2016

Health Economics, Management & Policy Abstracts

Fifteenth Annual International Conference on Health Economics, Management & Policy 20-23 June 2016, Athens, Greece

Edited by Gregory T. Papanikos

THE ATHENS INSTITUTE FOR EDUCATION AND RESEARCH

Health Economics, Management & Policy Abstracts

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(In Alphabetical Order by Author's Family name)

Preface

This abstract book includes all the summaries of the papers presented at the *15th Annual International Conference on Health Economics, Management & Policy, 22-25 June 2016*, Athens, Greece, organized by the Health Research Unit of the Athens Institute for Education and Research. In total there were 28 papers and 31 presenters, coming from 17 different countries (Albania, Canada, Colombia, Denmark, France, Germany, Korea, Indonesia, Italy, Poland, Spain, Switzerland, Taiwan, the Netherlands, Turkey, UK, and USA). The conference was organized into seven sessions that included areas of Health Economics and other related fields. 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 and/or journals 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 150 international conferences and has published over 100 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
President

FINAL CONFERENCE PROGRAM
15th Annual International Conference on Health Economics, Management & Policy 20-23 June 2016, Athens, Greece

Conference Venue: Titania Hotel, 52 Panepistimiou Street, 10678 Athens, Greece

Monday 20 June 2016
(all sessions include 10 minutes break)

08:00-08:30 Registration and Refreshments

:30-09:00 Welcome & Opening Address (ROOM B-Mezzanine Floor)

- Gregory T. Papanikos, President, ATINER.
- George Poulos, Vice-President of Research, ATINER & Emeritus Professor, University of South Africa, South Africa.

09:00-10:30 Session I (ROOM A-Mezzanine Floor): Policy & Reforms I

Chair: Olga Gounta, Researcher, ATINER.

1. David Hotchkiss, Professor and Vice Chair, Department of Global Community Health and Behavioral Sciences, Tulane University, USA. Improving Financial Risk Protection in Fragile and Conflict Affected Countries: Evidence from the Democratic Republic of Congo.
2. Eugena Stamuli, Research Fellow, University of York, U.K., Gerry Richardson, Senior Research Fellow, University of York, U.K., Michelle Edwards, Research Associate, Cardiff University, U.K., David Torgerson, Director, University of York, U.K., Kerry Hood, Director, Cardiff University, U.K., Julia Sanders, Consultant Midwife, Cardiff University, U.K., Bernard Van den Berg, Professor, University of Groningen, U.K. & Michael Robling, Director, Cardiff University, U.K. Valuing the Outcomes of a Home Visiting Intervention for Young Mothers and Their Babies: A Discrete Choice Experiment Based on the Evaluation of the Family Nurse Partnership Programme in England.
3. Aurore Pelissier, Post-Doctoral Researcher, Université de Bourgogne, France, Virginie Melloux, Research Engineer, Université de Bourgogne, France & Sophie Bejean, Professor, Université de Bourgogne, France. Financing Medical Group Practices in France: A Discussion on the French Experiment with Regard to International Experience and the Framework of Economic Theory.
4. Milena Lopreite, Post-doc Researcher, University "Magna Graecia"

of Catanzaro, Italy & Marianna Mauro, Professor, University "Magna Graecia" of Catanzaro, Italy. Population Ageing and Health Expenditure. A Bayesian VAR Analysis on Italy.

10:30-12:00 Session II (ROOM A-Mezzanine Floor): Cancer Issues

Chair: David Hotchkiss, Professor and Vice Chair, Department of Global Community Health and Behavioral Sciences, Tulane University, USA.

1. Anne Oduber Penaloza, Economics Research Director, Universidad Autonoma de Bucaramanga, Colombia. Does Matter the Prevention Campaign in the Cervix Cancer? Case Study from Brazil.
2. Panayotis Constantinou, Resident/Junior Doctor in Public Health, INSERM (French National Institute of Health and Medical Research), France, Jonathan Sicsic, Statistician and Economist, Post-doctorate in Health Economics, INSERM (French National Institute of Health and Medical Research), France & Carine Franc, Economist, Researcher in Health Economics, INSERM (French National Institute of Health and Medical Research), France. Effect of Pay-For-Performance on Cervical Cancer Screening Uptake in France.
3. Marius Huguet, MPhil Student, University of Lyon, France, Olivia Bally, Oncologist, Centre Léon Bérard, France, Fadila Farsi, Coordinator of the "Reseau Espace Sante Cancer Rhône-Alpes", Centre Léon Bérard, France, David Benayoun, Gynecologist Oncologist, Centre Hospitalié Lyon Sud, France, Pierre De Saint Hilaire, Gynecologist Oncologist, Hospices Civils de Lyon, France, Dominique Beal Ardisson, Oncologist, Hôpital Privé Jean Mermoz, Lyon, France, Patrick Arveux, Epidemiologist, Centre Georges François Leclerf, Dijon, France, Anne-Valérie Guizard, General Practitionner, Centre François Baclesse, Caen, France, Magali Morelle, Statistician, Centre Léon Bérard, France, Nathalie Havet, Associate Professor, University of Lyon, France, Xavier Joutard, Professor, University of Aix-Marseille, France, Claire Chemin-Airiau, Clinical Research Associate, University of Lyon, France, Amandine Charreton, Clinical Research Associate, Centre Léon Bérard, France, Isabelle Ray-coquard, Oncologist, Centre Léon Bérard, France & Lionel Perrier, Manager of the Area "Innovations and Strategies", Clinical Research and Innovation Direction (DRCI), Centre Léon Bérard, France. Association between Treatment and Disease Free Survival for an Exhaustive Cohort of Epithelial Ovarian Carcinoma Patients in the Rhône-Alpes Region (France) Using a Counterfactual Approach.

12:00-13:30 Session III (ROOM A-Mezzanine Floor): Obesity and Other Essays

Chair: Anne Oduber Penaloza, Economics Research Director, Universidad Autonoma de Bucaramanga, Colombia.

1. Vivian Chia-Rong Hsieh, Assistant Professor, China Medical University, Taiwan. Advancing Population Health Through Universal Health Coverage for Primary Health Care in Low- and Middle-Income Countries.
2. Paramita Dhar, Assistant Professor, Central Connecticut State University, USA & Christina Robinson, Associate Professor, Central Connecticut State University, USA. Physical Activity and Childhood Obesity amongst SNAP Participants.
3. Athina Raftopoulou, Ph.D. Candidate, University of Barcelona, Spain. Spatial Determinants of Individual Weight Status and Obesity Risk in Spain: A Multilevel Approach.

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14:30-16:00 Session IV (ROOM A-Mezzanine Floor): Special Issues on Health Sciences

Chair: Paramita Dhar, Assistant Professor, Central Connecticut State University, USA.

1. Kateryna Chepynoga, Ph.D. Student, University of Lausanne, Switzerland, Gabriela Flores, Junior Lecturer, University of Lausanne, Switzerland & Jurgen Maurer, Professor, University of Lausanne, Switzerland. Assessing Medicines' Affordability among Individuals with Chronic non-Communicable Diseases in Low- and Middle-Income Countries: The Interplay of Drug Prices, Social Epidemiology and Unmet Needs.
2. Marina Treskova, Research Assistant, Gottfried Wilhelm Leibniz University Hannover, Germany, Alexander Kuhlmann, Gottfried Wilhelm Leibniz UniversityHannover, Germany, Johannes Bogner, University Hospital ofMunich, Germany, Martin Hower, Klinikum Dortmund, Germany, Hans Haiken,Practice Georgstraße, Germany, Hans-Jürgen Stellbrink, Infektionsmedizinisches Centrum Hamburg, Germany, Jörg Mahlich, Janssen-Cilag, Johann-Matthias Graf Von Der Schulenburg, Gottfried Wilhelm Leibniz University, Germany & Matthias Stoll, Hannover Medical School (MHH), Germany. Analysis of Contemporary HIV/AIDS Healthcare Costs in Germany: Driving Factors and Distribution Across Antiretroviral Therapy Lines.
3. Auliya Abdurrohim Suwantika, Researcher, Universitas Padjadjaran,

Indonesia, Eli Halimah, Universitas Padjadjaran, Indonesia, Keri Lestari, Universitas Padjadjaran, Indonesia & Maarten J. Postma, University of Groningen, The Netherlands. Implementation of Non-Traditional Vaccinations in Indonesia.

4. Nilgun Sarp, Director of Health Science Institute, Bahçeşehir Üniversity, Turkey. Syrian Refugees in Turkey and Its Effects to the Nation.

17:30-20:00 Session V (ROOM A-Mezzanine Floor): A Round Table Discussion on 'The Future of Sciences, Engineering and Technology'

Chair: Lampros A. Pyrgiotis, Scholar & President, Greek Society of Regional Scientists, Greece.

1. Dr **Miryam Barad**, Professor, Tel Aviv University, Israel.
2. Dr **Rolf Steinbuch**, Professor, Reutlingen University, Germany
3. Dr **Venkatachalam Rapur**, Professor, National Institute of Technology, India.
4. Dr **Ru-Shi Liu**, Professor, National Taiwan University, Taiwan.
5. Dr **Mahmoud Aminlari**, Professor, Shiraz University, Iran.
6. Dr **Ingo Ehrlich**, Professor, Ostbayerische Technische Hochschule Regensburg, Germany.
7. Dr **Theodore Trafalis**, Head, Industrial Engineering Research Unit, ATINER, Professor of Industrial and Systems Engineering & Director, Optimization & Intelligent Systems Laboratory, The University of Oklahoma, USA.

21:00-23:00 Greek Night and Dinner (Details during registration)

Tuesday 21 June 2016

08:00-09:30 Session VI (ROOM A-Mezzanine Floor): Contemporary Challenges

Chair: *Wenjiang Fu, Professor, University of Houston, USA.

1. Przemyslaw Kardas, Head of the First Department of Family Medicine, Medical University of Lodz, Poland, Pawel Lewek, Research Fellow, Medical University of Lodz, Poland, Mary Kontouli - Geitona, Associate Professor, University of Peloponnese, Greece, Anastasia Balasopoulou, President and CEO, Hospital Management Scientific Center, Greece & Alpana Mair, Deputy Chief Pharmaceutical Officer for Scotland, Healthcare Quality and Strategy Directorate, Scottish Government Health Department, Scotland. Benchmarking of the Strategies of Polypharmacy and Medication

Non-Adherence Management in European Elderly - Results of the Pilot Study.
2. Laure Wallut, Ph.D. Student, Université de Bourgogne France Comté, France & Christine Peyron, Lecturer, Université de Bourgogne France Comté, France. Does a Telemedicine's Public Policy Improve Healthcare Quality and Save Costs? Evidences from a French Telestroke Project.
3. Marsida Duli, Health Advisor of Minister of Health, Albania & Qamil Dika, Professor, ''Ismail Qemali'' University, Albania. Albanian Health Policy in Prevention of Chronic Kidney Disease.

09:30-11:00 Session VII (ROOM A-Mezzanine Floor): Health Economics - Cost Analysis

Chair: *Mirella Koenjer, Head, Department of ICU, Gelre Hospitals Apeldoorn, The Netherlands.

1. *Peter Spronk, Director, ICU and Research, Gelre Hospitals Apeldoorn, The Netherlands, Satoru Hashimoto, Kyoto Prefectural University of Medicine, Japan, Stephen Streat, Auckland City Hospital, New Zealand & Donald Chalfin, Thomas Jefferson University, USA. Costs Related to Intensive Care Treatment Should be Reimbursed by an Aggregate and Separate Parameter.
2. *Wenjiang Fu, Professor, University of Houston, USA, Martina Fu, Student, Stanford University, USA, David Todem, Associate Professor, Michigan State University, USA & Shuangge Ma, Associate Professor, Yale University, USA. Bias and Artifact Trade-off in Modeling Temporal Trend of Archived Data with Applications to Public Health Studies, Health Economics and Marketing Research.
3. Helen-Maria Vasiliadis, Associate Professor, University of Sherbrooke, Canada. Cost-Utility of Increasing Access to Psychological Services for Depression in Canada: Discrete Event Simulation Modelling within GP Gatekeeper System.
4. Arturo Vargas Bustamante, Associate Professor, UCLA, USA & Sandhya Shimoga, Assistant Professor, California State University Long Beach, USA. Comparing the Income Elasticity of Health Spending in Emerging and OECD Countries.
5. *Mohammad Abdullah, Research Associate, University of Manitoba, Canada, Stephanie Jew, Research Coordinator, University of Manitoba, Canada & Peter Jones, Director and Professor, University of Manitoba, Canada. Socioeconomic Analysis Reveals Significant Healthcare Cost Savings from Intakes of Monounsaturated Fatty Acid the United States.

11:00-14:00 Educational and Cultural Urban Walk Around Modern and Ancient Athens (Details during registration)
14:00-15:00 Lunch

15:00-16:30 Session VIII (ROOM A-Mezzanine Floor): Policy & Reforms II

Chair: *Peter Spronk, Director, ICU and Research, Gelre Hospitals Apeldoorn, The Netherlands.

1. *Mirella Koenjer, Head, Department of ICU, Gelre Hospitals Apeldoorn, The Netherlands, José G.M. Hofhuis, Gelre Hospitals Apeldoorn, The Netherlands & Peter Spronk, Director, ICU and Research, Gelre Hospitals Apeldoorn, The Netherlands. Influence of Patients and Stakeholders on Hospital Healthy Policy Making – A Qualitative and Quantitative Approach. (Tuesday June 21, 2016)
2. Dilek Kilic, Assistant Professor, Hacettepe University, Turkey & Selcen Ozturk, Assistant Professor, Hacettepe University, Turkey. Equity in the Utilization of Health Care Services in Turkey; Evidence from 2012 Health Survey.
3. Sayin San, Assistant Professor, Sakarya University, Turkey, Selman Delil, Ph.D. Candidate, Istanbul Technical University, Turkey & Rahmi Nurhan Celik, Professor, Istanbul Technical University, Turkey. Beyond a Health-related Issue: Socioeconomic Determinants of Patient Mobility in Turkey.
4. Tata Chanturidze, Principal Consultant, Health Policy and Financing, Oxford Policy Management, U.K. & Antonio Duran, Principal Consultant, Health Service Governance, Organization and Purchasing, Andalusian School of Public Health, Spain. Aligning Financing, Governance and Service Delivery to Build Up Better Health Systems, the Kazakhstan Reform Experience. (Tuesday June 21, 2016)
5. *Abdulfatah Adam, Ph.D. Student, University of Copenhagen, Denmark & Sinne Smed, Associate Professor, University of Copenhagen, Denmark. The Effects of Different Types of Taxes on Soft-Drink Consumption.

16:30-18:00 Session IX (ROOM A-Mezzanine Floor): Special Issues

Chair: *Effie Bastounis, Postdoctoral Scientist, Stanford University, USA.

1. Marine Coupaud, Ph.D. Student, University of Bordeaux, France. A Multilevel Analysis of the Determinants of Health at Work in the EU15: The Impact of Commercial and Financial Integrations.
2. Yong-Suk Jang, Professor, Chonbuk National University, Korea, Sae-

Hae Kim, Associate Professor, Chonbuk National University, Korea & Yu Na Kim, Graduate Student, Chonbuk National University, Korea. Butyrate, a Microbiota-Derived Metabolite, in Gut Regulates the Innate Lymphoid Cells and Contributes the Homeostatic Maintenance of Peyer's Patches of Terminal Ileum.

21:00-22:30 Dinner (Details during registration)

Wednesday 22 June 2016
Cruise: (Details during registration)

Thursday 23 June 2016
Delphi Visit: (Details during registration)

Mohammad Abdullah
Research Associate, University of Manitoba, Canada
Stephanie Jew
Research Coordinator, University of Manitoba, Canada
&
Peter Jones
Director and Professor, University of Manitoba, Canada

Socioeconomic Analysis Reveals Significant Healthcare Cost Savings from Intakes of Monounsaturated Fatty Acid the United States

Background: Recent years have witnessed an expansion in production and popularity of monounsaturated fatty acid (MUFA) rich oils for cooking applications and as ingredients in food products. These include olive oil (73%), high-oleic canola oil (73%), high-oleic safflower oil (75%), and high-oleic algal oil (90%). Given the increasing burden of healthcare budgets secondary to diet-related disorders and emerging scientific evidence associating higher MUFA intakes with improved health, the economic implications of the shift in dietary fatty acid intakes among populations are potentially substantial. **Objective:** The objective of this research was to review the relevant literature and develop a socioeconomic model in evaluation of the healthcare and societal cost savings of increased MUFA intakes in the United States (US). **Design:** A scoping review on the health influences of MUFA rich oils was conducted and a cost-of-illness analysis developed to assess the financial costs hypothetically be saved when different proportions of the US men and women ≥18 years consume 17% of their daily calories as MUFA. Costs of coronary heart disease (CHD) and diabetes were considered and cost reductions with improvements in total cholesterol and glycated hemoglobin, as biomarkers of the diseases of interest, following MUFA consumption were calculated. **Results:** If between 10% and 100% of the US adult population increased their MUFA intakes to 17% of daily total energy, the potential savings in costs of CHD and diabetes risk combined would range from USD$1.2 to $40.0 billion each year over the course of 0-2 years and ≥10 years, respectively. With 25% and 50% of the population increasing their daily level of MUFA intake to 17% of energy, sensitivity analyses predict cost savings that would range between USD$7.9 and $18.4 billion annually over 5 years and up to 12 years, respectively. **Conclusion:** Significant healthcare and societal cost savings could accompany improvements in heart health and glycemic status with attainable levels of dietary MUFA rich oil consumption in the US.

Auliya Abdurrohim Suwantika
Researcher, Universitas Padjadjaran, Indonesia
Eli Halimah
Universitas Padjadjaran, Indonesia
Keri Lestari
Universitas Padjadjaran, Indonesia
&
Maarten J. Postma
University of Groningen, the Netherlands

Implementation of Non-Traditional Vaccinations in Indonesia

Despite its steadily increasing economic level, Indonesia is still facing many challenges to introducing non-traditional vaccines. This paper proposes a framework for introducing non-traditional vaccines in Indonesia by using rotavirus and hepatitis A immunization as two reference cases. Given its relatively limited immunization budget, the implementation of non-traditional vaccines in Indonesia appears to be strongly dependent on the financial arrangement of the immunization programs. Exploration of new sources of development financing is required to ensure the sustainability of new additional programs. Identifying barriers and choosing financial plans are also fundamental aspects in the health sector, and should be fully integrated into the planning and management of the Expanded Program on Immunization (EPI) in Indonesia.

Abdulfatah Adam
Ph.D. Student, University of Copenhagen, Denmark
&
Sinne Smed
Associate Professor, University of Copenhagen, Denmark

The Effects of Different Types of Taxes on Soft-Drink Consumption

Monthly data from GfKConsumerscan Scandinavia for the years 2006 – 2009 are used to estimate the effects of different tax scenarios on the consumption of sugar sweetened beverages (SSB's). Most studies fail to consider demand interrelationships between different types of soft-drinks when the effects of taxation are evaluated. To add to the literature in this aspect we estimated a two-step censored dynamic almost ideal demand system where we include the possibilities that consumers have to substitute between diet and regular soft-drinks, between discount and non-discount (normal) brands as well as between different container sizes. Especially the large sizes and discount brands provide considerable value for money to the consumer. Three different type of taxes is considered; a tax based on the content of added sugar in various SSB's, a flat tax on soft-drinks alone and a size differentiated tax on soft-drinks that remove the value for money obtained by purchasing large container sizes. The scenarios are scaled equally in terms of obtained public revenue. Largest effect in terms of reduced intake of calories and sugar are obtained by applying the tax on sugar in all beverages, even though detrimental health effects in terms of increased intake of diet soft-drinks has to be considered. A flat tax on soft-drinks decreases the intake of sugar, but implies a small increase in total calorie intake due to substitution with other SSB's. A tax aimed at removing the value added from purchasing large container sizes increase sugar and total calorie intake due to substitution towards discount brands. Hence the results show the importance of considering substitution between different sizes, brands and discount versus normal brands when simulating the effects of soft-drinks taxation and point toward a tax on the sugar content of SSB's as the most effective in the regulation of obesity.

Tata Chanturidze
Principal Consultant, Health Policy and Financing, Oxford Policy Management, UK
&
Antonio Duran
Principal Consultant, Health Service Governance, Organization and Purchasing, Andalusian School of Public Health, Spain

Aligning Financing, Governance and Service Delivery to Build up Better Health Systems, the Kazakhstan Reform Experience

Attaining better health of the population through health system reform has been a long standing challenge globally and especially in the so-called countries in rapid transition to a market economy. While the issue is multi-dimensional, aligning health financing, governance and service delivery transformations has been postulated with renewed emphasis recently. The complexity is mainly rooted in Government's capability to articulate synchronised developments in these three directions, and translate them into an effective implementation process with the right resources, capabilities, and commitment.

A decade ago, Kazakhstan embarked in an ambitious health sector reform to improve the effectives and efficiency of its health system, including transformations in health financing and service purchasing, as well as in health service organization, management, delivery and regulation. The role of the State has changed by pulling back from a direct service provider to mostly a regulatory role, followed with the recent initiatives to delegate the service purchasing function to a Social Health Insurance Fund (to be fully operational from 2017, with modern service purchasing mechanisms for inpatient and outpatient care). New approaches to provider organization and governance have stimulated greater autonomy in service provision. The latest move has been to accelerate the achievement of UHC by merging budget and SHI funding.

While the reform is still ongoing and economic resources are, in general, sufficient, the quite ambitious and very much needed reform pathway followed by the Kazakhstan Government offers numerous lessons. This paper examines some of the critical accomplishments and challenges in implementing the concerned changes. It suggests that the success of compound health sector reforms in similar settings would depend on (i) aligning health system governance, service delivery and financing policies in terms of objectives, approaches and instruments,

and (ii) recognising and addressing the practical operational realities of the implementation process.

Kateryna Chepynoga
Ph.D. Student, University of Lausanne, Switzerland
Gabriela Flores
Junior Lecturer, University of Lausanne, Switzerland
&
Jurgen Maurer
Professor, University of Lausanne, Switzerland

Assessing Medicines' Affordability among Individuals with Chronic non-Communicable Diseases in Low- and Middle-Income Countries: The Interplay of Drug Prices, Social Epidemiology and Unmet Needs

Medicines are considered to be the core tool for non-communicable chronic diseases' (NCDs) control however its affordability remains open to question. On the one hand price differentiation policies in favour of developing countries continue to be widely applied together with active substitution of originator branded medicines by its generic copies. On the other hand scientific literature suggests that inadequate financial coverage for health and necessity to pay for medicines out-of-pocket continue to raise problems of medicines' unaffordability in low- and middle-income countries (LIC and LMIC). Current study proposes to measure unaffordability of generic medicines used to control NCDs considering disease prevalence and its correlation with patients' socio-economic status as well as their unmet needs in medicines what has being ignored so far.

Drugs were estimated to be unaffordable for chronic patients' 1) being below the poverty line (PL) even before paying for medicines and 2) pushed into poverty after making expenditures on medicines as well as after hypothetical purchase of a necessary drug for patients with diagnosis and symptoms but with unmet needs in treatment. Except for measuring quantity of patients for whom medicines are unaffordable poverty gap was estimated showing average shortfall in their income relative to the PL due to paying for medicines. The cheapest generic drugs used to control 4 NCDs (angina pectoris, asthma, arthritis and depression) in 12 LIC and LMIC were selected for the analysis from Health Action International dataset. World Health Survey provided information on individuals' living standards and epidemiology.

Unaffordability of medicines used to control only 4 chronic diseases was estimated to reach on average 11.8 and 13.6 percentage points in total population of LIC and LMIC with more than 30% and 12% of this rate being driven by unmet needs. Simultaneously among chronic patients with NCDs which ratio accounted for more than ⅓ of

countries' population, around 40% and 35% were found not to be able to pay for medicines' treatment without being pushed into poverty. As well up to 50% of patients' basic needs fulfilment had to be sacrificed in favour of buying drugs. Research had shown that in LIC unaffordability is more driven by higher prices while in LMIC - by higher diseases' prevalence. Furthermore it was identified that non-consideration of unmet needs may lead to sound underestimation of medicines' unaffordability rate.

Results pointed out that policy actions are required to protect chronic patients from poverty due to buying medicines and thus incentivising them to follow treatment. In particular except for applying regulation policies for decreasing cost of medicines, subsidies' coverage is necessary for chronic patients from lowest quintiles of socio-economic groups to ensure their essential drugs' consumption.

Vivian Chia-Rong Hsieh
Assistant Professor, China Medical University, Taiwan

Advancing Population Health through Universal Health Coverage for Primary Health Care in Low- and Middle-Income Countries

Since the 2010 World Health Report, the call for universal health coverage (UHC) has been reiterated amongst countries globally. There is currently an emerging consensus on the approaches to achieve UHC, although much empirical evidence is still imperative to elucidate the causal relationship between population health and its effective predictors. This study will build on our previous work [Asia Pac J Public Health July 15, 2013], which identifies a significant positive impact on population health through health service coverage expansion using a cross-sectional design.

In this panel analysis, we aim to describe the link between primary health care coverage and the change in health outcomes of low-and middle-income countries (LMICs) from year 2000 to 2012. A national-level panel dataset is compiled from two time points at 2000 and 2012 accounting for 144 LMICs by World Bank income grouping. Primary data sources include World Health Organization's World Health Statistics and United Nation's Human Development Report. We measure explanatory variables encompassing health financing, public health provision and primary care, to try to measure access to essential care and financial contribution to health systems. They are examined for their association with health indicators: life expectancy at birth and under-5 mortality. We derive effect estimates from multiple linear regression approach conducted separately by year, and compare their relative contribution to population outcomes. Models are adjusted for country's gross national income and weighted by its population size.

In general, our results show a strong link between expansions in public health provision and improvement in population health. Higher total expenditure on health, however, do not give rise to similar gains in LMICs. Thus, we suggest it is not so much about the magnitude of expenditure invested in health care as it is about making public health and primary care services available and be used by everyone.

Panayotis Constantinou
Resident/Junior Doctor in Public Health, INSERM (French National Institute of Health and Medical Research), France
Jonathan Sicsic
Statistician and Economist, Post-doctorate in Health Economics, INSERM (French National Institute of Health and Medical Research), France
&
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Effect of Pay-For-Performance on Cervical Cancer Screening Uptake in France

Background: Pay-for-Performance (P4P) has been increasingly used across different healthcare settings to incentivize the provision of targeted services. In France, a nationwide P4P scheme for general practitioners (GPs) has been implemented in 2012. From 2012 onwards, GPs are rewarded annually for the rate of eligible women having performed a Pap smear at least once over three years. Using a longitudinal representative dataset, we investigated the effect of P4P on cervical cancer screening.

Methods: We identified eligible women aged 25 to 65 among a permanent nationally representative sample of individuals covered by public French health insurance (Échantillon Généraliste des Bénéficiares), for the years 2006 to 2014. Different measures of cervical screening were defined: (1) annual smear use; (2) recommended screening uptake (at least one smear over three years). We specified binary panel-data models to estimate annual probabilities and compare them to 2011, the baseline level. We adjusted for available screening determinants, including the implementation of organized screening in some areas.

Results: Our longitudinal sample comprised 188274 women eligible from one to nine years each. When compared to 2011, before P4P implementation: annual smear use (1) was not significantly different in 2012, significantly higher in 2013 ($p<0.001$) and again not significant in 2014; recommended uptake (2) was lower in 2012 ($p<0.001$), not significant in 2013 and significantly higher than 2011 in 2014 ($p<0.001$). When focusing on the areas experimenting organized screening, uptake was significantly lower in 2013 than in 2011 for both measures.

Conclusions: Given that the expected positive effect on annual use (1) was only observed for 2013, recommended uptake's increase (2) is likely to be transient. Hence, P4P did not seem to sufficiently address

barriers to screening. Understanding the effects of combined incentives such as organized screening and P4P could help better promote screening and fully achieve proven mortality reduction.

Marine Coupaud
Ph.D. Student, University of Bordeaux, France

A Multilevel Analysis of the Determinants of Health at Work in the EU15: The Impact of Commercial and Financial Integrations

The workers' health in developed countries is a key topic and numerous studies have highlighted its determinants. The question now needs to be investigated within a larger spectrum including sectoral and national level determinants. In this paper, we expose the links between macroeconomic indicators and workers' health controlling for individual characteristics and working conditions variables. We introduce measures of trade and financial integration in order to test the impact of globalization on workers' declared health in the EU15. We find that workers' health is mostly impacted by individual characteristics and direct work features, globalization seems to have no effect even if some changes are observed when we analyze different samples.

Paramita Dhar
Assistant Professor, Central Connecticut State University, USA
&
Christina Robinson
Associate Professor, Central Connecticut State University, USA

Physical Activity and Childhood Obesity amongst SNAP Participants

More than one-third of American children and teenagers are considered overweight or obese. Obesity is often persistent, dangerous, and costly to manage. It is also one of the leading causes of preventable death and the importance of reducing the prevalence of obesity cannot be overstated. To combat obesity the most common recommendations are: eat a healthier diet and exercise more. In conjunction with the increase in childhood obesity rates, participation rates in Supplemental Nutrition Assistance Program (SNAP) have grown substantially.

Moreover, children growing up in SNAP families are more likely to be overweight/obese than otherwise similar children whose families do not participate in the programs. One possible explanation may be that children in these environments find that they have limited accesses to recreational facilities and/or activities. Using data from the National Longitudinal Survey of Youth 1979 Child and Young Adult Sample (NLSY79CYA) this paper seeks to quantify the relationship between physical activity and a child's propensity to be overweight or obese for SNAP participants.

More specifically, this study employs both non-parametric and semi-parametric duration analysis techniques to identify factors that make an exit from an overweight or obese state more likely. Strikingly, the results indicate that participation in a moderate amount of physical activity reduces the time a child who does not live in a SNAP family spends in an overweight or obese state but does not do the same for SNAP participants. This suggests that there are significant benefits from physical activity that are not being realized by one of the most vulnerable groups and indicates that this is an area where public programming and education may be needed.

Marsida Duli
Health Advisor of Minister of Health, Albania
&
Qamil Dika
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Albanian Health Policy in Prevention of Chronic Kidney Disease

Nowadays Chronic Kidney Disease (CKD) has increasingly come and constitutes a public health problem of paramount importance. International institutions such as the "Center for Disease Control and Prevention" identify Chronic Kidney Disease as one of the main priorities in the era of the epidemiological transition. In Great Britain were articulated operational plans for identifying subjects with renal dysfunction or low-grade of renal failure. Refer to the data is estimated that in the adult population, about 1 adult individual in every 10 individuals has a moderate degree of renal failure, which means a renal function (expressed as glomerular filtrate) half or less than half of the normal rate. In Albania the problem is virtually unknown by the population, yet little-known and widely underestimated by doctors and by the policy makers, regional and/or national government public health authorities. What is proposed is intended to create the basis of data, knowledge and determine the functional organizational structure for the prevention of kidney disease (primary prevention), to slow down their development (Secondary prevention), and to prevent dangerous cardiovascular complications caused by renal insufficiency (tertiary prevention). The end result is intended to reduce morbidity and mortality from renal diseases, and improve the quality of health care provided to patients with kidney disease.

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Bias and Artifact Trade-off in Modeling Temporal Trend of Archived Data with Applications to Public Health Studies, Health Economics and Marketing Research

In public health studies, economics and healthcare management, it is important to estimate accurately the temporal trend of disease incidence and mortality during a period of time for healthcare policy and health decision making. Often the disease mortality rate varies with the age of patients (e.g. cancer mortality), two approaches are commonly taken to estimate the temporal trend across a number of years, yet both involve a difficult modeling issue. One leads to a well-known identifiability problem in age-period-cohort model. The other requires a summary value (e.g. yearly rate or percentage) to be estimated based on a sequence of age-specific rates. The latter may be complex because of the Simpson's paradox and because the age structure varies with time due to aging of the population. Since the crude rate heavily depends on the age structure and drastically varies across time periods even if the age-specific rates or percentages remain the same, resulting in inappropriate trend estimation or comparison, a direct age-standardization (DAS) method has been employed to calculate a summary rate using the age-structure of a standard population. The same method has been applied to demography, economics and sociology.

Recently the DAS has been criticized for the lack of justification and generating statistical illusions. In this talk, we will study the DAS using statistical framework, point out that it inevitably introduces bias, and further demonstrate that using the age structure of the US 2000 Standard Population it severely overestimates the US cancer mortality rates and sales of life insurance policies, but underestimates the US cancer case fatality rates. Meanwhile, the crude rate yields incomparable summary statistics because it introduces artifact. We introduce a novel mean reference population method for a bias-artifact

trade off, which removes the artifact, minimizes the bias, and largely improves the estimation accuracy.

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Improving Financial Risk Protection in Fragile and Conflict Affected Countries: Evidence from the Democratic Republic of Congo

Purpose: Due to instability that the Democratic Republic of Congo (DRC) has experienced over the past twenty years, government health care facilities remain chronically under-financed. In response, health workers have increased their reliance on user fees charged at the point of service, which can be detrimental to proper service use and result in catastrophic out-of-pocket health expenditure. In order to improve financial protection and access to services, the government has introduced an array of health financing initiatives, including: user fee and waiver guidelines; a community-based health financing intervention; and provider payment reforms. The purpose of this study is to assess whether the reforms have been implemented as planned, and how social and contextual factors have influenced the implementation process.

Methods: The study draws on quantitative and qualitative data collected in 2014-2016 in four provinces in the DRC. These include a population-based household survey and linked health facility survey, in-depth interviews and focus group discussions conducted among health workers, community members and district health office staff, and routine program monitoring data.

Results: The study results suggest that participation in the community health financing intervention has been relatively low, and that, overall, the strategies has not yet led to the anticipated changes in the mobilization of community health care financing, financial protection against out of pocket spending, and improved use of services.

Conclusion: Factors that have adversely affected the implementation process include: limited capacity at the community level to properly manage community-based financing organizations, the rapid scale up process, and the perception of poor quality of care. While some of these barriers may be rectified, the major challenges mentioned by community participants concern trust and accountability and are particularly challenging in a context where poverty is rampant and corruption is prevalent at all levels.

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Association between Treatment and Disease Free Survival for an Exhaustive Cohort of Epithelial Ovarian Carcinoma Patients in the Rhône-Alpes Region (France) Using a Counterfactual Approach

Background: Epithelial Ovarian Carcinoma (EOC) is a disease with poor prognosis, most often diagnosed at an advanced stage, thus necessitating aggressive and complex surgery to ensure complete removal of the abdominal disease. Improving clinical outcomes by optimizing surgery and management of EOC patients remains a

challenge. Volume activity is a controversial factor in predicting the quality of surgery and survival. The aim of this study was to compare Progression Free Survival (PFS) as 1st line treatment of EOC patients treated in high- (i.e. >10 cases/year) vs. low-volume hospitals.

Methods: This retrospective study using prospectively implemented databases was conducted on an exhaustive cohort of 267 patients treated in first line during 2012 in the Rhone-Alpes Region (authorized by the National Committee for Protection of Personal Data authorization (CNIL, n°913466)). In order to control for selection bias, a counterfactual approach was adopted. More specifically, the Inverse Probability Weighting (IPW) using the propensity score, which in this case was the matching method that best balanced the covariates, was retained. An Adjusted Kaplan Meier Estimator (AKME) and a univariate Cox model in the weighted sample were then applied in order to determine the impact of the centralization of care on EOC.

Results: The AKME showed that patients treated in higher volume hospitals had a significantly better relapse-free survival (p=0.02). The univariate weighted Cox model revealed that patients treated in lower volume hospitals had a probability of relapse (including death) that was 1.5 times higher than for patients treated in higher volume hospitals (p=0.02).

Conclusion: To our knowledge, this is the first study conducted in this setting in France. As reported in other countries, the centralization of care for EOC has a significant positive impact on patient outcomes, although other factors are also very important, such as the quality of the resection.

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Butyrate, a Microbiota-Derived Metabolite, in Gut Regulates the Innate Lymphoid Cells and Contributes the Homeostatic Maintenance of Peyer's Patches of Terminal Ileum

In the intestinal immune system, anatomical and physiological distinctions in the gut contribute to its regional specialization by microbiota and immunomodulatory agents from the diet. Given that the ileal Peyer's patch (PP) belongs anatomically to the small intestine, while it is physiologically exposed to an environment similar to the large intestine with respect to microbes and microbial metabolites, its characteristics may differ from those in PPs in the jejunum. As the terminal ileal PP is a key mucosal organ where host defense and oral immune tolerance in the gut develop, identification of the specific factors regionally specialized in the tissue is essential to understanding mucosal homeostasis. Among the various cell types present in PPs, group 3 innate lymphoid cells (ILC3s) are closely associated with the regulation of commensal bacteria through the suppression of commensal bacteria-specific $CD4^+$ T cells, although the regulation of ILCs in ileal PPs is poorly defined. In this study, we found that butyrate plays a role as a regional specific factor involved in the repression of ILC3s in PPs of the terminal ileum. This butyrate-mediated negative regulation of ILC3s alleviates the tolerogenic mucosal microenvironment by suppressing regulatory T cells in PPs. Collectively, we conclude that the inhibition of ILC3s by microbiota-derived butyrate can confer the functional ability to induce antigen-specific immunity, and that this network contributes to homeostatic regulation of the mucosal immune inductive site. (S.-H. Kim and Y. N. Kim were supported by BK21 Plus program in the Department of Bioactive Material Sciences. This study was supported by the Basic Science Research Program, NRF-2014R1A1A3051207 to S.-H. Kim and NRF-2013R1A2A2A01014459 to Y.-S. Jang.)

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Benchmarking of the Strategies of Polypharmacy and Medication Non-Adherence Management in European Elderly - Results of the Pilot Study

Background: Inappropriate polypharmacy and medication non-adherence in the older population are significant public health issues throughout the world. In order to accelerate innovation in healthcare, there is a need to inform policymakers, healthcare professionals and patients about evidence-based guidance on strategies to address these problems. SIMPATHY (Stimulating Innovation Management of Polypharmacy and Adherence in The Elderly) - a consortium of 10 European organizations – is going to answer this need by performing comprehensive benchmarking of strategies currently employed across the European Union. In order to collect quantitative and qualitative data from stakeholders, a benchmarking survey will be conducted in 10 European countries. Analysis of survey results will allow for categorisation of identified strategies, as well as their assessment against the criteria of effectiveness, cost-effectiveness, applicability and scalability.

Aim of study: The aim of this study was to test SIMPATHY benchmarking survey questionnaire for validity and reliability in pilots in 3 European countries.

Methods: Study questionnaire has been designed on the basis of the findings of the review of recent published and grey literature, as well as the analysis of the case studies, performed within SIMPATHY project. Original questionnaire was drafted in English, and translated into Greek, and Polish, and then back-translated by another individual in order to verify the translation and assure the coherent dataset collected

across studied countries. Finally, the study questionnaire was made available online in a dedicated surveying platform (SurveyMonkey.com), and the invitation to take part in it was sent to local stakeholders in Greece, Poland, and UK. The survey was kept opened for 2 weeks, and the re-invitations were sent, whenever needed, in order to increase the chances of obtaining the target number of surveyed stakeholders (up to 10 per country).

Results: Results of the pilot have been collected, and analysed in details. Whenever necessary, relevant modifications have been adopted to both source English version of the questionnaire, as well as its local language versions (Greek and Polish).

Conclusion: Pilots of the SIMPATHY benchmarking survey proved that the questionnaire is well-designed, and able to collect valuable data on the management of polypharmacy and medication non-adherence in Europe. Careful analysis of the pilots allowed for fine-tuning of the tool, and designing of its final version. This version will be used in the main benchmarking study, participation in which is now available for European stakeholders through the SIMPATHY web site, www.simpathy.eu.

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Equity in the Utilization of Health Care Services in Turkey; Evidence from 2012 Health Survey

Utilization of health care services, which is defined as a basic human right, plays an important role in the evaluation of the performances of health care systems and in reforming the health sector. On the other hand, equity in utilization of health care services has been a widely discussed topic for a long time, and has been a fundamental issue for health policies in almost all countries. Equity in utilization of health care services is a phenomenon where all individuals can access health care services when and as much as they need, regardless of theirability to pay. Thus, equity in any health care system in terms of utilization depends on the fact that equity is founded on need.

In this context, the primary aim of this paper is to investigate the equity phenomenon in the utilization of health care services in Turkey (for GP, out-patient and in-patient treatment services, separately) using the "Health Survey" obtained from Turkish Statistical Institute for 2012. "Health Survey" is conducted by Turkish Statistical Institute on a large scale every 2 years, which includes detailed individual level information and represents the whole country. The survey has been conducted in 2014 however yet not released to public use; therefore 2012 is the most recent survey available.

The investigation of the utilization of health care services in Turkey is especially important, considering the fact that the reform process that the Turkish health care system is undergoing since 2003. Inequities in utilization of health care services have been regarded as one of the most important problems of the Turkish health care system persistent for a long time and eliminating these inequities is one of the most important aims of the Health Transformation Program. However, inequity in the utilization of health care services which is highly observed even in developed countries has not yet been investigated for Turkey. In this respect this paper aims to fill a vast gap in the existing literature.

This paper aims to investigate equity in the utilization of health care services using inequity indices which are widely used in the existing literature. We propose to use the classical Gini index and present the Lorenz curves for these indices. However more importantly the horizontal inequity index (HI) proposed by Wagstaff and Doorslaer (2000) which proposes an alternative to the classical method of calculating the concentration index and therefore inequity, will be used in this study. Calculation of these indices for Turkey will enable easy comparison in terms of the extent of inequity in utilization of health care services with other countries. In this regard, this paper aims to provide policy implications for the utilization of health care services and equity in utilization for policy makers especially by evaluating the effects of health policies.

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Influence of Patients and Stakeholders on Hospital Healthy Policy Making – A Qualitative and Quantitative Approach

Introduction: Hospital health care policy makers most often do not take the patient's perspective into account

Objective: The aims of the study were to evaluate the perceptions of patients regarding care delivery in the hospital, and their potential wish to be involved in policy making. Secondly, the perceptions and experiences of hospital policy makers were explored.

Method: A qualitative approach using a semi-structured focused interview in 9 patients from 3 different general wards was used (part 1). Separately, 8 hospital policy makers were interviewed in a similar way (part 2). Results were analyzed in two phases according to Maso to define categories and themes.

Results: From part 1, four main themes emerged from the interviews, although communication and information dominated as the most important key theme. Patients were generally more interested in the way care was delivered, rather than the choice which type of care was chosen to be delivered by hospital health policy makers. Interestingly, the interviews with the hospital policy makers were in line with this expectation, i.e. patient participation in policy making was considered to be important, but hampered by the lack of a common representation of patient's wishes and expectations, financial considerations, and rulings by government and health insurance companies. They were not considering involving patient representatives in the ways of delivering care.

The data from part 1 were additionally used for a quantitative analysis using a patient survey amongst all hospital admissions during 1 month in 3 different patient groups. These data will be discussed at presentation.

Conclusions: Patients want to be involved in the way hospital care is delivered, not in the choices which type of care they receive. Health care policy makers consider patients' expectations to be important, but insufficiently involve them in communication and information about care processes.

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Population Ageing and Health Expenditure. A Bayesian VAR Analysis on Italy

Currently, in developed countries people live longer and better than ever before. However, the growing proportion of elderly people could lead to a higher incidence of chronic-degenerative diseases and a greater demand for health and social care with a consequent increase in health spending. Although the recent evidence indicates that there is a link between population aging and health care expenditure, researches on this topic are fragmented and they are not as straightforward as they appear. We use a Bayesian VAR framework to assess whether health expenditure is driven by ageing. Using annual data from OECD and EUROSTAT over the period 1990-2013, we investigate this relationship in Italy. We estimate these models by using impulse response analysis and variance decomposition. The evidence shows that health expenditure in Italy is more conditioned by the ageing index as compared to life expectancy and per capita GDP. We therefore conclude that population aging will remain in the centre of policy debate. Further research should focus on more efficient management of health expenditure to improve patient welfare and to have longevity gains.

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Does Matter the Prevention Campaign in the Cervix Cancer? Case Study from Brazil

The health system in more countries have been focus in the prevention campaign, because is more cheap the treatment for the initial disease than surgeries or utilization bed hospital. The cancer is must common in the last year, doesn´t the principal mortality causes in the Brazilian woman, but the nearly years is more cases reported. The health system in Brazil is organized according to the complexity of treatment. Primary care services for disease prevention are free and distributed throughout the country. In Brazil there are 38,442 center healthcares, within a minimum distance of 10 km.

The incidence of cervical cancer in women in Brazil has been increase in recent years, even with the news laws and programs that the government has created to motived the practice that preventive cytopathology test. Is really important the public health in prevention the cancer? Is a problem that the healths supply?

Based on the data from the Program for Quality in the Health Service, we calculated a structural equation model -SEM- from a previous factorial analysis of the 405 variables that the condition of the physical and human resources in the center healthcare. The relationship established seeks to identify whether the existence of the necessary resources for the realization of cytopathology examination determined the decision of women to do it. The number of women who took the exam was characterized by age, sex, race and income.

We are finding three conclusions. First the social and economic variables respond significantly in the woman decision to cervical test. Second, the center healthcare has the available resources for the cervical test, although it doesn´t have enough specific prevention programs. Third, the aims of the public health system regarding prevention can be different for the regions.

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Financing Medical Group Practices in France: A Discussion on the French Experiment with Regard to International Experience and the Framework of Economic Theory

France is embarking on a series of reforms in primary care. Since 2008, various incentives have been tested to accompany and encourage the development of primary care practices that associate general practitioners and other healthcare professionals. These practices would be in the form of «healthcare houses», « healthcare centers » or even « healthcare hubs ». This article presents the different steps of the experiment and presents the current mechanism for the organization and funding of multi-professional healthcare practices. It analyses the efficacy and the limits by evaluating the mechanism, experiences outside France and economic theory.

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Spatial Determinants of Individual Weight Status and Obesity Risk in Spain: A Multilevel Approach

This paper aims to understand the basic determinants of individual weight status and obesity risk in Spain by concurrently examining individual and ecological characteristics, taking into account any spatial interdependencies that may exist. The data are from the National Health Survey of Spain for the year 2011-2012 (INE-National Statistical Institute of Spain) and contain information of a representative sample of 12,671 adults over 50 Provinces of Spain. A spatial autocorrelation analysis is performed in order to check for any spatially persistent areas of high obesity rates across Spain and control for socio-economic heterogeneity related to obesity spatial clustering. A multilevel analysis is carried out to examine the determinants of individual weight status and obesity controlling not only for the individual's approximate environment but also for the broader setting to which both people and their approximate environments belong. Findings suggest that socioeconomic status (proxied by education) and health behaviors have the expected association with BMI and obesity risk, as well as that obesity risk is higher in low-income regions. The interactions we include in the analysis, insinuate that the criminality level constitutes an obesity risk factor only for women.

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Beyond a Health-related Issue: Socioeconomic Determinants of Patient Mobility in Turkey

In 2007, it was given the right to patients to choose their health care providers in order to improve the accessibility to the health care services in Turkey. Moreover, patients have the right to apply to a hospital/medical center without any extra cost even if the center is outside of the residential provinces. As a result of "the universal health coverage" arrangement, nearly 7 million patients (10% of all provisions) have received health care services outside their residential provinces every year. The aim of the paper is to identify the factors that led to patient mobility in Turkey. In this study, not only that the health-related variables, but socioeconomic, demographic, and geographic variables take into account to analyze the patient mobility.

The numbers of patients who apply for the health care providers different from their residents among Turkish provinces between 2010 and 2013 was selected from the most common medical specialties which are cardiology, paediatric, obstetric, and internal diseases. The right to choose their health care providers has been given since 2007, the post-2010 period was chosen for analysis in order to better detect the impact of the arrangement. Data set for analysis at the provincial level for four specialties was created by matching the patient mobility information (the Turkish Social Security Institute); the number of patients per specialist (the Turkish Ministry of Health); provinces information on population, migration, distance, and income per capita (the Turkish Statistical Institute).

The health model of immigration suggests that the differences in the number of patients per specialist between origins and destinations are incentives to patient mobility. Another factor that positively affecting the patient movements is population; the larger population in the origins is likely to cause the patient flows. The difference in income level between provinces is expected to increase the patient movements. The presence of contact people at the destination, as a result of past migration, increases the flows. The data used in this paper consists of a sample of longitudinal data set which includes both time-variant and time-invariant variables at provincial level over the period 2010-2013.

Thus, the Random effects model of panel-data models used due to the presence of time-invariant variables (e.g., distance and contiguous) that they make impossible to use the Fixed effects model.

There are statistically significant positive relationship between the number of patients per specialist and the patient mobility for all the medical specialties studied. When the number of people who was born in *i* and is living in *j* changes 100 units, patient movements change in the range of 4.1% to 4.8% in all specialties. Consistent with the literature, the distance between *i* and *j* has a negative impact on patient movements. Patient mobility increases in the range of 2.13% to 2.32%, when the two provinces are contiguous.

This study has been identified the factors that led to patient mobility in Turkey and questioned whether the freedom of patient mobility is an effective policy option for healthcare services, on the case of Turkey. At the selected medical specialties, especially the cardiology clinics, that need the specific treatments, it is observed that patients are moving from the provinces that are lower socioeconomic status to higher profile provinces. Moreover, family relations (e.g., internal migration among provinces) and distance are other factors that are important determinants of patient mobility. Travel and accommodation expenses can create a disadvantage for patients in areas with low income. Policy makers, in addition to the health characteristics of each location, have to consider the socioeconomic status of provinces to balance the spatial distribution of the healthcare services.

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Syrian Refugees in Turkey and Its Effects to the Nation

Syrian conflict has been ongoing for more than 4 years, with disastrous consequences. According to the UN's official numbers, 191,000 people have lost their lives. According to the Syrian NGOs' unofficial numbers, however, 283,000 people have lost their lives so far. More than four million people left from Syria and around 6 million have left their homes in order to settle in more secure areas in the country.

According to the official numbers, there are around 1.6 million Syrian refugees in Turkey, while unofficial estimates are higher. These numbers mean that the Syrian refugee population in Turkey represents 2.1% (officially) or 2.5% (unofficially) of Turkey's population. Syrian refugees are registered, and given "temporary protection status" in line with a Ministry of Interior decision in October 2011.

According to a study conducted by Disaster and Emergency Management Presidency (AFAD), the main Governmental agency responsible for handling issues with respect to the Syrian refugees in Turkey, about 36% of Syrian refugees in Turkey are accommodated in camps in 10 provinces located in the South and South East of Turkey, while the remaining 64% are residing in various cities across the country.

Arrivals of new refugees are expected to continue throughout 2015, and this will increase the economic and social burden on the host communities.

In this presentation in the conference, refugee problems will be discussed.

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Costs Related to Intensive Care Treatment Should be Reimbursed by an Aggregate and Separate Parameter

Background: To maintain continuity in care for hospitalized patients, an Intensive Care Unit (ICU) is a central component of the hospital logistical machinery. In the ICU, a small number of patients consume a relatively large amount of money. These costs are predominantly determined by health care worker's salaries in addition to variable costs like hemodialysis, antibiotics and infused blood products. In The Netherlands, reimbursement of ICU costs is done separate from a diagnosis related group (DRG)-driven health care system and based on a cost-per-ICU-day aggregate amount. Rates were based on a national survey incorporating known major cost drivers. On a macro-economical scale, this system proved to be easy to control and to be adequately reflecting actual costs. We hypothesized that this approach would also be feasible and useful in other settings like New Zealand and Japan.

Methods: In the year 2015, anonomized data including length of ICU stay, ventilator days, and dialysis days from all adult ICU admissions will be collected from the ICU in Apeldoorn, The Netherlands, as well as from the general Academic ICU in Auckland, New Zealand, and also from the Prefectural University of Medicine hospital of Kyoto Japan. In addition, total constant and variable costs will be calculated according to the basic dataset used in The Netherlands.

Discussion: Background and development of the ICU reimbursement system in The Netherlands will be discussed including comparison with DRGs, as well as with daily sequential organ failure assessment (SOFA) scores and therapeutic intervention scoring system (TISS)-28 points. In addition, results from testing this approach in totally different health systems will be shown, i.e. New Zealand and Japan. Finally, we will make the case that a separate ICU reimbursement system will be cost-effective and improve the expediency of an ever increasing demand in ICU beds.

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Valuing the Outcomes of a Home Visiting Intervention for Young Mothers and Their Babies: A Discrete Choice Experiment Based on the Evaluation of the Family Nurse Partnership Programme in England

Objectives: This study quantified the relative values that general public place on the outcomes of the Building Blocks (BBs) randomized, controlled trial. Further, it linked these preferences with the trial results to assess the chance that the general public accepts the new intervention.

Methods: A discrete choice experiment (DCE) was employed. Respondents chose between two scenarios describing hypothetical sets of trial outcomes. BBs compared Family Nurse Care for young, vulnerable, pregnant women with standard NHS care. 14 attributes covered three areas: pregnancy and birth, child development and maternal life course. Due to large number of attributes, a "blocked attributes" approach was adopted: the attributes were split across four designs which contained two common attributes. Data were analyzed separately for each design as well as pooled across four designs. Random-effect probity model was employed for the analysis.

Results: Over 1000 participants completed four designs. The analyses on the separate designs and those on pooled data yielded broadly similar results. Respondents valued higher the outcomes related to child development and their needs, but less so the outcomes related to maternal life course. Preferences varied by the age of the

respondents but not by their guardianship/parent ship status. Linking the DCE with the BBs trial results showed that there is a very small probability of the new intervention being accepted by the general public.

Conclusions: The individual preferences were consistent with a priori expectations and were intuitive. The DCE results can be used to incorporate the general public preferences into the decision making process.

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Analysis of Contemporary HIV/AIDS Healthcare Costs in Germany: Driving Factors and Distribution across Antiretroviral Therapy Lines

Objectives: To analyze contemporary costs of HIV healthcare and the cost distribution across lines of combination antiretroviral therapy (cART). To identify variations in expenditures with patient characteristics and to identify main cost determinants. To compute cost ratios between patients with varying characteristics.

Design: Empirical data on costs are collected in Germany within a two-year prospective observational multicenter survey. The database contains information for 1154 HIV-infected patients from eight medical centers.

Methods: Means and standard deviations of the total costs are estimated for each cost fraction and across cART lines and regimens. The costs are regressed against various patient characteristics using a generalized linear model. Relative costs are calculated using the resultant coefficients.

Results: The average annual total costs (SD) per patient are €22,231.03 (8,786.13) with a maximum of €83,970. cART medication is the major cost fraction (83.8%) with a mean of €18,688.62 (5,289.48). The major cost driving factors are cART regimen, CD4-T cell count, cART drug resistance, and concomitant diseases. Viral load, pathology tests

and demographics have no significant impact. Standard NNRTI-based regimens induce 28% lower total costs compared with standard PI/r regimens. Resistance to three or more antiretroviral classes induces a significant increase in costs.

Conclusions: HIV treatment in Germany continues to be expensive. Majority of costs area attributable to cART. Main cost determinants are CD4-T cells count, comorbidity, genotypic antiviral resistance, and therapy regimen. Combinations of characteristics associated with higher expenditures enhance the increasing effect on the costs and induce high cost cases.

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Comparing the Income Elasticity of Health Spending in Emerging and OECD Countries

Background: As developing countries become more affluent, economically sophisticated and productive, health expenditure patterns are likely to change. Other socio demographic and political changes that accompany rapid economic growth are also likely to influence health spending. An extensive literature has investigated the link between economic growth and health spending to explain cross-country variation across developed countries from the Organization for Economic Cooperation and Development (OECD) economies. No study to our knowledge has implemented a similar analysis for emerging economies.

Objective: This study investigates the relationship between growth on per-capita health care expenditure and GDP in a group of 27 large emerging economies and compares findings with those of 24 developed economies from thehigh-income OECD group. This comparison uses national accounts from 1995-2012.

Methods: We hypothesize that the aggregated income elasticity of health expenditure in emerging countries would be less than one (meaning healthcare is a "necessity") but would still be larger than that of developed countries. This study borrows the econometric framework from the previous literature on the cross-country relationship between health expenditure and income for the OECD. A fixed-effects model with time-fixed effects is implemented to assess the relationship between the two measures. Additional explanatory variables are introduced in different model specifications to test the robustness of our regression results. The first-difference of study variables is implemented to address non-stationarity and cointegration properties.

Findings: The elasticity of per-capita health expenditure and GDP growth is positive and statistically significant among sampled emerging countries (75% per unit-growth in GDP) and developed countries (67% per unit-growth in GDP).

Conclusions: The study concludes that health care can still be considered a "necessity" in emerging and developed countries. However, the estimated elasticity for emerging countries is closer to the

"luxury" threshold. More fragmented coverage and less regulated healthcare markets may explain these differences.

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Cost-Utility of Increasing Access to Psychological Services for Depression in Canada: Discrete Event Simulation Modelling within GP Gatekeeper System

Background: There exist socio-economic disparities in access to psychological therapies for Canadians with mental health needs. The objectives were to determine the costs and benefits associated with increased access to publicly funded psychological services for depression in a primary care delivery context, in Canada.

Methods: Using Discrete Event Simulation (ARENA), we predicted health service use, clinical events (relapse, recovery, hospitalisations, suicide attempts, suicide) and associated utility (QALY), over a 40 year period in a Canadian population, aged 20-84 years, with incident depression. Model parameters included epidemiologic, pharmacologic and economic data from the literature as well as secondary data analyses of the 2012-CCHS-MH survey. Economic outcome measures included, from the health system perspective, costs associated with medical consultations and medication use. Other societal costs considered were paid incapacity benefits for sick-leave and costs; lost productivity (absenteeism-presenteeism). We estimated the incremental cost-utility ratio (ICUR) associated with improved access to psychological services among individuals not receiving adequate mental health care and reporting an unmet mental health need as compared to the present situation of health service use for mental health reasons in Canada.

Results: The increased investment to cover publicly funded psychological services for those in need, translates 0.17 QALYs gained and cost savings reaching $7589 which translates into a ICUR of -$44 641 per QALY gained.

Interpretation: Covering psychological services as part of Medicare for those with an unmet mental health need pays for itself due to reduced disability, health system costs and loss of productivity.

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Does a Telemedicine's Public Policy Improve Healthcare Quality and Save Costs? Evidences from a French Telestroke Project

Increasing the use of telemedicine is currently considered a major lever for changing patterns of healthcare organization. In 2011 the French government launched a national deployment strategy of telemedicine (1).

Telestroke's project was piloted in three regions including Burgundy. The implementation of Telestroke is one of the policy's overall objectives (2). Stroke is the third most prevalent cause of death and the leading cause of acquired adult disability. It is not only a leading public health issue but also an important economic burden due to the costs of hospital care and the cost of disability.

Stroke management is an absolute emergency because "time is brain" (3). Public stakeholders' concerns centre on improving access to healthcare for stroke patients, whilst trying to control health expenditures.

Telestroke utilizes a remote evaluation of a stroke patient by an expert from a specialized stroke unit to a satellite hospital, involving the information and telecommunication technologies (ICT). The reliability and efficacy of this neurological assessment has been demonstrated. (4) Its purpose is to save time thereby increasing the chance of access to a diagnosis and treatment, especially to thrombolysis, the current gold standard for ischemic stroke.

This study reveals which benefits public stakeholders can expect about quality and equity of access to health care and expenditure control from a Telestroke project.

Clinical data were reported retrospectively from 742 patients from two stroke centers and five satellite hospitals in a French region, before (01.10.10/30.09.11) and after (01.10.12/30.09.13) the implementation of the Telestroke project. Cost data encompasses the health expenditures related to the hospital stay and to the rehabilitation care, fully covered by Statutory National Health Insurance.

We show that as the situation currently stands, if access time and territorial equity are certain, the telemedicine device does not reduce

the costs of acute stroke care. Our results allow us to give recommendations about hospital funding arrangements in France.

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