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PREFACE

This abstract book includes all the abstracts of the papers presented at the *9th Annual International Conference on Health Economics, Management & Policy, 28-30 June 2010 & 1 July 2010* sponsored by the Health Research Unit of the Athens Institute for Education and Research (AT.IN.E.R.). In total there were 48 papers and 54 presenters, coming from 23 different countries (Australia, Austria, Belgium, Canada, China, Denmark, Estonia, France, Germany, Iran, Israel, Italy, Latvia, Philippines, South Africa, Spain, Switzerland, Taiwan, The Netherlands, Turkey, UK, Uruguay and USA). The conference was organized into 14 sessions that included areas such as Health Care Costs, Health Care Resource Allocation, Health Policy, Social Issues, Health Economics, Public & Occupational Health, Hospitals, Pharmaceuticals e.t.c. As it is the publication policy of the Institute, the papers presented in this conference will be considered for publication in one of the books of ATINER.

The Institute was established in 1995 as an independent academic organization with the mission to become a forum where academics and researchers from all over the world could meet in Athens and exchange ideas on their research and consider the future developments of their fields of study. Our mission is to make ATHENS a place where academics and researchers from all over the world meet to discuss the developments of their discipline and present their work. To serve this purpose, conferences are organized along the lines of well established and well defined scientific disciplines. In addition, interdisciplinary conferences are also organized because they serve the mission statement of the Institute. Since 1995, ATINER has organized more than 100 international conferences and has published over 80 books.

Academically, the Institute is organized into four research divisions and nineteen research units. Each research unit organizes at least one annual conference and undertakes various small and large research projects.

I would like to thank all the participants, the members of the organizing and academic committee and most importantly the administration staff of ATINER for putting this conference together.

Gregory T. Papanikos
Director

Costing Study of Health Services Items for National Health Insurance Scheme Establishment in China

Ying Bian

Associate Professor, University of Macau, China

In the past six decades from 1949 there is no national health insurance scheme in China. There is the beginning from 2003 that China start to establish the rural health insurance scheme and from 2007 the urban health insurance intend to merge into the rural health insurance scheme, the purpose is to establish the National Health Insurance Scheme in the whole country. But unfortunately, there is no costing study project in China, and current payment mechanism is based on health services items. This research project granted by Ministry of Health, China Central Government during the past 10 years, and this project will provide the basic costing information both for national health insurance establishment also for health payment mechanism reform in China near future.

Objectives of this Project are:

- (1) To analysis the current cost situation of hospital in different level;
- (2) To establish the relative value system of health service items;
- (3) To calculate the unit cost of health services items based on the relative value system;
- (4) To analysis the financial channel. Methodology: Totally there are 85 hospitals from 10 provinces were surveyed for costing data collection. Step-down cost allocation was used for cost study, calculate the department cost and unit cost of per visit, per bed-day, per discharged patients.

Results:

1. Hospital total cost and unit cost: The average total cost of hospital is 6429 Yuan, and among this drug cost is 2840 Yuan account for 44% of total cost, health service cost is 3589 Yuan account for 56%.
2. Compare of relative value, cost and standard user-fee: the relative value of each health services items (totally 3966 items) built up through the fuzzy mathematical model.
3. Unit cost of health service items: Most of the items have lower cost recovering. The result of compare study indicated that there are 79.6% services items are cost higher than standard user-fee.
4. Revenue cost balance: average income is 67 million, compared with eth cost 64 million the net benefit is 3 million, ratio is 4.5%.

Recommendations were derived from the Study.

1. Recommendation for hospital management, to establish the basis of costing evaluation mechanism for better cost monitoring. The special unit of costing analysis should be establish, the costing study should be combined with hospital accounting.
2. Recommendation for health policy: The price adjustment system should be established based on the costing information.

Economic Analysis of HIV Prevention and Treatment Scale Up: Making the Best Use of Limited Funds

Margaret Brandeau

Professor, Stanford University, USA

We discuss model-based economic analyses to support decision making for HIV prevention and treatment program scale up. Affecting more than 30 million people and killing 2 million annually, HIV destabilizes economies, compromises development, and disproportionately incapacitates young, productive adults. Combating and controlling the HIV/AIDS epidemic is one of the seven United Nations Millennium Development Goals and a top priority for governments worldwide. However, significant scale up of global HIV prevention and treatment efforts is needed if the epidemic is to be controlled. Investment in prevention is essential because 2.5 million new infections occur annually. Investment in treatment is essential because only 70% of individuals eligible for HIV antiretroviral treatment receive these lifesaving drugs. Moreover, for every person currently entering treatment, it is estimated that 2-3 new infections occur, so a balance must be struck between prevention and treatment efforts. Decision makers often have little guidance as to which packages of interventions and at what scale will yield the best results in their particular settings. Existing models of resource allocation for HIV control include theoretical models that are likely to be difficult for decision makers to apply in practice and simplistic models that ignore key aspects of program scale up and intervention overlap. Thus, there is a critical need for HIV resource allocation models that can bridge the gap between theory and practice. Working with the United Nations AIDS Programme (UNAIDS), we are developing a resource allocation model for use by decision makers that can evaluate the effects of different interventions and combinations of interventions as they are scaled up. This research provides much needed insights into the important question of resource allocation for optimal scale up of HIV control interventions, as well as a practical approach for decision makers who must make the best use of scarce HIV control resources.

Advertising and R&D in the Market for Pharmaceuticals

Alexandre Carbonnel

Ph.D. Student, Toulouse I. University, France

The paper studies the advertising and R&D decisions of pharmaceutical firms in a Hotelling framework. Locations are determined by R&D efforts and demand can be increased by advertising the drug.

We compare the choices of the private monopolist with first-best and second-best. We show that a higher regulated price increases advertising for a given location in a monopoly framework. However, it can reduce the R&D effort when the price is high. First-best implies more advertising and more R&D than in the monopoly case. Second-best involves a trade-off between the production of blockbusters and financial incentives for the monopolist. We then study the effect of competition between two firms producing patented drugs. Competition narrows the interval of possible locations if the consumer's valuation is not too low. Otherwise, it does not change the decisions as compared with the monopoly setting.

Overview and Assessment of the Australian Assessing Cost Effectiveness (ACE) Initiative in Priority Setting

Rob Carter

Professor, Deakin University, Australia

Introduction: There is nothing new about the task of making difficult choices in health care, but policy makers in a number of countries are now addressing the issue of priority setting with renewed interest. A wide variety of approaches are available from a number of disciplines, including economics. The history of the Australian ‘ACE’ (Assessing Cost Effectiveness) approach to priority setting started with the development of guidelines and included their application to a series of projects across a variety of diseases and risk factors. This ACE research program, funded both by competitive grants and government commissions, led to the ACE-Prevention project involving 150 interventions in the prevention of non-communicable disease, with application to both non-Indigenous and Indigenous Australian populations.

Methods: A detailed checklist to guide priority setting was developed based on: guidance from economic theory; ethics and social justice; lessons from empirical experience; and the needs of decision-makers. The ACE approach was developed based on the checklist and includes rigorous technical analysis using standardised methods and 2nd stage filters to accommodate broader factors that enter into policy decisions (such as ‘equity’, ‘acceptability to stakeholders’, ‘feasibility of implementation’, ‘strength of the evidence base’).

Results: ACE-Prevention incremental cost-effectiveness results (ICERs) across a wide variety of interventions will be overviewed, grouped by topic area. The interaction between the ICERs, the 2nd stage analysis and policy strategies will be highlighted.

Discussion: Reflections on the ACE experience over an eight year period will be presented. The strengths, weaknesses and impact will be discussed. The sensible interpretation of the more recent ACE-Prevention results will be highlighted, having regard to the incremental cost-effectiveness ratios and strategies for policy action.

The Impact of Physical and Sexual Abuse in Childhood on Adult Economic Outcomes: Evidence from the Ontario Child Health Study

Panayiotis Paul Contoyannis

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Martin Dooley

McMaster University, Canada

While there has been substantial investigation into the adulthood psychological and physical health consequences of physical and sexual abuse in childhood, there has been very little research into the adulthood economic consequences.

In this paper we use data from the Ontario Child Health Study, a community panel study which collected socio-demographic and health information from individuals aged 4-16 in 1983 and which was conducted in three waves(1983, 1987, 2001). A rare property of this survey is that questions were included in 2001 to obtain retrospective reports of physical and sexual abuse in childhood on an ordinal scale.

Our analysis proceeds in a number of stages: 1) We present descriptive analyses which examine simple and partial correlations between our measures of adult economic outcomes (wage rates, personal income, employment status, Low-Income Cut-Off status (a binary measure of poverty) and occupational status) and these ordinal measures of abuse. 2) We then estimate single equation regression models for each of our economic outcome variables as a function of the abuse variables and other socioeconomic characteristics. 3) We then include adult health and education variables to examine whether these variables are on the causal pathway from abuse in childhood to adulthood economic outcomes. In addition to these approaches to estimation we also implement matching approaches with associated formal sensitivity analyses.

We find that the effects of abuse in childhood vary for men and women and that taking account of adult health and education suggests reduces the estimated effects suggesting that these variables lie on the causal pathway from abuse to economic outcomes. We also find that accounting for childhood behavioural and emotional health also reduces the magnitude of the effect of abuse.

Effects of Welfare Reform on Illicit Drug Use among Adult Women

Dhaval Dave

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Hope Corman

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Nancy E. Reichman

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A fundamental shift in U.S. welfare policy occurred during the 1990s, altering both the method and goals of cash assistance for the poor. Much research has evaluated the effects of this welfare reform on employment, welfare caseloads, marital status, or fertility—outcomes it was intended to affect. Overall, the evidence indicates that welfare reform has increased employment and decreased welfare caseloads, but has had weak or mixed effects on family structure. Few studies have investigated the effects of welfare reform on risky health behaviors, such as illicit drug use, that economic theory suggests may be affected by the policy shift. Exploiting changes in welfare policy across states and over time, and comparing relevant population subgroups within an econometric difference-in-differences framework, we estimate the causal effects of welfare reform on adult women's illicit drug use from 1992 to 2002, the period during which welfare reform unfolded. The analyses are based on multiple data-sets, each offering unique strengths. These include self-reported illicit drug use from nationally-representative individual records (National Surveys on Drug Use and Health) as well as objective indicators of illicit drug use derived from prison admissions (National Corrections Reporting Program), drug-related arrests (Uniform Crime Reports), drug-related treatment admissions (Treatment Episode Data Set), and drug-related hospital emergency department visits (Drug Abuse Warning Network). The data are augmented with state welfare implementation and caseload measures as well as other confounding economic and policy measures. Preliminary findings suggest that welfare reform led to a decline in illicit drug use among both welfare recipients and women at risk for relying on welfare, and a corresponding increase in substance abuse treatment. These estimates provide valuable inputs into a comprehensive evaluation of welfare reform in the U.S. On a broader level, the results indicate that policies, which are not expressly designed to affect drug-related or other health outcomes, can nevertheless have important indirect effects on such behaviors by altering time, work, and income constraints.

Economic Analysis of Violence Against Women – A South African Study

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Background

Violence is one of the most expensive public health problems globally. It has been highlighted that cost calculation and economic analysis of violence, particularly in low-income countries, should become a prioritised task in the policy-making process.

Method

This was a cross-sectional study that was undertaken in KwaZulu-Natal, South Africa. Only injuries and related costs due to violence against women were considered. To identify their economic losses and severity of injuries, victims who sought the services of a local NGO were interviewed. A structured questionnaire with closed-ended questions was administered. Questions were asked regarding victims' income, severity of injuries, expenditure for treatment, victims/relative's loss of income and source of financing for treatment costs. The current study used accounting methods for estimating the costs.

Results

Violence against women has huge economic costs; not only the immediate cost of treatment, but can also lead to multiple costs, which can be protracted into the future. Women with no education suffer most from violence related to injuries; those with primary education suffer most from moderate injuries; and those with higher education suffer most from violence related to pain and discomforts. Women with larger family size had proportionally less exposure to violence-related injuries, pain and discomforts. Almost half of the victims' medical treatment costs were covered by the victims (out-of-pocket payments), 20% by their spouse and 12% by their relatives. Cumulatively, almost 80% of victims' treatment costs are covered by the family. Finally, women from higher income groups had spent proportionally more for medical costs.

Conclusion

The issue of violence against women needs to be given more attention and its severity and costly nature needs to be shown to the perpetrators. A concerted effort is required by governments to engage with all concerned, including various government departments and civil society organizations, to find ways to curb violence against women.

Emergency Department use: Why do Patients choose the Emergency Department for Medical care and how much does it really Cost?

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Adam Cwinn

Professor, University of Ottawa, Canada

Alan Forster

Professor, University of Ottawa, Canada

Background: Diminishing access to health care is a growing problem in Canada. Budget cuts and other economic pressures have resulted in hospital and bed closures across the country. Coupled with a shortage of physicians, these issues have resulted in difficulties for Canadians in obtaining the medical care they require in a timely manner. It is important to understand both Canadians' expectations of health services as well as the costs of delivering care in the Emergency Department (ED) as compared to a primary care setting, in order to continue to provide the best possible care in a sustainable manner.

Objectives: To examine the reasons patients are presenting to the ED, and to conduct a cost minimization analysis to compare the costs of seeking care in the ED versus seeking similar care in a primary care setting.

Proposed Methodology: Survey of at least 600 patients triaged to the Urgent Care section of an ED in Ottawa, Ontario. The survey will look at their patterns of use of the ED and other primary care sites, and their motivations for doing so. Each patient survey will also be accompanied by an Emergency Physician survey to assess the level of urgency of each patient visit. A cost minimization analysis, from the health care payer perspective, will be conducted with information collected through the patient surveys and in consultation with the Ontario Physician Schedule of Benefits.

Expected Results: We will identify factors associated with ED use. We will also explore correlations between patient- and physician-perceived levels of urgency. The results from the cost minimization will be used to develop a cost-effectiveness curve.

Conclusions: Our results will provide information to health care policy makers in Ontario concerning patient expectations of health services and service costs.

State Investment in Health Sector - Good or Not? Latvian Experience

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The article looks at the usage efficiency of the state investment, including EU support, in the health care system in Latvia. During 1997-2008 the invested amount of money in the absolute figures in health care has increased for more than 5 times from 98 million up to 561.4 million. The costs per 1,000 inhabitants for the health care from 1998-2008 have increased for more than 6.2 times. The health care administrative costs have increased for more than 3.4 times from 10.8 to 37.88 million LVL. However, when calculating per 1,000 inhabitants, then it is 3.7 times. The number of hospital beds from 37,485 in 1990 has decreased to 17,001 in 2008. The ambulatory doctors' visits per one inhabitant have dropped from 8 to 6 per year. The average bed day from 16 (1994) has decreased to 9 (2008).

The invested money has given a small impact, for example the life expectancy has increased from 64.9 (2002) to 66.97 (2008), the infant mortality has decreased from 15.3 (1997) to 8.7 (2007), and some other important health indicators have changed as well. However, apart from the medicine accessibility declared by the government, every patient has to pay a lot himself or herself for the health care; for the state covered payments are either low-grade or inaccessible in a reasonable period of time. However, according to such a parameter as CT scanner Latvia is in the first place in the EU with 51.11 equipment per 1 million inhabitants, leaving behind such countries as Belgium (respectively 39.8), Germany (respectively 16.7). It makes us ask whether the state investments have been purposeful and whether they have given the expected feedback.

The state expenses were compared and correlated with the selected health indicators which have been defined by the EC. In the selected group there are only included the indicators that depend on the health care directly and whose date is accessible in the dynamics, respectively per several years.

Design/Methodology/Approach

In the article the usage efficiency of the finances in the health care in Latvia is analysed, which is in the transition stage and is being reformed right now. The absolute amount of the invested finances is being correlated with the outcome – the health care indicators' changes per years, to use efficiently the money given for that and whether the obtained result is appropriate.

Research Limitations/Implications

This research does not give a solution to possibly more efficient ways of money usage. There are not used the health indicators which have not got a direct connection with the health care, e.g. the number of fatal road accidents (injuries: road traffic), accidents at work (injuries; workplace), etc.

There was only used the data which lets us judge about its development tendencies during several years. Unfortunately, it is not possible to get statistics for all indicators in Latvia, e.g. breast, cervical cancer screening.

Practical Implications

Health level indicators are a useful thing to make conclusion about the national health. However, the EC has to improve the statistics of several member states to compare them profoundly.

The countries have to analyse the structure of the editions and compare it with the other ones that work more successfully in order to improve the situation and work more efficiently.

Originality/Value

Every investment including the health care has to be commensurable with the feedback. Big investments do not guarantee a good result.

Connecting the Voices of Users, Caregivers and Providers on Service Quality: A Study of Home-Care Services

Oscar Firbank

Professor, University of Montreal, Canada

The presentation aims to explore, within the context of implementing a health-care continuous quality improvement program (CQI), (1) the relevancy of various methods used to hear the voices of various stakeholders involved in the use and delivery of home-care services, and (2) the challenges encountered when trying to blend their views as a means to prioritize improvement efforts.

Gathering data from stakeholders on service quality issues was part a broader four-year research project conducted in Quebec, Canada. Twelve home-care agencies from the public, private for-profit and not-for-profit sectors took part in the project. Both qualitative and quantitative methods were tested with random and convenience samples of service users, family caregivers and home-care workers. In assessing services we refrained from proposing a generic, prescriptive definition of quality and adopted a ‘pragmatic’ point of view –as suggested by Harteloh (2003)– positing that the meaning of quality is context dependent and could only be established in relation to the particular understanding stakeholders have of a given service intervention.

Results show that, despite a number of logistical and methodological challenges, face-to-face interviews constitute a powerful instrument for users and caregivers to talk about their experience with services beyond the structured response categories of consumer satisfaction surveys, and to map quality failures in their own terms and language. Consensus methods, such as Nominal Group Technique, appear particularly suitable when consulting practitioners short of time to devote to extra-curricular activities, given their facility of administration, rigorous structure, and capacity to elicit collective discussion while minimizing group dominance by a few participants. However, the range and diversity of quality problems singled out by each group of stakeholders, made the task of intersection their voices and prioritizing common areas of concern a rather laborious and complex process. The conclusion elaborates on (1) the extent to which the instruments provided enough information to prioritize service improvement activities within each participating agency; and (2) whether they could be administered by home-care agencies with minimal external help.

Competition Policy in Health Care

Diego Fornaciari

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Health care professionals are often sceptic to the idea of applying competition law to the health care sector as they don't think of health care as an economic market. This paper will analyse the relationship between competition law and competition itself in the health care sector. A first question that will be assessed is whether highly regulated markets such as health care can be subject to competition law. As in some countries health care players have few possibilities to compete with each other, it is questioned if competition law even applies and/or if health care would benefit from the application of competition law.

If competition law does apply to the health care sector, will this stimulate or require a choice for more competition and deregulation, like in the Netherlands? It will be proved that the application of competition law does not necessarily reflect a choice for more competition and deregulation. The aim of competition law is indeed to protect the consumer, and in health care the patient, from conduct that is anticompetitive, deceptive or unfair, either of health care players or the government. There is however room for quality considerations in the competition law analysis. Practices or government regulation that harm competition can in some cases provide quality improvements or benefits that can not be obtained without a restriction of competition. Special attention will be given to the concept of services of general (economic) interest, which is currently an important topic in European competition policy.

Stronger Sex but Earlier Death: A multi-level Socioeconomic Analysis of Gender differences in Mortality.

Martin Gachter

Professor, University of Innsbruck, Austria

Peter Schwazer

Professor, University of Innsbruck, Austria

Engelbert Theurl

Professor, University of Innsbruck, Austria

While a female mortality advantage is still observable in most Western European countries, female and male mortality rates have converged considerably during the last two decades. Recent changes in mortality rates have been accompanied by changes in life style, social relationships, the educational level, family roles and employment of women as well as men. In particular, the increasing gender equality in European societies might have been a driving factor for the narrowing gender mortality gap. In our paper we shed some light on differences in mortality by gender using cross-sectional data at the local community level in Austria from 1988 to 2004. By using socioeconomic data from 2381 Austrian communities we offer a detailed regional analysis of both the gender mortality gap and the underlying gender-specific sensitivity of mortality rates on socio-economic influences. Moreover, we include new variables, such as the average net income per capita, employment, the level of education, the share of foreigners as well as housing conditions. By means of a weighted regression analysis we are able to show that the gender gap is negatively associated with higher average net income, a higher employment rate, familial solidarity and social living-arrangements.

Moreover, the gap is lower the smaller the differences between genders with regard to the share of academics, the share of high school graduates and the employment rate within a community. In general, males are more sensitive with respect to social and economic conditions than females, resulting in a narrowing gender gap with improving living conditions. In a nutshell, the increasing gender equality in terms of employment, social roles and life style has considerably contributed to the narrowing gender gap in recent years, albeit considerable differences in mortality remain.

Sustainable Human Development Practices of Selected Small and Medium Enterprises in Bulacan, Philippines: Perspectives for Transformative

Maribel Gaité

Researcher, University of Regina Carmeli, Philippines

The dynamics and key issues in the sustainable human development practice of 180 small and medium scale enterprises (SMEs) in the province of Bulacan in the Philippines were examined as inputs to re-thinking transformative learning in the industry and the academe. Hampered by unclear organizational core values and purpose, most SMEs had yet to bring their organizational processes, structures, relationships and knowledge sharing into alignment with people-centered sustainable business principles. The study highlighted the need for a simultaneous personal and institutional/organizational confrontation and self-confrontation to allow for the integral development of the learners' and stakeholders' consciousness, competence, and conscience—a life-long learning process that calls for inner listening and the transformation of learning into living for the common good as a path to sustainable human development.

A Regional Analysis on the Activity of Transplantations in Italy: Issues Related to Demand and Supply

Lara Gitto

University of Catania & University of Roma “Tor Vergata”, Italy

Amalia Donia Sofio

Professor, University of Roma “Tor Vergata”, Italy

Transplantation activity concerns many important economic issues, among which there are:

- scarcity of resources, due to the limited availability of organs;
- improvements in patients' health conditions.

The purpose of the paper is that of analyzing demand and supply of transplantations in Italy, looking at mobility of patients across Regions.

Different flows of patients can be distinguished: outflows patients are those who decide to migrate to another Region; inflows patients per Region are, instead, those patients who arrive in a given Region for undergoing a transplantation; resident patients are those who choose to remain in their Region, and to undergo there the surgery.

By knowing the extent of inflow-outflow decision and the factors that may affect it, it might be possible to organize the activity of transplantation in a more effective way.

A descriptive statistical analysis has been carried out for demand and supply of transplantations in Italian Regions, according to type of organ transplanted.

The analysis of the factors determining the outflow decision has been performed by applying OLS. Data employed refer to waiting lists, number of donors, number of transplantation centers; for heart and liver transplantation it has been considered a complexity index as well.

Results show that number of donors and number of transplantation centers have a positive impact in determining an increase in outflow decision. A positive effect, even if not significant, is associated to patients' survival after complex interventions.

Moreover, in order to boost donations, more detailed information related to risks and benefits of transplantations should be provided and, in order to facilitate patients' choice for transplantation center, the Information Transplantation System should be improved, especially in assessing the activity of each transplantation center.

Determining of Job Satisfaction Levels of Midwives and Nurses

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The perception of employees about job satisfaction carries great importance for administration. The people who are not satisfied with their jobs and independent from their organisation may not be productive, efficient and may not have a high performance. These people may influence negatively not only their organisation, but also their colleagues they work with, within the organisation. Because of health services being directly about human, the employees working in the healthcare field and especially for the professions like nursing and midwifery which require lastingly sacrifice within professional life, job satisfaction gains much more importance.

This is a descriptive study planned to determine job satisfaction levels and the affecting factors of these levels of nurses and midwives working at Dr. Zekai Tahir Burak Women's Healthcare Training and Research Hospital which serves as a women's healthcare training and research hospital in Ankara city. As of May 2009, a survey was carried out over 286 midwives and nurses. In order to specify participants' sociodemographic information form and job satisfaction, "Minnesota Job Satisfaction Scale" was used. All of the analyses were conducted using SPSS 15.0 (SPSSFW, SPSS Inc., Chicago, LI., USA). For descriptive statistics; number, percentage; for the others, arithmetic percentage \pm S. Deviation related with scores indication was used. For the analyses of the data showing normal distribution, to compare two groups "Independent Samples t test (Student t test)" was used. For the differences between more than two groups, one way analysis of variance (One Way Anova) was applied. In case of the difference between the groups is important, one of the Post-hoc tests, LSD (least significant difference) was used. For the reliability analysis of the survey, Cronbach alpha reliability coefficient was calculated, reliability value for job satisfaction scale was found as 0.93. According to the evaluation of the job satisfaction of midwives and nurses participated in the research, midwives' and nurses' score in terms of intrinsic satisfaction was the highest (best health status) and in terms of extrinsic satisfaction was the lowest (worst health status). In conclusion, it's found that, job satisfactions of midwives and nurses are affected by age, working hours, total period of service. Administrators are suggested

to provide inservice training, rearrange the working hours, develop improvement opportunities within the organisation for midwives and nurses who have great importance for the presentation of the health services.

Performance Assessment and Wicked Issues: The Case of Health Inequalities in Scotland: The Same but Different?

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Background: Reducing health inequalities is a policy priority across the UK and different performance assessment methods have been introduced to stimulate targets and monitor achievements and progress. These differences in performance methods and approaches between England, Scotland and Wales have formed the basis of a major comparative study, which is part of the ESRC Public Services Programme. Our overall focus across the 3 health systems has been to understand how the different approaches to performance have been impacting on overall reductions in health inequalities. This paper narrows the gaze and explores accounts of key senior stakeholders in Scotland with an attempt to uncover the particularities of the national context. Importantly we examine how representations of contrasting policy contexts are reflected in the ways Scottish based NHS and local authority managers conceptualise and devise strategies to tackle health inequalities. Many of the accounts present the Scottish policies and approaches in a favourable light and as superior to the English. By way of exploration and explanation, we draw on Wilkinson's hypothesis on egalitarianism for tackling health inequalities and on the theory of 'occidentalisation' to illustrate how one nation's representation of another can 'exoticise' them, and not reflect the experiences of those other participants.

Aim of Study: to understand how Scottish policy contexts are portrayed and reflected in the ways local actors conceptualise and devise strategies to tackle health inequalities.

Methodology: document analysis and semi-structured interviews with actors with strategic and managerial responsibilities in the NHS and local authorities in two examining/industrial hinterland regions in Scotland; in two phases (2006 and 2008).

Findings: All interviewees were concerned with narrowing health inequalities, however, the intractability of health inequalities, or 'wicked issues', made performance reporting difficult. Despite greater spending and higher health inequality challenges than in England and Wales, Scottish interviewees particularly emphasised the opportunity devolution provided to create radical differences in its structure and Governance of the NHS, as well as its pursuit of a more egalitarian and collaborative approach to performance assessment, compared to England's more top-down regime, where targets and competition were the dominant approach to delivery.

Conclusions and Implications: Although performance assessment made a difference to how narrowing health inequality was conceptualised locally and the attention it received, the representation of different national identities across the UK made it difficult to link strategies for performance assessment and systematic learning

from the interventions being pursued, and in turn to understand how best to embed that learning in practice.

Genetic Testing: Review of the Application of Economic Evaluation Techniques in Europe

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Introduction: Since the identification of the genome was completed last decade, the genes found to be responsible for diseases as well as the tests to check for new genetic alterations have continuously grown. The utilisation of these new testing techniques is challenging health care systems. These techniques change not only the diagnosis paradigm but also modify both the management of the diseases and their costs. Economic studies referred to genetic testing may help to adopt decisions on the utilisation of these new techniques.

Objectives: To identify the economic studies (economic evaluation analysis and costs analysis) that deal with genetic testing; to classify these economic studies according to the type of disease, type of genetic alteration and purpose of the test (screening, diagnostic, prediction) and country-jurisdiction of the study.

Methods: Review of EURONHEED data base on economic evaluation studies of health technologies applied in Europe, and search in PUBMED for articles on these topics. A descriptive analysis will then be performed on the studies.

Results: Preliminary, about 312 papers dealing with economic studies on genetic testing were found, 143 of them were focused on screening programs and the remaining 169 were related to diagnosis techniques. The countries that led the number of published studies were United Kingdom with over 50 studies for each category, and France, Germany, Italy and The Netherlands each of them around ten in each category. The search in the EURONHEED database (for the period 1995-2005) yielded 39 studies, being 32 focused on screening and 7 on diagnosis. Again, the countries with more contributions were The Netherlands, the United Kingdom and France. Neoplasm, and bacteriological diseases were the most frequent targets of these assessments.

Conclusions: The application of economic evaluation to genetic testing, although limited currently is expected to grow fast and to provide with important information for decision making processes across European countries.

Social Inequalities and Health Disparities among Kindergarten Students: Evidence from a Medium Size Canadian City

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The impact of neighborhood material conditions and race inequalities on health has been extensively researched and discussed in the literature. However, while some studies indicate that there is a modest, but significant, relationship between neighborhood material conditions and health, other studies conclude that the effect is not significant. Similarly, evidence regarding the compounding effect of neighborhood material conditions and race on health are inconclusive. The paper aims to contribute to this ongoing debate.

Utilizing health and developmental indicators generated by the administration of Early Development Instrument to all kindergarten students in a medium size city in Canada in 2001, 2003 and 2005 and Canadian Census data regarding neighborhood economic characteristics, this paper investigates, first, whether or not neighborhood material conditions have any impact on the physical and socio-emotional health, and cognitive outcomes in kindergarten children; second, it examines whether aboriginal status of children affects health and developmental outcomes over and above neighborhood material conditions. Indicators of physical and socio-emotional health include physical readiness for school, physical independence, pro-social behavior, emotional maturity, presence/absence of anxiety, aggression, hyperactivity and inattention, as well as various visual, speech and hearing problems. Economic characteristics used to assess the material condition of neighborhoods include income, employment status, house ownership, value of house and the distribution of income within a neighborhood.

We use multivariate regression analysis linking student physical and socio-emotional health status with neighborhood economic characteristics in order to examine the impacts of race, neighborhood material conditions and their interactions on children's health. Our preliminary results show that income inequality within a neighborhood and aboriginal status are negatively associated with child health. Further, the negative effect of aboriginal status on outcomes in children is exacerbated when children live in neighborhoods with larger income inequality. These results show that income inequality further accentuates/reinforces the negative impact of race on health of children.

Social Values, Economic Resources and Effectiveness Coefficients: An Ethical Model for Statistically Based Resource Allocation

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Current methods of resource allocation for publicly funded health care systems suffer from serious ethical flaws, the most egregious of these being that they confuse positive cost-effectiveness and cost-benefit quotients with ethical justification, that they do not contain inherent limiting parameters on macro-allocation rubrics once modalities have passed the initial funding hurdles, and that they do not take the strength and direction of social values into account. Even the Oregon Experiment, which to date has been the only attempt to systematically incorporate social values into funding decisions, suffered from these shortcomings. The present paper sketches an allocation model that avoids these flaws. The model is developed in terms of theorems derived from basic ethical principles by the application of pragmatic premises centering in the health status profile of society as a whole, effectiveness coefficients and social values. It outlines an approach to health care resource allocation that is both principled and responsive to variations in modality effectiveness, societal resources as well as societal values, and incorporates ethically defensible limitation determinants. An attempt is made to capture the ethical reasoning in formulae that can find statistically based application.

The Management of Healthcare Technologies: The State of the Art and Future Research Agenda

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For over a decade the authors have been engaged in the systematic study of the economics, management and policy aspects of healthcare and medical technologies. They established the Healthcare Technology Management Association (HCTM) and a dedicated journal (International Journal of Healthcare Technology and Management). They also established the annual conference on the Hospital of the Future, in which research in the management of healthcare technology is reported and discussed.

In this paper the authors summarize the state of the art in the field of healthcare technologies. The paper starts with the main research themes and the main research questions explored by scholars in the decade 1999-2009. The authors discuss the key studies and the major findings which constitute the state of the art in this area of inquiry.

The authors classify the studies and their findings by the phases of the processes of healthcare technologies:

- 1) Generation, adoption and diffusion of health technologies (e.g., diffusion of innovations);
- 2) Evaluation, assessment and monitoring of health technologies; and,
- 3) Operations, logistics and management of health technologies (e.g., logistics of hospital operations).

In each of these phases the authors analyze the economics, organization, policy, management, ethical and social aspects. A particular focus is devoted to the role of information technologies in health.

A second classification scheme used by the authors categorizes the studies and the findings in the literature according to families of technologies, such as:

- 1) Diagnostic technologies;
- 2) Interventional/therapeutic technologies (e.g., minimally invasive technologies; robotic surgical technologies);
- 3) Rehabilitative technologies; and
- 4) Monitoring technologies.

In each of these categories the authors analyze the economics, organization, policy, management, ethical and social aspects of these groupings. A particular focus will be devoted to the role of information technologies in health.

Next, the authors discuss the key conclusions derived from the research effort in these sub-areas of inquiry. Finally, the authors offer a future research agenda. They answer the questions:

1) What have we learned from the studies in the past decade?;

2) What do we need to know?; and

3) What research questions need to be explored to gain such needed knowledge?

This paper summarizes the research effort in the study of healthcare and medical technologies. It combines the analysis of the various disciplines employed in the study of such a complex phenomenon. It also relates the research findings and conclusions to examples of actual problems faced by healthcare organizations and solutions they implemented as they acquire and utilize medical and healthcare technologies.

Market Competition and the Adoption of Pharmaceutical Innovation: Evidence from Taiwan

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In recent years, a substantial amount of technological progress in medicine has taken the form of pharmaceutical innovation. This paper uses the launch of a series of new drugs designed for treating type 2 diabetic patients as an example to investigate the determinants that affect the diffusion of new medical technology. Based on the prescription-level data that obtained from national health insurance program in Taiwan, we find that probability of prescribing new drugs declines as more firms enter the pharmaceutical market. Meanwhile, physicians are more likely to prescribe new drugs to treat diabetic patients as the provider market becomes more concentrated.

These results suggest that an increase in market competition reinforces the providers' incentives for cost reduction and hence slows the diffusion of new drugs. As a result, access to new drugs is not uniform among patients in a country with universal coverage for prescription drugs. An important implication of our study is that profit-seeking behavior among providers can become an access barrier to new medical technology.

The Demand for Pharmaceuticals by Managed Care Organizations

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Strategies for Greater Efficiency in Cardiovascular Disease Prevention in Australia

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Introduction: Cardiovascular disease is the second largest cause of Disability Adjusted Life Years (DALYs) in 2003 in Australia. Significant gains have been made in recent decades, yet the burden of this largely preventable chronic disease can be reduced much further. Government expenditure on cardiovascular drugs in Australia is high representing 30% of the total outlay on the Pharmaceutical Benefit Scheme and most are blood pressure and cholesterol lowering drugs used in primary prevention and by those who have disease. This paper focuses on the cost-effectiveness of blood pressure and cholesterol lowering interventions in the prevention of cardiovascular disease in the Australian general population and highlights policy implications.

Methods: We use an EXCEL-based Markov model, tracking Australian adults without previous cardiovascular disease at varying levels of absolute risk of ischaemic heart disease and stroke. Health benefits of 13 pharmacological and non-pharmacological interventions are measured in DALYs. The comparator is a hypothetical scenario of no primary prevention interventions. Life time costs and cost-offsets are estimated from a health sector perspective and discounted at 3%. The optimal intervention pathway is determined using the generalised cost-effectiveness analysis framework of Murray et al (2000).

Results: All of the interventions evaluated, (except statins), have an average cost-effectiveness ratio of < \$AUD 50,000 per DALY averted (threshold used in this study as value-for-money). A subset only of the interventions would be included in the optimal intervention pathway.

Discussion: It is possible to double the amount of health gain from cardiovascular disease prevention at half current levels of net expenditure by adopting absolute risk as the clinical indication for prevention therapy; greater use of the less expensive drug therapies; and greater use of the effective non-drug therapies. Stakeholders are concerned however with the medicalisation of prevention of cardiovascular disease and the risk of side-effects.

The Effect of Access AIDS Treatment on Employment Outcomes in South Africa

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Antiretroviral (ARV) drug treatment for AIDS dramatically improves health status and increases life expectancy, but there is little evidence on whether it improves employment outcomes in developing countries. In this paper, I examine the labor market effects of the rollout of ARV treatment in public health clinics in South Africa, which enrolled over 500,000 patients between 2004 and 2008. I use geographic and temporal variation in the program rollout to identify the causal impact of ARV treatment on labor force participation and employment. This study is the first evaluation of the largest AIDS treatment program in the world.

I find that the likelihood of labor force participation increases by 2 percentage points over 6 months for Black men, and 3 percentage points for Black women, when ARV treatment becomes available within 3 miles. While there are no discernible effects of the distance to the nearest clinic on employment rates, this is consistent with relatively high unemployment and long unemployment durations in South Africa. I also find evidence that intra-household effects play an important role in mitigating the effects of AIDS. The labor force participation of secondary breadwinners is crowded out when primary breadwinners return to work following an illness. These results demonstrate that employment effects should be taken into account when considering the costs and benefits of health service provision in developing countries.

**A Survey of Complementary Health Insurances' Influences on
Supplier Induced Demand of 25% & Upper Chemically Ventures in
Nesardireh in First Middle of 2008**

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**All that is Gold Does not Glitter:
A Law-Policy Proposal to Raise the Global
“Golden Standard” for Drug Development**

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This interdisciplinary article questions how biopharmaceuticals reach the market. Specifically, this article challenges heavy reliance on the group design model (accepted internationally through the International Conferences on Harmonization), which has governed clinical research since enactment of the Food, Drug and Cosmetic Act in 1938. Group design is declared the “gold standard” in drug development. A drop in innovative new drug approvals and controversies such as the drugs Vioxx and Avandia demand the regulation of market access to be questioned. The article suggests law-policy reforms to increase single subject research design studies (SSRD) in drug development. A major premise is that regulation of human clinical trials should be responsive to the governing science, and SSRD emphasizes the reality of human variability in a manner reflective of contemporary genetic science. The core message is that relying on data generated through group design alone—group means compiled through statistical analysis—risks predicting little about the actual impact of prescription medicines on individuals, including members of the group under study. The article draws heavily from the use of SSRD in other health care disciplines, with a focus on applied behavioral analysis. It draws heavily from the SSRD model applied and proven successful by the Comprehensive Applied Behavioral Analysis in Schools Program (“CABAS”) at Columbia University’s Teacher’s College, which has utilized SSRD in research with and treatment of children with severe learning disabilities, many labeled “autistic.” CABAS, with a legacy of three decades of research and an international network of schools, has challenged the preexisting norms of heavy reliance on group design in clinical research and generated significant treatment and research accomplishments. The article proposes that biopharmaceutical research and development should include a SSRD component to complement the advent of genetic science, which demands increased precision.

Planning & Programming Health Facilities & Services with Service Science Management Engineering (SSME)

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Public services should 'live' in public facilities allocations. According to this, one must fit into the other; in the same way as citizens should find an answer in the residential park offer or production activities seek their location in the industrial areas.

This high level of engagement needed is not produced. Services and facilities coexist in an historical isolation.

In addition to this, while services are provided by administration, facilities are at proposal of the town plans. In this context, how can they keep a good relation? How planning guarantees enough land to allocate public services?

Of the great range and variety of public services, some of them are recognized in the country's constitutional texts as essential or universal citizen's rights.

All State Main Texts of different European Nations protect the right of their citizens to enjoy, at least, a good public *education*, quality in *provision of health services* and enough offer in *assistance to persons*.

These services, which could be labeled as 'public basics', are widespread respected and unquestioned, thus an acceptable level must be provided by administrations.

This minimum threshold in *basic public services* should be understood as a common European level, in order to give a reference point to governments for the provision of public services.

Basic public services are strictly connected to people because of their essential and universal nature.

Same thing with facilities, thus, there is a minimum amount of *basic public facilities* that must be preserved, protected, according to the constitutional texts of European countries.

The aim of the research is to obtain indicators for *basic public facilities&services* (health, education and assistance to persons) which will enable both subjects to be viewed in relation to each other in order to discover if they work together.

The final step of the research would be the production of *basic recommended values* as *European Reference Indicators in Public Facilities and Services (ERIPFASE)*, which gives name to the project.

State Constitutional Recognition of Health and Infant Mortality Rate in the United States, 1929-2005

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The U.S. Constitution contains no reference to health and has never been interpreted to grant any protection of individual right to health care. However, federal structure of the U.S. Constitution allows states to grant their citizens broader rights than the U.S. Constitution, and as of today, thirteen state constitutions specifically mention health either in the form of public concern, individual right or government duty. This paper investigates whether state constitutional recognition of health can make health systems more equitable and improve population health by forcing state policy-makers and administrative agencies to take seriously their human rights obligations. Adding comprehensive controls, including yearly and state fixed effects and state fixed trends, we did not find the significant effect of state constitutional provision on infant mortality on average, but we found the effect of some types of constitutional provisions. We found that state constitutional recognition of duty to provide health care decreases infant mortality rate approximately by 3%. We also found that the explicit constitutional recognition of health to the poor decreases infant mortality by 3%. Additional results in this paper demonstrate that the long-run effects of such provisions are even bigger. This empirical result supports Leonard (2009)'s view that while state constitutional right has been poorly enforced through judiciary in the history of the United States, constitutional expression over health care rights and duties has fueled the political process, ultimately allowing states to find the best way to address the health concerns of their citizens.

A Cross-Country Analysis of the Risk Factors for Depression at the Micro and Macro Level

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Past research has provided evidence of the role of some personal characteristics (age, gender, religion, etc.) as risk factors for depression. However, few researches examined jointly the specific impact of each characteristic and whether country characteristics (economic performance and others environmental factors) change the probability of being depressed. In general, this is due to the use of single-country databases. The aim of this paper is to extend previous findings by employing a much larger dataset and including the above-mentioned country effects.

We estimate probit models with country effects (model I) and we also explore linkages between specific environmental factors and depression (model II includes variables such as Gross Domestic Product per capita and GINI index). The dataset for this research comes from the 2007 GALLUP Public Opinion Poll that allows us to consider a large and widely heterogeneous set of micro-data.

Findings indicate that depression is positively related to being a woman, adulthood, divorce, widowhood, unemployment and low income. Moreover, we provide evidence of the significant association between economic performance and depression. Inequality raises the probability of being depressed, specially, for those living in urban areas. Finally, some population's characteristics facilitate depression (age distribution and religious affiliation).

**Humanitarian Logistics and Hubs' Location –
Vehicles' Routing Problem: A Case Study in Bolivia**

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Impact of Community Based Health Insurance on Household Economic Indicators in Nouna, Burkina Faso: A Panel Data Analysis

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Objectives: Community-based health insurance (CBI) has rapidly grown as a health financing mechanism promoting risk-pooling and resource sharing at the community level. These schemes have become popular mainly in low income countries. There is evidence that CBI has improved health care utilization and this is likely to lead to an improvement in health and productivity for the insured. This study analyses whether CBI has lead to any economic gains for the insured households.

Design: The study will use the Nouna Health District Household Survey (NHDHS) data from 2003-2007. Population-based morbidity and socio-economic data is collected through a household survey, from about 15% of the study population residing in the Demographic Surveillance Survey region. Data is collected from both the insured and the uninsured households.

Intervention: CBI scheme was introduced in the Nouna Health District in 2004. Enrolment for the scheme is voluntary and the unit of enrollment is the household. The benefit covers a wide range of first-line services available at the local health facilities and second-line services available at the district hospital without any co-payment at the point of service use.

Results: CBI has lead to an improvement in health care utilization in the Nouna Health District from 2003 to 2007 but there is unclear evidence whether this improvement in healthcare utilization has lead to an improvement in the household economic indicators for the insured overtime.

The Economic Costs of Main Behavioral Health Risks in Estonia in 2006

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Objective: To estimate the economic costs of five behavioral risk factors in Estonia in 2006.

Methods: The economic costs of alcohol use, smoking, physical inactivity, obesity and inadequate vegetable and fruit intake were estimated using risk factor attributable prevalence of diseases and costs associated with these diseases using prevalence based cost-of-illness methodology. The population attributable fractions of risk factor related diseases were calculated by combining the country-specific prevalence of risk factors by age and sex with literature based relative risks. The economic costs consist of direct and indirect costs. Direct costs are the value of resources used to diagnose; treat and rehabilitate risk related diseases and were extracted from Estonian Health Insurance Fund databases that cover hospital care, other institutional care and ambulatory services. Indirect costs that are productivity losses due to morbidity and premature mortality were calculated according to human-capital approach with 3% discount rate. Data on disease duration and impact on productivity inclines was obtained from Estonian national Burden of Disease study.

Results: Overall, alcohol use is the most costly lifestyle risk factor in Estonia with 2002 million Estonian kroons (MEEK) (€128 million). The costs related to alcohol use represent 1% of gross domestic product. Alcohol use is followed by smoking (1025 MEEK, €66 million), overweight (859 MEEK, €55 million), physical inactivity (783 MEEK, €50 million) and inadequate vegetable and fruit intake (350 MEEK, €22 million).

Conclusion: Unhealthy lifestyle places significant economic burden on Estonian society and the findings indicate the significant amount of potential savings that are possible to gain through improvements of health behavior in Estonia. The foremost health risks for targeting scaled-up prevention efforts and additional resources are alcohol use and smoking. This is especially important because concurrent investments into prevention of addressed health risks were minor compared to the economic costs to society.

Risk-Sharing Contracts in Pharmaceutical Markets

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Scope and purpose: Risk-sharing contracts are an instrument of pharmaceutical policy when uncertainty on key parameters related to a new drug are present, i.e. efficacy, safety, expected sales, etc. However, theoretical analysis of risk-sharing contracts have been scarcely carried out. In this paper, we characterize the risk-sharing contracts that health authorities can design when they face a regulatory decision on drug pricing and reimbursement in a context of uncertainty.

Methods: A two steps theoretical model has been designed to describe the behaviour of both firms and health authorities. The pharmaceutical firm sells a drug whose efficacy has been proven in a clinical trial. Given the uncertainty of the real efficacy of the drug, the health authority offers a contract with payments to the firm to balance health outcomes (cured patients) and the health budget, and the firm decides the quantity it sells. In particular, we focus on two types of contracts. On the one hand, the health authority can set a unit price regardless of the ex-post real efficacy of the drug. Alternatively, the health authority can make the payments contingent upon the observed ex-post efficacy. For both types of contracts, the health authority must monitor the sales of the firm. When the payments are contingent upon the ex-post efficacy, the health authority must also monitor the efficacy results.

Results: The type of contract the health authority will offer to the firm will depend on the monitoring costs and the observed efficacy results. When the efficacy in the clinical trial is relatively high, we find that the health authority prefers not to make the payments contingent upon the health outcome if the monitoring costs are sufficiently low. Otherwise, the contract is based on the ex-post efficacy results. When the efficacy in the clinical trial is relatively low, the health authority always prefers to condition the payments to the efficacy results.

Discussion-Conclusion: A better understanding of the strategic interactions between pharmaceutical firms and health authorities is needed for efficient decision making. Theoretical models can be used to describe such interactions. In that sense, our model on risk-sharing contracts constitutes a first step in that direction.

Does Physical Exercise Affect Demand for Hospital Services? Evidence From Canadian Panel Data

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Recent epidemiological literature shows that regular physical activity is effective in preventing several chronic diseases, and is associated with a reduced risk of premature death. The U.S. Surgeon General Report also concludes that persons with moderate to high levels of physical activity have a lower mortality rate than those with sedentary habits.

In spite of the benefits of physical activity on health, individuals are spending more time in sedentary activities and becoming less active. For instance, two-thirds of Canadians, aged 20 and older, are not active enough to derive health benefits of physical exercise. On average, physically inactive people are expected to use more healthcare services than active people. However, the size of utilization of hospital services associated with physical inactivity has not been firmly established in the literature.

In an effort to estimate the impact of physical activity on demand for hospital services, previous studies use cross sectional data sets. One of the main shortcomings of cross sectional studies is that the estimated relationship between inactivity and excess use of hospital services may not reflect the causal association: the association could be due to other factors, which cannot be controlled in a cross sectional design. This implies that the impact of physical inactivity on hospital stays will be over or under-estimated.

Using a panel data set from Canada (National Population Health Survey), this study will fill this gap in the literature. The study uses panel data regression models (fixed and random effects as well as count data models) to estimate the association between physical exercise and demand for hospital services. The results show that physical exercise decreases the demand for hospital services, but its effect decreases as the level of physical activity increases.

E-Health: Opportunities and Challenges of Technology Integrated Health Management

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With 800 million people around the globe, the Internet has become a virtual medical library for most individuals. Electronic health, referred to as E-Health, is integration of medical field with information and communication technologies to improve health care management. Six million people in the United States go online for health information on an average day. This number exceeds the daily average of 2.27 million Americans who make doctor visits (Fox, 2006). Internet search engines index over 100,000 medical web sites as part of global health communication network, including an instant access to the results of peer reviewed clinical studies and full-text digital links to articles. This synergy between medicine and the Internet is promoting information age health management system and represents a significant step in modern medicine (Kivits, 2009). This interaction is called a paradigm shift by some researchers (Eysenbach, 2004).

This presentation will provide a discussion on E-Health and how it is transforming the process of patient care and health management (Klawiter, 2008). This will be placed within a larger context of the United States' managed health care system. The paper will also present a discussion of a model of randomized controlled trial called PC-HICT Medical Care Model (Patient Centered and Health Information and Communication Technology Integrated). Lack of exposure to digital health information and communication technologies and perceived lack of skills to use technology exacerbate existing health disparities (Cullen, 2006). This model is designed to develop a working knowledge of basic computer and Internet browsing skills to aid disadvantaged patients in using technology in efforts against health disparities. The presentation will propose that information and communication technologies can be implemented as a major means of reducing health disparities by extending access to digital health and medical information by disadvantaged and underserved populations (e.g., older adults and the poor).

Referral or Substitution Effect Between Physicians: Evidence from the Private Sector of a Two-Tiered Health Care System

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In this paper we focus on the distribution of physicians working in the outpatient sector of the health care system. The importance of this segment within advanced health care delivery systems is widely recognized. These physicians, particularly general practitioners, provide both primary care and also act as referral agents or filter to higher levels of health care. By applying a count data model on Austrian data on the local community level, we want to assess the competitive relationship between general practitioners and specialists. As general practitioners, on the one hand, offer substitutive services, but also issue referrals to specialists, the overall competition effect is highly interesting, particularly in the context of a two-tiered public/private health care system, as it is the case in Austria. For our analysis we use data from 2379 Austrian municipalities, including the 23 districts of Vienna. While the data on the number of physicians and their specialty has been taken from various sources, most of the explanatory variables are taken from the Austrian population census from 2001, such as the size of the population, education, commuters, net (average) income, employment rate etc. To our best knowledge, no analysis has been done so far in the literature investigating the number of physicians on the local community level.

First of all, as we deal with count data, namely the number of physicians per community, standard OLS regression methods are not appropriate for several reasons.

This includes the existence of heteroscedasticity as well as non-normal conditional distributions (typically positively skewed with many low-count observations and no observations below zero). By applying a zero-inated negative binomial regression model, we find a complementary relationship of both public specialists and general practitioners to private general practitioners. On the contrary, private general practitioners are negatively influenced by the number of public general practitioners, indicating a substitutive relationship between the public and private outpatient sector among general practitioners. Moreover, having a hospital in the community increases the number of private physicians significantly. Concerning our control variables, as expected, the size of population, average net income, the quota of academics, a positive commuter balance and a higher employment rate all exercise a positive influence on the number of private specialists in a community.

JEL classification: I11, I18, L23, C21

Dynamic Study of Regional Equity Distribution of Medical Doctors in China: From 1989 to 2015

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The distribution equity of health resources is an important proposition in health service development, especially health human resource. But unfortunately, in China, the investment and distribution of doctors has ever been one of the least discussed aspects in health system reform. The number of doctors is often correlated with population size. However the distribution equity influenced by economic level is still ignored in China. In addition, there are differences in the quality of doctors based on resource heterogeneity hypothesis and even the same quantity can lead to different health service outcome. This project will provide the basic equity information both from population size and economic level for better distribution of health human resources.

Objective

1. To assess the regional equity distribution of MD based on actual quantity in the last twenty years.
2. To evaluate the regional equity of MD based on human resource heterogeneity hypothesis.
3. To determine whether the quality of doctors can affect the equity of distribution.
4. To predict its development trend in next five years.

Method

Statistic data collected from National Health Statistic Yearbook and Chinese Statistic Yearbook. Gini coefficient and Lorenz curve were used to analyze the regional distribution of MD. Cubic curve model was constructed to predict the number of population, GDP and doctors. Workload per capita as quality standard was adopted to adjust the quantity of doctors.

Results

1. During the past twenty years, Gini coefficient based on population size (G_{pop}) has declined from 0.18 to 0.12 while Gini coefficient based on economic level (G_e) varies from 0.38 to 0.42.
2. The value of G_{pop} is increasing while G_e decreasing after quality adjustment.
3. In the next five years, G_{pop} will range from 0.25 to 0.37 and G_e will exceed the international equity cordon (0.4).

Conclusion

1. The regional distribution equity of MD in China has been improved in the last twenty years.

2. The inequity distribution of MD was seen from the difference of economic level more than population size in the past.
3. The quality of MD can affect the distribution equity.
4. The equity will worsen in the next few years if there is no new policy intervention.

Participation for Health and Wellbeing: Factors Affecting Older People's Participation in Rural Communities

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Involvement in community activities offers a route to achieving one of the five “essential elements” of older people’s wellbeing as identified by McCormick et. al., (2009) – that of “having a role”, i.e. having a sense of purpose, belonging and value within society. The engagement of older people in remote and rural community activities, including informal helping and informal volunteering seems to make intuitive sense from a number of perspectives. This paper uses information from the European Union-funded O4O: Older People for Older People initiative, conducted from 2007-2010, which considered dimensions of older people’s participation in remote, rural communities with the goal of encouraging and studying how older people could help other older people stay living in their own homes and communities for longer. The paper presents quantitative information from a survey that was sent to nearly 2500 people aged 55 and over in six remote Scottish communities on the relationship between socio-economic characteristics and participation. Further insights are brought from the analysis of interviews conducted with community members from the participant communities. By taking the example of six Highland communities, the article comments on the relationship between participation and older people’s health and wellbeing within the rural context. Moreover, it identifies a number of key factors that influence participation. By doing this the paper presents a model of an ‘ideal participant’. The article concludes by commenting on the interconnectedness of rural context, older people’s health and wellbeing and the sustainability of remote communities.

Review of Community Based Health Insurance Schemes in Cameroon

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Community based health insurance schemes, or micro-insurance schemes, are often seen as a building block for universal health coverage by providing a health financing mechanism in resource poor settings. However, successful scale up of micro-insurance schemes has proven difficult in many African countries. Cameroon developed a national strategic plan for scale up of micro-insurance in 2006. However, significant scale up has not been realized due to lack of knowledge of how schemes function and target the poor. From July 2009 to January 2010, with funding from the African Development Bank, EPOS Health Management in partnership with SAILD conducted a baseline study with the following objectives: (1) identify and analyze alternative health financing mechanisms which exist in Cameroon; (2) measure the impact of these alternatives on equity. A survey was conducted in 81 health facilities across all districts of Cameroon. Facilities were chosen based on type of service provider (public, private etc), patient frequentation, geographic distribution, and accessibility. Both patients and health facility managers responded to a series of questions designed to explore topics such as: services covered, cost of services, management of schemes and quality of care. Results from the study showed that there is great variety in the type of health services covered by micro-insurance schemes and the corresponding cost to the patient based on the type and location of service provider. Additionally, micro-insurance schemes often lack regulation, oversight, staff and planning in order to meet patient needs. Poor quality of care, such as stock-out of medicines also results in lower enrolment rates or non-renewal of enrolment in micro-insurance schemes. This combination of variable pricing with poor management has limited the effectiveness of the schemes to reach the targeted population and therefore significantly improve access to health services. Recommendations for the establishment of effective micro-insurance schemes include introduction of standardized pricing, and the introduction of quality controls.

Work Disability Trajectories after Permanent Impairment from a Work Accident

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Few studies have investigated the labor-market earnings success of individuals sustaining a permanent impairment from a work accident. The lack of studies is a reflection of the fact that longitudinal data sources to study the issue are not readily available. We exploit a novel data linkage to determine the post-accident labor-market earnings success of workers' compensation claimants over a period of ten years post accident. The study is based on a linkage of data from a Canadian workers' compensation program with the Longitudinal Administrative Databank, a 20% longitudinal sample of Canadian tax filers. Our final linked sample contains approximately 29,000 claimants. We use a robust cohort-control matching process to identify controls with similar socio-demographic and labor-market earnings characteristics. The key matching characteristic is an individual's earnings trajectory in the four years prior to the accident year. We develop graphs that depict the proportion of claimants within each impairment bracket that had labor-market earnings in four quartiles, relative to controls: 1) less than 25% of control earnings, 2) between 25-50%, 3) 50-75%, and 4) greater than 75%. We find that the distribution of earnings recovery is quite variable within each impairment bracket. Within the 1-5% impairment bracket, approximately a quarter of the sample recovered less than 25% of their matched control earnings and approximately half recovered more than 75%. Interestingly, only a small proportion is in the middle ranges, i.e., recovering between 25-75% of their control earnings. A similar pattern of polarized income recovery is found for all impairment brackets. This suggests that most claimants are either able to fully engage in the labor force and recover a substantial amount of income, or end up being only loosely engaged and recover a modest amount. Experiences are polarized, with the middle ground being experienced by few. These findings have important implications for disability policy and for workers' compensation programs.

Economics of Managing Patient Safety

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Patient Safety (: the identification, analysis, and reduction of preventable risks associated with treating patients in the healthcare system) is a relative new and fast growing area of research and application. Many hospitals for instance are now involved in planning for or even starting to implement a so-called “patient safety management system”(PSMS). This development is creating the need to evaluate and adapt state-of-the-art business models, performance measurement and control, etc. specifically for healthcare in such a way as to integrate these new PSMSs within existing control models in hospitals. This fits in with the already growing interest in the healthcare sector in general on the part of economists and accountants.

In this paper we will first briefly describe the mission and research model of the EcAPS group in Hasselt which is specifically focused on this challenge. Some first theoretical exercises in selecting suitable economic control models are presented., and we will outline the barriers towards building the PSMS “business case”. Examples will be given of these and other attempts to “build a bridge” from Economics towards Patient Safety.

The other approach, “building a bridge” from Patient Safety towards Economics, will be illustrated by presenting the results from EcAPS projects aimed at improving the cost-benefit ratio of well known PSMS risk analysis techniques: the retrospective incident analysis technique PRISMA-medical and the predictive risk identification approach HFMEA. PRISMA has been fine-tuned over the years to allow efficient, reliable, and valid causal analysis of reported medical adverse events and near-misses, and may be used as the basis for a standard minimal dataset for networks of cooperating hospitals and medical specialties. For HFMEA, slim versions have been developed and empirically tested, reducing the required number of personhours per analysis.

Finally, we will discuss a multidisciplinary research agenda to outline the way forward.

Cost-Effectiveness of Interventions to Reduce Overweight and Obesity in Australia: Diet & Exercise and Pharmacotherapy

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Analysing the Impact of Preventive Medicine on Human Infections of Adults and the Associated Health Insurance Cost

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Background: Patients and physicians acting on their behalf may over consume drugs relative to their value because of insurance coverage, this phenomenon is called moral hazard and it occurs with all insurance as long as the insured can affect the liability. Therefore insurers attempt to minimize moral hazard through cost sharing. All copayments encourage less use and formularies direct patients to generic drugs or alternatives that are “less” expensive to the insurance. The drugs in Switzerland is divided in B (basic= complete reimbursement by the basic insurance), HL, MC reimbursed only if co-insurance and LN never reimbursed.

Rationale & Objectives: The purpose of this study is to test the hypothesis that vitamins (HL), as well as plant drugs (MC), could make a difference in the immune system of an individual and his health, which can be measured by the consumption level of antibiotics. Once such hypothesis is investigated, the total expenditure for health of the individuals who use prevention drugs can be measured and compared to the sample which doesn't use prevention medication. Total expenditure of health will be calculated over 5 years and it will include the cost of all medicines and an added fix cost attributed to the number of doctor visit. If the total cost of the first group is significantly less than the second group then one could suggest that complementary drugs such as vitamins and plant extracts should be included in the basic health insurance coverage in Switzerland.

Methods: The total file includes 17304 Swiss patients born between 1945 and 1960. Five years of historical medical records are considered (2004 to 2008) for those patients 11575 received treatment and 3120 of them received vitamins. We identify and tag the patients who use the complementary medicine in our sample. Then we need to identify and tag a similar sample of patient who does not use any preventive or complementary medicine. Factors include sex, age and if any chronic illness. We run statistical tests to check if the two sub-populations are statistically different. In order to do that we will use statistical tests such as ANOVA .If the two sub-populations are confirmed to be different, we will run factor Analysis and machine learning algorithms (e.g. decision and classification trees) that would allow us to confirm that the key factors that underlie the difference between the two sub-populations is indeed the use of antibiotics. As we will be measuring the consumption level of antibiotics, the hypothesis to be tested is whether the population which uses preventive drugs is overall less sick (less antibiotics), and therefore costs less to the health insurance industry or not.

Results: This is an ongoing study, the full study results are expected beginning of March.

Discussion: The hypothesis may not prove to be true, i.e. preventive medicine doesn't influence the antibiotics consumption and therefore this population costs more to the health insurance without evidence of strong health benefits.

If this is confirmed by the analysis, then one could suggest that the current health insurance system is sound. This would mean that vitamins and plant extracts need to remain HL and MC and not included in the basic health insurance policy.

Environmental Exposures, Children's Health and Parents' Labor Market Decisions in the United States: The Role of Asthma

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Many studies have shown an association between air pollution and asthma exacerbation. Economists have often valued the economic benefits of a reduction in asthma attacks in children by applying the Cost-of-Illness approach without taking into account the long-term impact of children's health on parents' labor market decisions. This study explores how the presence of an asthmatic child affects (i) mothers' labor force participation; (ii) mothers' and fathers' number of work hours, and (iii) mothers' and fathers' earnings and hourly wages. In addition, it addresses the question: are there age-specific differences on the effects of child health on parents' labor market outcomes? I consider single mothers, and mothers and fathers with partners. I control for parents' unobserved heterogeneity and sample selectivity. The analysis is based on data from the Medical Expenditure Panel Survey for U.S. households with children 0-17 years old from 1996 to 2002. The results show that in quantifying the benefits of reducing pollution economists should also consider the labor market impacts of children health. In particular, my results suggest that single mothers are the most affected group, and that there are significant children agespecific differences. Having an asthmatic child significantly reduces wages and the probability of being a labor force participant of single mothers, and not of mothers with partners. The contemporaneous effect of having an asthmatic child on the hours of work of single mothers is negative, while it is positive for mothers with partners. In addition, my findings suggest that the most affected groups are not only mothers with asthmatic toddlers or preschoolers but surprisingly, also mothers' with asthmatic adolescents. Finally, fixed-effects estimates suggest that the group most affected is fathers with an asthmatic child less than six years old. They experience a significant increase in weekly work hours and a significant decrease in their wages.

Integrating Community-based Care for Older Persons: Confronting the Dilemma of Rising Health Cost and Aging Populations

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Policy-makers across the industrialized world now face the dilemma of sustaining already stretched healthcare systems while meeting the needs of aging populations. In Canada, as elsewhere, there is fear that the rising demands of a “tsunami” of older persons living longer with multiple chronic conditions will overwhelm available resources.

In this paper we argue that a disaster scenario may well be true for fragmented “non-systems” of care which persist in many jurisdictions. While adequate for short-term care, unconnected services or “silos” are fundamentally incapable of addressing ongoing, complex needs in a coherent and cost-effective manner.

It is in this context that integrating community-based health and social care for older persons is seen to hold particular promise. By organizing services in ways which maintain health status and functional capacity so that care needs are minimized, or, when care is needed, by substituting less costly care in home and community for more costly, and often inappropriate care in hospitals and institutions, integrating initiatives can improve well-being, quality of life and independence while moderating system costs. Here, we draw on our recent scoping review of the international literature to present examples of successful integrating initiatives in Canada, the U.S. and Europe and to synthesize fundamental design principles transferable across jurisdictions. These include stratifying needs so that available resources can be targeted at the most vulnerable individuals who are also among the most intensive users of costly care; employing a range of care management techniques, including self-management, to organize care around individual needs even within fragmented systems; and spanning the widest possible range of health and social care to allow for “downward substitution,” the most appropriate use of community-based care in place of hospital and institutional care.

A Comparative Exploration of the World's most Vulnerable Groups: Socioeconomic Differences and the Influence of Global Welfare Regimes on Personal Health in 46 Countries

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Background: Investigations of the relationship between welfare regime (i.e., national factors) influences on health are mainly conducted in Europe. We examine socioeconomic differences and the impact welfare regimes might have on personal health in low, middle and high income countries.

Methods: The World Health Survey data are analyzed on 204,107 people. Multilevel logistic regression is used to estimate global welfare regime differences in self-reported disability according to individual educational attainment and employment status.

Findings: Differences in disability by welfare regime were evident and varied by educational attainment and employment status. Results indicated that people are at an advantage health wise when living in some type of state-organized regime, especially for the low educated. The productivist regime of South East Asia, showed notable results, with low, middle and high educated citizens reporting very low prevalence of disability, poor health odds ratios (OR) being 1.11 (95% CI 0.77-1.61), 0.91 (95% CI 0.59-1.38), 0.75 (95% CI 0.36-1.55) respectively. Sub-Saharan Africa performed as presumed, with disability prevalence being highest amongst its citizens, and this was also the case for the informal-security regime of South Asia.

Conclusion: State-organized welfare regimes seem to provide the most health protection to the most vulnerable groups as opposed to non-state regimes. Interesting results were observed in the productivist regimes, with prevalence of poor health to a large extent being on par with the conservative regime of continental Western and Southern Europe.

Do Adult Children Insure Elderly Parents against High Medical Expenditure and Low Retirement Income?

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Population aging becomes a prominent problem for the countries that experienced a decline in fertility rate and an increase in life expectancy during the past three decades. The support for the elderly is facing big challenges. Large pressure is put on social security programs and the provision of health services. Monetary transfer from adult children to elderly parents could provide some insurance against high medical expenditure and low retirement income.

In literature, there are two main motives for private transfer, i.e., altruism and exchange. For altruism, people care about the welfare of their elderly parents. We would expect a negative impact of elderly parent's income on the amount of transfer they receive from their adult children. For the exchange motive, we expect positive correlation between the amount of transfer and income of elderly parents. Contributors might expect to receive some resources back in the future either in the inter-vivos transfers or in the form of bequest (McGarry, 1999).

This paper focuses on the role of medical expenditure in the determination of inter-generational and public transfers with a new household survey data, China Health and Retirement Longitudinal Study. With the conditional least square threshold model (Hansen, 1996; Chan and Tsay, 1998; Cox et al., 2004), we allow the existence of altruistic and exchange motives at the same time. The transfer derivative switches from altruistic to exchange motives at certain threshold point. We expect different slopes of transfer with respect to pre-transfer income at different level of income.

We find that transfers, especially inter-generational transfers, do respond to the demand for medical services and household pre-transfer income levels. Results are also consistent with altruistic motive for transfers. Large negative transfer derivative is found for the people with high demand for medical care and with low pre-transfer income.

**Finding Moral Hazards:
An Analysis Based on China Hospital Patient Data**

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In the past decade, China launched a series of major health care reforms, enabling over 1 billion Chinese, who used to be uninsured, to be covered by either the "Basic Medical Insurance System for Urban Employees", the "New Cooperative Medical Scheme for Farmers", or the "Basic Medical Insurance for Urban Unemployed Residents".

Reforms of such magnitude provide many institutional variations for us to examine the moral hazard problem. Using unique micro-level hospital patient data, we investigate the Chinese health care consumption behavior and find strong evidence for moral hazard. On average, the in-patient service cost of a Chinese patient with "Basic Medical Insurance for Urban Employees" increases by 29.7% compared with the uninsured one. The in-patient service cost of a Chinese patient under the "New Cooperative Medical Scheme for Farmers" increases by 14.5%.