Alter und Geschlecht bzw. aufgrund unterschiedlicher Morbiditätszuschläge als Kompensation Zahlungen aus dem Hochkostenpool bzw. aufgrund der Hochkostengruppen zurückgehen.

Diskussion und Schlussfolgerung

In den beiden HKG-Modellen werden alle Versicherten mit den Dummy-Variablen im Schnitt zu 100% gedeckt. In den HKP-Modellen wurde aus Anreizgründen kein vollständiger Ist-Kostenausgleich durchgeführt sondern Erstattungssätze unter 100% verwendet.

Die Modelle unterscheiden sich im Konzept des Ausgleichs von Hochkostenfällen: anteiliger, individuell zugeschnittener Ausgleich der Ausgaben oberhalb des Schwellenwertes bei HKP-Modellen und pauschalierter Ausgleich durch zusätzliche Regressoren in der RSA-Formel unter Heranziehen der gesamten Ausgaben bei HKG-Modellen. Die Modelle unterscheiden sich auch in der Form der Gegenfinanzierung: die Gegenfinanzierung beim Modell HKP2 erfolgt durch eine gleichförmige Absenkung der Grundpauschale, bei den übrigen Modellen erfolgt die Gegenfinanzierung „verursachungsgerecht“ durch Reduzierung der Regressionskoeffizienten bei einer neuen Berechnung der Regression.

Title: Avoidable costs of stenting for aortic coarctation in the United Kingdom: An economic model

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Abstract:

Background

Undesirable outcomes in health care are associated with patient harm and substantial excess costs. While new technologies and interventions to improve health care quality often carry the promise of reducing avoidable costs, the scope for cost savings through the achievement of improved patient outcomes is unknown for many diseases. Patients with congenital heart disease consume a disproportionately large share of health care spending. Coarctation of the aorta is one of the most common congenital heart diseases, for which stenting is an established treatment option. Nevertheless, a relatively high proportion of patients experiences complications and requires reinterventions after the initial intervention. Treatment and follow-up of patients with coarctation is resource-intensive due to the need for close monitoring and the risk of aortic wall injuries and recurrence of disease with subsequent reinterventions. Our aim was to quantify the costs that could be avoided through improved treatment effectiveness and reduced complication rates associated with stenting treatment of coarctation of the aorta in the United Kingdom (UK).

Methods

We developed an economic model to calculate potentially avoidable costs over a 5-year period. Using UK National Health Service (NHS) reference costs, we first calculated expected costs per patient associated with stenting for coarctation of the aorta as currently used in clinical routine. We then specified four hypothetical scenarios of improved treatment effectiveness (reduction of blood pressure gradient) and reduced complication rates (aortic wall injuries; reinterventions; need for anti-hypertensive treatment), including a best-case scenario with ideal outcomes. We compared the costs of each scenario to the baseline costs to obtain estimates of avoidable costs.

Results

Baseline costs were £16 688 (€22 735) per patient over a 5-year period. Avoidable costs ranged from £137 (€187) per patient in a scenario assuming a 10% reduction in aortic wall injuries and reinterventions at follow-up, to £1627 (€2217) in the best-case scenario with 100% treatment success and no complications. Overall costs in the best-case scenario were 90.2% of overall costs at baseline. Reintervention rate at follow-up was identified as the

most influential lever for overall costs. Probabilistic sensitivity analysis showed a considerable degree of uncertainty for avoidable costs with widely overlapping 95% confidence intervals.

Conclusions

Costs associated with theoretically avoidable complications and potential room for improvement in effectiveness can be labelled as avoidable costs and provide an attractive target for cost reduction efforts in health care. In stenting treatment of coarctation of the aorta, significant improvements in the treatment effectiveness and reductions in complication rates are required to realise discernible cost savings. Up to 10% of total baseline costs could be avoided in the best-case scenario. Patient-specific treatment approaches are a promising path towards treatment optimisation and associated savings from avoidable costs.

Keywords:

Avoidable costs; complications; congenital heart disease; cost savings.

Title: Morbidity evaluation and preventive medicine evaluation based on and dynamic methods in the DEXHELPP setting

Authors: Günther Zauner[1,2,3], Ingrid Wilbacher[2,4], Gottfried Endel[2,4], Niki Popper[1,2,5]

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Abstract:

Background

In Austria as well as in all industrialized countries and developing countries, health care financing and dealing with bounded resources is of major interest in future planning. As pointed out by WHO, public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole, the detailed identification of morbidity as well as prevention strategies and its evaluation are part of the key points.

Objective

Within DEXHELPP (Decision Support for Health Policy and Planning: Methods, Models and Technologies based on Existing Health Care Data) these themes are addressed by a morbidity atlas for major diseases groups as well as development of structures for prevention program evaluation.

Hereby the following questions are under discussion:

1) How can the morbidity of Austrian health insured persons be identified by routine data?
2) Which dynamical model based methods could be implemented for prevention program evaluation?

Methods

Database for morbidity identification is the GAP-DRG (General Approach for Patient oriented Outpatient-based DRG) dataset, which is a research database with reimbursement data for outpatient services of sickness funds (social insurance) and Federal Ministry of Health (hospital data). Data from insurance institutions containing a Unique Person Identifier (UPI) are linked to data from inpatient sector (no UPI) through probabilistic record linkage. As in extramural care, no diagnoses are coded, but the full potential of the given database should be used, four different indirect techniques for morbidity identification are implemented, using:

- A matching from ATC codes to ICD-9 groups (using GAP-DRG),
- two different implementations of the ATHIS (Austrian Health Interview Survey by Statistik Austria) dataset and,
- DLD (Diagnoses and Performance documentation of Austrian hospitals),

realized for diabetes prevalence identification split for age and gender for the 9 Austrian provinces and the results compared for identification of the most valuable method.

In a parallel task, the incidence of fractures based on different diagnosis in hospital is identified. The history of drug prescription and classical comparison of “fracture population group” and “non-fracture population group” as well as survival analysis of the fracture patients is realized.

The actual process under development is the analysis of evaluation methods for the long list of potential fracture prevention programs raising. Besides the definition of an approved outcome measure the discussion of dynamic modelling methods for simulation of time depending effects reflect the actual work.

Results and Resume

The different implementations of the morbidity atlas show the influence of the used dataset and the benefits and problems of the different strategies quite well. A broad basis for standardized use is developed.

In case of fractures, an excess mortality for fracture patients as well as higher prescription rates for selected drug groups can be seen. Additionally, due to complexity of patient properties, dynamic modelling using agent based system looking most promising.

The research project DEXHELPP is in the framework of COMET-Competence Centers for Excellent Technologies. DEXHELPP is supported by BMVIT, BMWFW and the state of Vienna. The COMET program is transacted by the FFG.

Title: Entwicklung und Umsetzung von Methoden zur Entscheidungsunterstützung im österr. Gesundheitssystem – Das Comet K-Projekt DEXHELPP

Authors: Niki Popper[1,2,5], Günther Zauner[1,2,3], Andreas Goltz[2,4], Gottfried Endel[2,4]

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Abstract:

Ausgangspunkt

Ziel des interdisziplinären Comet K-Projektes DEXHELPP (Decision Support for Health Policy and Planning: Methods, Models and Technologies based on Existing Health Care Data) ist die Entwicklung neuer Methoden, Modelle und Technologien um die Analyse, die Planung und die Steuerung des österreichischen Gesundheitssystems zu unterstützen. Solche Technologien zu entwickeln ist aktuell von höchster Priorität, um der Herausforderung zunehmend beschränkter Ressourcen bei der Finanzierung der Gesundheitssysteme in Europa sowie der Entwicklung neuer, oft teurer medizinischer Therapien und Technologien zu begegnen. In Österreich müssen seit 2014 im Rahmen des Bundes-Zielsteuerungsvertrags gesetzlich neu geregelt herausfordernde Fragestellungen bzw. Planungsstrategien durch die Entscheidungsträger bearbeitet und beantwortet werden.

Aufbau

Um die Komplexität der Fragestellungen und der notwendigen Interdisziplinarität Rechnung zu tragen und gleichzeitig einen breiten nationalen Konsens sowie Unabhängigkeit zu gewährleisten, ist DEXHELPP als Verein organisiert. Das Konsortium setzt sich neben sechs wissenschaftlichen Partnern und drei KMUs auch aus dem Hauptverband der österreichischen Sozialversicherungsträger und der Gesundheit Österreich GmbH als Vertreter des Gesundheitsministeriums zusammen.

DEXHELPP nutzt dabei bestehende und neue Datenquellen (und deren Erweiterung bzw. Zusammenführung) und entwickelt unterschiedliche Modelle und Strategien um (1) Analysen des Status Quo durchzuführen, (2) Prognosen der zukünftigen Entwicklung zu berechnen, sowie (3) basierend auf unterschiedlichen Annahmen zu Entwicklungen oder Interventionen zukünftige Szenarien zu vergleichen. Interventionen können in diesem Fall sowohl Eingriffe bzw. Änderungen im Bereich der Behandlung von Patientinnen und Patienten als auch in Organisation oder Struktur des Gesundheitssystems sein.

Konkrete Entwicklungen

Als aktuellste Meilensteine im Projekt können die realisierten Research Server & Services genannt werden, die reproduzierbare und vergleichbare Analysen und virtuelle Studien im österreichischen Gesundheitssystem ermöglichen und dennoch die Anforderungen an Datenschutz und Datensicherheit vollständig erfüllen.

Des Weiteren werden Methoden und die konkrete Realisierung eines Morbiditätsatlas entwickelt, der einen wichtigen Beitrag zur aktuellen Erfassung der Epidemiologie darstellt. Dies betrifft speziell versorgungsrelevante Erkrankungen.

Gleichzeitig, in der Anwendungsforschungstätigkeit entwickelte Projekte umfassen aktuell

- die Entwicklung neuer Methoden zum Monitoring der Primärversorgung in Österreich mit einer Umsetzung von mehr als 30 international anerkannten Indikatoren an Hand historischer Daten,
- die Analyse der Behandlungsprävalenz und -inzidenz von Erkrankungen, deren Behandlungen besonders teuer ist,
- die Analyse von Patientenpfaden und neuen Indikatoren,
- sowie den Einsatz der in DEXHELPP entwickelten Methoden für die Analyse einer Vielzahl konkreter Krankheitsbilder wie etwa Frakturen, Schlaganfall u.v.m.

Speziell die Analyse und Prognose des Gesundheitsstatus und der Versorgung für spezielle Bevölkerungsgruppen, wie Kinder- und Jugendliche, behandlungsintensive Populationen oder ältere Patienten sowie eine breite Modellentwicklung objektiver breit einsetzbarer Methoden steht in DEXHELPP aktuell im Vordergrund.

Resümee

DEXHELPP ist ein Work in Progress Forschungsprojekt, das in den ersten 18 Monaten Laufzeit bereits konkrete Ergebnisse liefern konnte und Strukturen entwickelt hat. Es versteht sich allerdings auch als Schnittstelle für weitere Forschungsfragestellungen zu konkreten Anwendungen und als Ansprechpartner für aktuell auftretende Planungsszenarien im Gesundheitssystem.

Das K-Projekt dexhelpp wird im Rahmen von COMET – Competence Centers for Excellent Technologies durch BMVIT, BMWFJ gefördert. Das Programm COMET wird durch die FFG abgewickelt.

Title: Hospital payment systems, conflicts of interest, and institutional corruption: The Austrian case

Authors: Margit Sommersguter-Reichmann[1], Stepan Adolf[2]

[1] Universität Graz

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Abstract:

Recently, the issue of institutional corruption in the pharmaceutical industry was highlighted in the relevant literature. Following Lessig's definition of institutional corruption as a 'legal systemic and strategic undermining of public policy goals by institutions with deviating objectives', we examine whether the Austrian public hospital sector is susceptible to institutional corruption. For this purpose, we first investigate legal sources which regulate hospitals' and hospital doctors' payment systems to find out whether financial incentives can be found that are likely to impact the behavior of public hospital managers and doctors in a detrimental manner. Next, using rather scarce empirical hospital data, we analyze whether hospital performance indicators can be identified that confirm the assumption of institutional corruption. First results reveal that improper financial dependencies of both hospital owners and hospitals doctors exist that are likely to undermine any regulatory initiatives which aim at providing equitable access to efficiently provided health services.

Title: Same problem, same solutions? – A survey of initiatives to reduce polypharmacy

Authors: Peter Schneider[1], Sabine Vogler[1], Nina Zimmermann[1]

[1] WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, Health Economics Department, Gesundheit Österreich GmbH (GÖG, Austrian Public Health Institute), Vienna, Austria

Abstract:

Introduction

The World Health Organization defines polypharmacy as the administration of many medicines at the same time or the administration of an excessive number of medicines. It particularly affects people with chronic diseases – such as elderly people – who are likely to take more than five medicines per day. When medicines are administered inappropriately polypharmacy leads to adverse effects of drug interaction and becomes a major issue for health systems due to increased health risks, higher number of hospitalisations and preventable costs to public payers. This study aims to survey if policy-makers have implemented initiatives to reduce polypharmacy and if yes, whether the initiatives launched in different countries have similarities.

Methods

In September 2015, we sent a questionnaire to competent authorities for pharmaceutical pricing and reimbursement in 45, mainly European, countries that are members of the Pharmaceutical Pricing and Reimbursement Information (PPRI) network. In this survey, we inquired about a national framework for the reduction of polypharmacy and about initiatives in this field. Survey participants were asked to describe the initiatives with regard to (1) their objective (2) scope and (3) impact assessment. 12 countries (Austria, Canada, Croatia, Cyprus, Czech Republic, the Netherlands, Russian Federation, Slovakia, Slovenia, South Korea, Sweden, Turkey) responded.

Results

National competent authorities from 10 countries reported that they are actively involved in launching such initiatives. In Canada, the initiatives are launched by the provinces, and in the Netherlands, pharmacists and GPs are urged to monitor medication. A total of 46 initiatives were reported in the survey. The main types of initiatives identified were prescribing guidelines for doctors, monitoring and information campaigns addressing pharmacists and patients.

Conclusion

The reduction of polypharmacy is of major relevance for the policy-makers in surveyed countries, and itis frequently defined as a key objective in government position papers. The main target group of the initiatives were doctors and pharmacists, but also patients or caregivers in long-term care facilities were addressed. Overall, countries tended to opt the same type of initiatives, however they might be different in design.

Title: Efficiency in Primary Health Care: A longitudinal analysis

Authors: Rita Bastião[1*], Nuno de Sousa Pereira[1]

[1] Universidade do Porto and CEF.UP

Abstract:

Primary Health Care (PHC) is often considered the cornerstone of an efficient health care system. However, it has been less studied than other levels of care. In Portugal, several reforms have been implemented to increase the efficiency and the role of primary health care, but their outcome is uncertain. Currently, three different organizational structures provide this first level of care: Personalized Health Care Units (PHCUs), evolving from the traditional health care centers, and Family Health Units (FHUs), representing innovative settings of multidisciplinary and voluntarily established teams, with functional autonomy and a performance-based payment system. FHUs spring from model A and with the fulfillment of certain requirements they can transit into model B, bringing additional incentives.

Our aim is to evaluate the determinants of efficiency and effectiveness across PHC units and to measure how they are affected by the different reforms, including the type of adopted organizational structure.

Using data between 2009 and 2014 from all PHC units in Portugal, we conduct a two-stage analysis where the approach of Simar and Wilson (2007) follows Data Envelopment Analysis to measure technical efficiency and effectiveness. Further, we also take into consideration a partial frontier approach and outliers detection. Lastly, we rely on the nature of our panel data set to introduce the dynamic concepts of window analysis and the Malmquist index decomposition.

Preliminary results reveal that the average efficiency score of Portuguese PHC units ranges from 0.4 to 0.9, while the effectiveness score is on average around 0.9. Personalized Health Care Units and Family Health Units significantly differ in their levels of efficiency and effectiveness, with the latter presenting better performance. And, FHUs-B are clearly in an enhanced position. Interestingly, units within Local Health Units (vertical integration) are simultaneous less efficient (despite different patterns among them), but more effective in what concerns health targets. We also observe significant geographical heterogeneity.

In conclusion, it seems that reforms should continue to foster a transition towards FHUs-B.

Keywords:

Primary Health Care, efficiency analysis, organizational structure

[*] Financial support from Fundação para a Ciência e Tecnologia (FCT) through the doctoral grant FRH / BD / 88354 / 2012 is gratefully acknowledged.

Title: When communities participate in primary health care: A randomized controlled trial of a community health worker program in the Philippines

Authors: Roman Hoffmann[1]

[1] Department of Economic Sociology and VGSE, University of Vienna, Vienna

Abstract:

In many low- and middle-income countries public health systems are confronted with a significant shortage in professional health workers, which is recognized as a major constraint to economic development and poverty reduction. In 2014, more than 4 million workers were missing worldwide, based on WHO estimations. Community Health Workers (CHWs) haven been proposed as a cost-effective, inclusive solution to address the enduring shortage. CHWs are lay health workers who, after receiving a short health training, work as support health personnel in their neighborhoods. With their close relationship to the communities they serve as a bridge between their peers and the public health sector addressing both problems on the demand and supply-side. Besides national programs, NGOs have increasingly started to implement own small-scale CHW programs. So far, little is known about the impacts and implementation barriers of such initiatives. We evaluate an NGO-led CHW program in the Philippines using a cluster randomized controlled trial design. Unlike previous studies, we also collected extensive data about the health workers, e.g. about their competencies, motivation, and relationship to the community. We find evidence for positive direct and indirect effects of the CHW intervention on health knowledge and health practices in the communities. However, we do not observe changes in respondents' perceived social support due to the intervention. Take-up of the program by the community members was mostly driven by CHW's social networks, her level of engagement, and deficits in the public health infrastructure: Respondents were more likely to make use of the CHW's services (i) if they were friends with the CHW and if the CHW had a central position in the community network, (ii) if the CHW showed high motivation and if her services were actively promoted, and (iii) if public primary health care facilities were not easily accessible in the neighborhood. Our evidence suggests that low levels of motivation and engagement among some CHWs were mostly due to insufficient and poor supervision of CHWs' activities. Furthermore, we find that in some areas lacking information about the program and mistrust towards the CHWs among community members diminished the potential outreach of the intervention. Based on our results we discuss potential extensions of the initiative and derive policy recommendations that are relevant for health programs in other contexts.

Title: Rural-urban disparities in physician (under-)supply in the German ambulatory care sector: Determinants, impact on health service utilization and implications for health service planning reforms

Authors: Laura Schang[1]

[1] Fachbereich Health Services Management, Ludwig-Maximilians-Universität München

Abstract:

Background

Driven by the rapid increase of social health insurance (SHI) physician practices in the 1980s, health service planning in the German ambulatory care sector has largely focused on constraining overall levels of supply, rather than ensuring an optimal geographic distribution of physicians. Over recent years, it has become challenging to maintain nationwide comprehensive access to (generalist and specialist) ambulatory care particularly in rural areas. This study examines determinants of perceived undersupply in German ambulatory care, and the impact of distance on the intensity of utilization for different specialties. It is hypothesized that systematic differences in perceptions exist between residents of rural as opposed to urban areas, which have not been taken into account sufficiently in recent healthcare reforms.

Methods

The study exploits a unique opportunity to combine "subjective" and "objective" data on physician (under-)supply. For the first stage, we use survey data from an access panel, the GfK Mailpanel. The data are representative for the German population regarding sex, Federal states, age, income and education. They include 1.598 respondents (corresponding to a response rate of 69.5%). Multinomial logistic models are specified to investigate determinants of perceived undersupply in rural as opposed to urban areas, controlling for a range of covariates (age, sex, specialty-specific and overall physician densities, educational and occupational status, health status, family status). For the second stage, we will use administrative data showing the complete provision of medical services in the ambulatory sector in Germany provided by the National Association of Statutory Health Insurance Physicians. The data contain over 518 million physician visits in German ambulatory care for fourteen physician specialties, and corresponding travel distances. Additional data is provided by the Federal Statistical Agency, the Federal Office of Construction and Regional Planning and the Federal Insurance Agency.

Results (preliminary)

About a third of survey respondents perceive an undersupply of ophthalmologists (35.15%) and orthopedists (32.53%). About 15.9% and 14.9% perceive an undersupply of office-based internists and generalist physicians, respectively. Residents of rural areas are significantly more likely than people living in urban areas to perceive an undersupply of these specialties. Interestingly, however, there does not seem to be a systematic association between perceived (subjective) undersupply and actual (objective) levels of specialty-specific physician supply at

district level. This pattern is consistent across all four specialties examined. Nevertheless, higher proportions of rural residents reported driving more than 20km to visit the ophthalmologist (13.95% compared to just 3.75% in urban areas) and the orthopedist (19.44% compared to just over 6% in urban areas).

Conclusions and planned work

Urban-rural disparities with respect to subjective and objective undersupply of office-based physicians in the German ambulatory care sector are complex. Objective physician densities at district level do not appear to correspond to subjective levels of undersupply, possibly warranting a more fine-grained to health service planning and analysis. Analyses in the second stage will therefore focus on a lower (municipality) level of analysis and include the entirety of visits in German ambulatory care, in order to investigate the extent to which longer travel distances in rural areas impact on the actual intensity of service utilization.

Title: Health and skill formation in early childhood

Authors: Pietro Biroli[1*]

[1] Department of Economics, University of Chicago

Abstract:

This paper analyzes the developmental origins and the evolution of health, cognitive, and noncognitive skills during early childhood, from age 0 to 5. We explicitly model the dynamic interactions of health with the child's behavior and cognitive skills, as well as the role of parental investment. A dynamic factor model corrects for the presence of measurement error in the proxy for the latent traits. Using data from the Avon Longitudinal Study of Parents and Children (ALSPAC), we find that children's capabilities strongly interact and build on each other: health is an important determinant of early noncognitive development; in turn noncognitive skills have a positive impact on the evolution of both health and cognitive functions; on the other side, the effect of cognitive abilities on health is negligible. Furthermore, all facets of human capital display a high degree of persistence. Finally, mother's investments are an important determinant of the child's health, cognitive, and noncognitive development early in life.

Keywords:

Human capital, Health, Early childhood development, Family investment, Intergenerational transmission, ALSPAC

[*] Department of Economics, University of Chicago, 1126 East 59th Street, Chicago, IL 60637. email: biroli@uchicago.edu. I benefited from helpful comments from Dan Black, Hoyt Bleakley, Flavio Cunha, George Davey-Smith, Miriam Gensowski, Tim Kautz, Robert Lalonde, Maria Rosales-Rueda, Daniel Tannenbaum, Frank Windmeijer, and the participants of the LifecycleWorking Group at the University of Chicago. I am especially grateful to Gabriella Conti, Steven N. Durlauf, and James J. Heckman for their continued support of this research.

Title: Cutting fertility? The effect of cesarean deliveries on subsequent fertility and maternal labor supply[†]

Authors: Pilar Garc a-Gomez[1,2], Martin Halla[3,4,5], Harald Mayr[5,6], Gerald Pruckner[5,7]

[1] Erasmus University Rotterdam

[2] Tinbergen Institute

[3] University of Innsbruck

[4] IZA, Institute for the Study of Labor

[5] Christian Doppler Laboratory for Health, Aging and the Labor Market

[6] University of Zurich

[7] Johannes Kepler University Linz

Abstract:

The incidence of Cesarean deliveries has been on the rise. The procedure's cost and benefits are discussed controversially; in particular, since non-medically indicated cases seem widespread. We are interested in the effect of CDs on subsequent fertility and female labor force participation. Identification is achieved by exploiting variation in the extent of non-medically indicated supply-determined CDs across weekdays. On weekends and public holidays obstetricians have less opportunity to induce CDs due to tighter capacity constraints in hospital. On Fridays and other days preceding a holiday, they face an increased incentive to induce CDs due to their demand for leisure on weekends/holidays. Based on high-quality administrative data from Austria, both instrumental variable approaches show that a non-elective CD at parity one decreases the likelihood of a second birth within the next six years by 13 percentage points. This reduction in fertility translates into an increase in maternal employment of 11 percentage points.

Keywords:

Caesarean delivery, Caesarean section, fertility, female labor supply

[†] Corresponding author: Gerald J. Pruckner, Johannes Kepler University of Linz, Department of Economics, Altenberger Stra e 69, A-4040 Linz, ph.: +43 732 2468 7777, email: gerald.pruckner@jku.at. The usual disclaimer applies. This research was funded by the Austrian Science Fund (FWF), National Research Network S103, The Austrian Center for Labor Economics, and the Analysis of the Welfare State, and by the Christian Doppler Research Association (CDG).

Title: Economic crisis and health: Evidence from the “sick man of Europe”

Authors: Simone Ghislandi[1], Aleksandra Torbica[2]

1 Wirtschaftsuniversität Wien

2 Bocconi University

Abstract:

Medical and health policy journals have shown concerns over the status of the deterioration of health after the financial crisis. Specifically, increasing financial constraints following austerity programmes seem to have had more consequences than expected. At the same time, the health economics literature continues finding evidence of “healthy living in hard times”, whereby health is actually improved in times of economic crisis.

Southern European countries represent a good natural experiment in order to understand the links between a deteriorating economic environment and health. Some evidence has already been produced on the topic. However, most of it is related to mortality data from official statistics. Although interesting, this evidence is not enough, since the economic crisis might impact well-being and specific morbidities, affecting mortality only in the long run.

The main purpose of this study is to evaluate whether the economic crisis started in 2011 in Italy had an impact on the hospitalizations for stress-related conditions. Outcomes of interest include: number of hospitalizations across different conditions, hospital expenditure and in-hospital mortality. Our focus is on Acute Myocardial Infractions (AMI) and Mental Health-related conditions (e.g. depression, alcoholism and abuse of drugs). The analysis is conducted using longitudinal data set of all hospital discharges occurring across Italy from 2008-2012. The dataset included variables on patient socio-demographic characteristics (age, sex, location), clinical variables (the level of detail and the version of classification varied across years), hospital characteristics (type, ownership, number of hospitalisations for each Diagnoses Related Group-DRG). This information is then matched with the employment and unemployment rates at a micro level, the so called “Sistema Locale del Lavoro” (SLL, where Italian Comuni are clustered by types of economic activity). Poisson and logarithmic longitudinal regressions are then implemented in order to investigate the relation between outcomes and the economic situation as measured by local unemployment.

Results show two regularities. First, the unemployment rate is positively correlated with all the stress-related hospitalizations across the country. Second, taking a Difference in Differences approach, the areas that experienced the strongest increases in unemployment saw hospitalizations increasing relatively more than the others.

In general, results are in agreement with the most recent trend in the literature showing an inverse U-shaped relation between economic shocks and health. Further investigation is needed in order to understand: a) whether

heterogeneity can affect conclusions b) whether these relations can be observed for longer periods of the economic crisis.

Title: Home sweet home? Public financing and inequalities in the use of home care services in Europe

Authors: Vincenzo Carrieri[1], Cinzia Di Novi[2], Cristina Orso[2]

[1] Department of Economics and Statistics, University of Salerno; Health, Econometrics and Data Group, University of York

[2] Department of Economics, Ca' Foscari University of Venice

Abstract:

Income-related inequalities in health care access have been found in several European countries but little is known about the extent of inequalities in the provision of Long Term Care services (LTC). This paper fills this gap: it addresses equity issues related to the provision of home care services across three macro-areas in Europe which are highly heterogeneous in terms of the degree of public financing of LTC and the strength and the social value of family ties. Using cross-country comparative micro-data from SHARE (Survey of Health, Ageing and Retirement in Europe) survey, we estimate and decompose an Erreygers concentration index of the use of both paid domestic help ("unskilled" care) and personal nursing care ("skilled" care), measuring the contribution of income, needs and non-needs factors to overall inequality. We base the decomposition on a bivariate probit model which takes into account the reciprocal interaction between formal and informal home care use. We find evidence of high horizontal inequity in the use of unskilled home care in areas where public financing of LTC is relatively low (Southern Europe) while moderate inequalities emerges in areas where public-private mix of financing is more balanced (Continental Europe). At the same time, we do not detect inequity in Northern Europe characterized by high public spending on universal services equitable for all, including LTC public coverage. In all areas, informal care has been found to be a substitute for paid unskilled care among the poor and this contributes to further skewing the distribution of the use of formal care services towards the rich.

Keywords:

Inequality, long term care, home care, Europe

Title: Medical services for nursing home residents – The economic perspective

Authors: Ulrike Schneider[1], Martin Zuba[2]

[1] Research Institute for Economics of Ageing, Vienna University for Economics and Business

[2] Department of Health Economics, Austrian Public Health Institute

Abstract:

Background

Frail elderly nursing home residents are particularly vulnerable to experiencing burdensome yet potentially avoidable hospitalizations which constitute health risks and cause substantial costs. Financial incentives ("cost shifting") and legal incentives ("defensive medicine") in the nursing home and acute care settings could distort decisions regarding their optimal provision with medical services.

Aim

This article analyses the interactions between nursing homes and the medical sector from an economic perspective: Which interventions succeed in improving patient welfare and reducing costs?

Methods

We perform a systematic literature review of articles published in 2002–2015. Included publications report results of an intervention study that aims at changing the relationship between NH and the acute sector, or perform cross-sectional comparisons of NH or NH residents where the dependent variable measures the relationship to the acute medical sector (e.g., hospitalizations).

Results

The literature search identified 4,983 publications, of which 61 meet inclusion criteria. These papers investigate relations between hospitalization rates, ED visits, place of death, time to hospitalization or hospital length of stay on the one hand and nursing home characteristics such as ownership structure, staffing (nurse and physician staffing, staff training programmes, skill mix), culture of care (advance care planning, hospice in the nursing home) and available resources (diagnostic equipment, physician presence, cooperation with local GPs and hospitals) on the other hand. Costs of interventions, achievable savings and increased patient welfare are rarely quantified.

Discussion and Conclusion

Some interventions incur little cost and still have beneficial effects on hospitalization rates and patient welfare. These interventions, i.e. staff training programmes, focus on advance care planning and cooperation with local GPs and hospitals, should be implemented wherever possible and necessary. Other interventions could increase patient welfare and lead to cost savings in the acute medical sector but invoke considerable costs in nursing homes. In this case, economic reasoning of nursing homes that operate under tight budgets could lead to

suboptimal outcomes, and policy should align incentives in order to promote best practice examples. Decision analysis can help to transfer results from intervention- or cross-sectional studies to settings with different baseline conditions.

Title: The determinants of technical efficiency in the nursing homes sector in Ireland - A double bootstrap DEA approach

Authors: Declan Dineen[1], Shiovan Ni Luasa[2], Marta Zieba[1]

[1] Department of Economics, Kemmy Business School, University of Limerick, Ireland

[2] Department of Economics, Kemmy Business School, University of Limerick, Ireland

Abstract:

The evaluation of efficiency in nursing home care provision is an important research area as nearly every developed country is faced with the prospect of a population that is getting older, and eventually smaller, given current population age structures, increasing life expectancy, and birth rates which are under the reproduction rate. Nursing Homes Ireland figures already indicate a "significant national deficit" of long-stay beds for older people who will need them, and that demand for residential care is going to increase significantly in the next decade. Applying a conventional Data Envelopment Analysis (DEA) and the homogeneous bootstrap procedure, we found that the efficiency levels for both public and private nursing homes in Ireland do not exceed 50 per cent on average – a finding which corroborates results obtained for the nursing home sector in other countries. Furthermore, given the observed very low efficiency scores, this paper aims to estimate the relationship between efficiency and its possible determinants. We use a comprehensive set of environmental variables in 59 public and 93 private Irish nursing homes for the period 2008-2009. As well as ownership and other characteristics such as size, age, regulatory constraints and business environment, we examine how the quality of care and the case mix affect the efficiency scores of the nursing homes in Ireland. Many previous studies have employed a two-stage approach wherein nonparametric DEA efficiency estimates from the first stage are regressed on a vector of some environmental variables in a parametric analysis which most often specified a censored (Tobit) model for the second stage. The typical two-stage studies do not provide a coherent description of the underlying data-generating process (DGP), and the method of inference is flawed since the DEA efficiency estimates are biased and are serially correlated. Whatever the second-stage regression specification employed, conventional inference methods fail to give valid inference due to the fact that in the second-stage, true efficiency remains unobserved and must be replaced with DEA estimates of efficiency, and these are correlated by construction. The efficiency score is a point estimate without a probability distribution around it as required by the Tobit methodology or any other parametric regression technique. Using the DEA point estimates in a second stage analysis may cause biased and inconsistent estimates of the parameters of the environmental variables. Following Simar and Wilson (2007) we apply a double bootstrap DEA approach in order to obtain unbiased and consistent results. We show that ownership does not have a significant effect on technical efficiency, but the size of the nursing home has a positive influence. More importantly, the quality of care and the case-mix are important factors determining efficiency scores in Irish nursing homes. In terms of policy implications, our results suggest that certain quality

factors, as indicated by the proportion of single beds, decrease technical efficiency, while appropriate training for medical staff such as a diploma in gerontology increases efficiency and should be incentivised.

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Title: Relevance and economic consequences of medicine waste in Vienna: Analysis of a household garbage sample

Authors: Roger de Rooij[1, 2], Geert Frederix[2], Anke Hövels[2], Sabine Vogler[1]

[1] WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, Health Economics Department, Gesundheit Österreich GmbH (GÖG, Austrian Public Health Institute), Vienna, Austria

[2] Division of Pharmacoepidemiology and Clinical Pharmacology, Utrecht Institute for Pharmaceutical Sciences, Utrecht University, Utrecht, the Netherlands

Abstract:

Background

Medicine waste is an underestimated problem. This negatively impacts the environment, and it is an indication of possible non-adequate patient adherence to medicines, and thus implies losses for public payers. The aim of this research is to examine the relevance and economic consequences of medicine waste in household garbage in Vienna.

Methods

We analyse four samples of pharmaceutical waste that were quarterly collected from household garbage by the Vienna Municipal Waste Department ('MA 48') since April 2015, with the fourth sample collection due in January 2016. The four samples that weight around 12 kg each contain items that include at least some content (e.g. one tablet as a minimum). We examine the items with regard to the therapeutic group of the included medicines, dose form, expiry status, expiry date, country of origin, prescription status and quantity left over. This is done for the total data set and for sub-groups (e.g. items with 100% content). For the analysis of the economic consequences medicine price data are accessed in the 'Warenverzeichnis'.

Results

The preliminary results based on the first three samples collected in 2015 show 499 items of which 21% had 100% content. 33% of the items that contained 100% content were not expired. 68% of all items and 70% of those items which had 100% content were prescription-only medicines. The value of the medicines left in the three samples was estimated to be around €3.050 for the total samples and around €1.270 for the items with 100% content.

Conclusions

The preliminary results confirm that medicines end up unused in household garbage in Vienna. In particular, the shares of items not expired and of 100% content suggest a public health issue that should be addressed. There is apparently a need for better medication adherence on the one hand and for improved policies related to the disposal of medicines on the other hand.

Title: The impact of new Hepatitis C medication in Austria on epidemiology and budget – A microsimulation model

Authors: Martin Zsifkovits[1], Johannes Zsifkovits[2], Stefan W. Pickl[1]

[1] Universität der Bundeswehr München, Department for Operations Research, Neubiberg, Germany

[2] Gesundheit Österreich GmbH, Vienna, Austria

Abstract:

In 2014, a novel medication for treating Hepatitis C virus infections caused severe difficulties for European decision makers in the public medical sector. Even though new drugs cure HCV in nearly all cases, related costs in the short run are extremely high. Thus, the estimation of overall costs for the national healthcare systems was of great importance for profound far-reaching decisions on policies regarding the medication and their reimbursement. As this budget estimation is extremely difficult due to the complexity of the virus spread and the existence of further discomforts that lead to additional costs, a new microsimulation model was developed that considers the problem from an individual's perspective and finally aggregates numbers on the macro level. While developing the model, general insights into the cost burden due to the new medication for the next three years were generated. Using the introduced model, a decision maker is able to test for impact of one financial unit in several policies in order to maximize the overall benefit for the healthcare system. As initial results imply the need to change current reimbursement strategies in Europe, further research demand is discussed at the end of this article.

Title: Österreichs Heilmittelkosten im niedergelassenen Bereich, Dynamik 2005 bis 2015

Authors: Manfred Hinteregger[1], Timo Fischer[1], Andreas Goltz[1]

[1] Hauptverband der österreichischen Sozialversicherungsträger

Abstract:

Objectives

The aim of this study is to determine the main causes of the dynamics of outpatient drug expenditures in Austria on an aggregate view (ATC level 1) over the last 10 years and to identify the key factors for the current developments at a more detailed, therapeutic level.

Methods

The data comprise the filled prescriptions at the expense of all statutory health insurance funds in Austria, covering more than 97% of the national population. Observation period is from 2005 to 2014, with a preview of 2015. Year-on-year changes are calculated at different ATC levels. Costs are in euros excluding VAT.

Results

Pharmaceutical expenditures increased significantly from 2005 until 2008, while from 2009 to 2013 there were only moderate increases. In 2014, expenditures started to rise considerably again, the ATC groups J (antiinfectives), L (antineoplastics and immunomodulators), and B (blood and blood forming organs) practically being the sole causes.

One steady development over the last 10 years is the constant cost increase in the group L. Group N (nervous system) was the second cost driver until 2011, but faded afterwards. Beginning with 2012, group B is one of the major cost drivers. There are recently no significant cost declines through losses of exclusivity, except for the year 2013. Looking more into detail, one can observe that the current rise is strongly dominated by the new hepatitis c drugs (part of group J), followed by direct oral anticoagulants (DOACs, part of group B).

Conclusions

The new hepatitis c drugs are the main cause for the current increases in public outpatient pharmaceutical expenditures in Austria. As there are no remarkable compensating savings via generic entries, the cost rise poses a severe challenge for the public health insurance system, especially amid continuing weak economic growth and therefore stressed health budgets.

Title: Improving indicators for monitoring health system performance

Authors: M.M. Hofmarcher[1, 2], J. Simon[2], N. Perić[2], Z.Or[3], P. Smith[4], R. Busse[5] on behalf of BRIDGE Health WP 4 partners[*]

[1] Health System Intelligence

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[4] Imperial College

[5] Technische Universität Berlin, Fachgebiet Management im Gesundheitswesen

Abstract:

Background

Many policy makers have expressed particular interest in understanding better how their health system works, and identifying the scope for improvement. The fact that health system performance is measured against multiple objectives, a strong framework covering access, equity, efficiency and quality and their interrelation is necessary in order to understand the content and the scope of the comparison (Hofmarcher & Smith 2013, Papanicolas et al. 2013). Enhanced data collection and using available information to underpin the improvement of the performance of health systems is crucial to enhance returns on health investments (EC 2013). The mandate given to the Commissioner for Health by the EC President also addresses the importance of good practice health system performance assessment and reflects the growing visibility health systems have in economic analysis at the high-level EU policy processes (Juncker 2014, EC 2015).

Even though progress was made to monitor the health of the population and the performance of health systems, methodological challenges remain to tackle and unify reporting standards of relevant data and indicators, and to establish coherent health system performance assessment frameworks for cross-country comparisons (EXPH 2014). The EuroREACH (2013) framework is a starting point in this context.

To advance work, clear evidence is needed why specific health system indicators are important and which are the necessary – and suitable – core indicators for different types of policy-use, e.g. monitoring/forecasting, benchmarking, target-setting, cross-country comparison etc. (IOM 2015).

Objective

To assess the indicator landscape and develop a platform to feature a set of indicators and relevant meta-information for health system performance assessment.

Methods

We will conduct a structured assessment of indicator selection using a multi-layer approach. In a first step we will compile a list of currently available and widely accepted health system indicators derived from existing health

[*] http://www.bridge-health.eu/content/european-core-health-indicators-monitoring

information initiatives at EU level (ECHI, OECD, WHO). Secondly, we invite an expert group to give their opinion on i) the suitability of the proposed set of indicators (approx. 100) for health system performance, ii) to allocate these indicators to defined performance domains, and iii) request experts to decide the level of indicator hierarchy, e.g. headline or core, explanatory or operational indicator. This will be done through a survey instrument. Survey results will be circulated and in a follow-up consensus meeting experts are requested to re-assess the grouping of indicators and give opinion on their level of aggregation including stratification characteristics, e.g. gender, age, individual level data availability. Experts are coming from the BRIDGE Health project and from the European Commission, OECD and WHO.

Expected Outcome

A minimum basic set of broadly agreed robust indicators of health system performance assessment and economic analysis for policy and decision makers.

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Title: Controlling health care spending via expenditure targets in Austria

Authors: Herwig Ostermann[1,2], Florian Bachner[1], Katharina Habimana[1], Julia Bobek[1], Martin Zuba[1]

[1] Department of Health Economics, Austrian Public Health Institute, Vienna, Austria

[2] Department of Public Health, Health Services Research and Health Technology Assessment, University for Health Sciences, Medical Informatics and Technology, Hall/Tyrol, Austria

Abstract:

Background

Due to the enduring stagnate economic environment and the subsequent financial pressure on pubic households in Europe, health policy makers are confronted with the challenge to effectively control health expenditure which represents a substantial share of public spending (approx. 15% for Austria) while on the other hand maintaining or even enhancing the quality of health service delivery. With regard to the first objective of controlling public spending on health Austria has with its 2012 health reform adopted the approach of a priori defining health expenditure targets for various financing agents (i.e. regional governments and sickness funds) which are subsequently monitored on a semi-annual basis.

Based on the currently available information as provided by the semi-annual monitoring on expenditure targets, the authors will try to assess (1) whether the Austrian approach of defining expenditure targets is effective in terms of controlling health care spending and (2) what lessons can be drawn with regard to the re-negotiation of the expenditure targets which is set for 2016.

Methods

In order to provide a suitable reference framework for the addressed research questions the authors will first provide a theoretical overview on how much a country should spend on health care and how budget targets could be set in health systems in technical terms. Having discussed the Austrian approach with regard to theory and international best practice the authors will analyse empirical data on health expenditure targets.

Results

Based on the existing data on public health spending it can be shown that in general health expenditure targets most probably can be met for the first period of health spending control (2012-2016). With regard to assumptions on the causality of the observed effect, the authors show that in particular for the first years of expenditure control, a change in the dynamics between GDP growth and health expenditures is responsible for the over-attainment of the expenditure targets. With regard to the remaining net effect, positive immediate impacts on better expenditure control on a stakeholder level due to increased accountability triggered by the established monitoring process were counterbalanced by external short-term “shocks” (in particular increases in prices of medical goods and salaries) which were not factored in when defining the health expenditure targets. Whether structural innovation (as also foreseen by the 2012 health reform) also contributed to expenditure target

attainment remains to be seen on the mid-run.

Conclusions

With regard to the Austrian case, health expenditure targets turned out to be an effective instrument supporting policy makers to control public health care spending. Even though the modest GDP growth rate facilitated the attainment of health expenditure targets during the first years of the regime, increased accountability of stakeholders as well as prompt monitoring of health expenditure have shown a positive impact on health expenditure control also on a country level. Whether the currently chosen technical paradigm of linking health expenditure growth rate to projected GDP growth should be pursued in the long-run has to be critically evaluated both with regard to short-term shocks as well as the long-run dynamics of health care expenditure growth.

Title: Die gesundheitswirtschaftliche Gesamtrechnung für Deutschland

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Abstract:

Einleitung

Die Gesundheitswirtschaftliche Gesamtrechnung für Deutschland (GGR) hat sich in den vergangenen Jahren zu einer Standardberichterstattung von Wachstums- und Beschäftigungseffekten der Branche auf Bundesebene etabliert. Unterstützt durch dieses vom Bundesministerium für Wirtschaft und Energie (BMWi) beauftragte Projekt, wandelte sich das Verständnis für die Gesundheitswirtschaft vom Kostentreiber hin zum bedeutenden Wirtschaftsfaktor.

Ein wesentliches Merkmal besteht in der Darstellung des „Ökonomischen Fußabdrucks“ innerhalb der Gesundheitswirtschaftlichen Gesamtrechnung, wodurch nicht nur die wirtschaftliche Charakteristik, sondern darüber hinausgehend auch die Verflechtungen der Branche mit der Gesamtwirtschaft dar-gestellt werden. Das bestehende Konstrukt eignet sich somit dazu, in spezifische gesundheits- und wirtschaftspolitische Entscheidungsprozesse auf Bundesebene eingebunden zu werden. Durch die Weiterentwicklung dieser Datenbasis für Analysen zur Gesundheitswirtschaft in den jeweiligen Bundesländern Deutschlands wird eine weitere Dimension erschlossen, die auch gesundheitspolitische Entscheidungen auf landesweiter Ebene untermauern können.

Methoden

Zur Erfassung der Branche wurde eine Abgrenzung der Gesundheitswirtschaft als Teilbereich der Gesamtwirtschaft in Kategorien der Volkswirtschaftlichen Gesamtrechnungen (VGR) vorgenommen. Mit ihrem Querschnittscharakter umfasst die Gesundheitswirtschaft eine Vielzahl unterschiedlicher Segmente, wie z.B. ambulante und stationäre Einrichtungen, die Erzeugung von Humanarzneiwaren und Medizintechnik, Krankenversicherungen oder etwa Gesundheitstourismus und E-Health.

Als Grundlage stehen Sonderauswertungen des Statistischen Bundesamtes zur Verfügung, die detaillierte Informationen zu den Volkswirtschaftlichen Gesamtrechnungen (VGR) enthalten. Durch die Identifikation der gesundheitsrelevanten Teilbereiche sowie deren Abstimmung mit der Gesundheitsausgabenrechnung (GAR) können die direkten Effekten der Gesundheitswirtschaft für Wachstum und Beschäftigung quantifiziert werden. Um in weiterer Folge auch die Ausstrahlwirkung der Branche ableiten zu können, wurden gesundheitsspezifische In-put-Output-Tabellen berechnet.

Für die Quantifizierung der Gesundheitswirtschaft auf Bundeslandebene wurden sowohl Methodik als auch Abgrenzung der bundesweiten GGR als Basis herangezogen und um bundeslandspezifische Aspekte ergänzt.

Hierfür wurde eine eigene Regionalisierungsmethodik entwickelt und auf das amtliche Tabellenkonstrukt der VGR angewendet.

Ergebnisse

Mit rund 279,1 Mrd. Euro wurden im Jahr 2014 ca. 11,1 Prozent der Bruttowertschöpfung durch die Gesundheitswirtschaft erbracht. Seit dem Jahr 2000 wurden rund 102,1 Mrd. Euro an zusätzlicher Wertschöpfung generiert. Die Gesundheitswirtschaft ist mit einem überdurchschnittlichen Wachstum eine treibende Kraft der deutschen Wirtschaft. Aufgrund bestehender Verflechtungen der Branche entstehen darüber hinaus gesamtwirtschaftliche Impulse in Höhe von 0,91 Euro je generierten Euro an Bruttowertschöpfung.

Im Jahr 2014 waren etwa 6,2 Millionen Erwerbstätige und somit rund 14,8 Prozent des gesamtdeutschen Arbeitsmarktes in der Gesundheitswirtschaft beschäftigt. Die Wachstumsraten im Zeitraum der Jahre 2000 bis 2014 waren ebenfalls überdurchschnittlich. Aufgrund bestehender Verflechtungen mit der Gesamtwirtschaft gehen mit der Aktivität eines Erwerbstätigen in der Gesundheitswirtschaft weitere 0,70 Beschäftigungsverhältnisse einher.

Mit einem Ausfuhrvolumen von 106,7 Mrd. Euro im Jahr 2014 betrug der Anteil der Gesundheitswirtschaft an den gesamtdeutschen Exporten rund 7,4 Prozent. Seit dem Jahr 2000 konnte das Exportvolumen mehr als verdoppelt werden. Darüber hinaus wurde im gesamten Zeitraum eine positive Außenhandelsbilanz erwirtschaftet.

Aus der bundeslandspezifischen Analyse geht eine große Heterogenität hinsichtlich des Bedeutungsausmaßes der Gesundheitswirtschaft für die Wirtschaftskraft des jeweiligen Bundeslandes hervor. Während im Südwesten Deutschlands der industrielle Teil der Gesundheitswirtschaft hohe Beiträge zu Wachstum, Beschäftigung und Außenhandel liefert, liegt der Fokus im Nordosten vornehmlich auf dem dienstleistungsorientierten Teil der Gesundheitswirtschaft. Derartige differenzierte Analysen der Gesundheitswirtschaft können wertvolle Indikationen liefern, wie diese Branche als Wirtschaftsfaktor weiterhin zielführend gestärkt und gefördert werden kann.

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