5th Swiss Health Economics Workshop

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CSS Institute for Empirical Health Economics, Lucerne

June 10, 2022

Preliminary Program

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Time	Room 5.250	Room 5.258
10.15	**Arrival**	
10.25 – 10.30	**Christian P.R. Schmid:** Welcome	
10.30 – 11.10	**Günther Fink:** Keynote	
	1A – Providers and Health Insurance (Chair: Nicolas Schreiner)	**1B – Health Economic Theory** (Chair: Lukas Kauer)
11.20 – 11.55	**Linn Hjalmarsson:** The Impact of Interpersonal Discontinuities in Primary Care: A Study of Practice Handovers, *discussed by Tobias Müller*	**Konstantin Beck:** How to evaluate the number of lost life years due to a pandemic disease?, *discussed by Simon Wieser*
11.55 – 12.30	**Helge Liebert:** Who Increases Emergency Department Use? New Insights from the Oregon Health Insurance Experiment, *discussed by Zora Föhn*	**Peter Zweifel:** Mitigating adverse selection through multi-peril insurance policies, *discussed by Emiliano Soldini*
12.30 – 13.05	**Igor Francetic:** Selection on moral hazard in the Swiss market for mandatory health insurance: Empirical evidence from Swiss Household Panel data, *discussed by Hyacinthe Müller*	**Dilek Sevim:** Decision Thresholds for Medical Tests Under Ambiguity Aversion, *discussed by Ana Ona*
13.05 – 14.20	**Lunch**	
	2A – Physician Dispensing (Chair: Christian P.R. Schmid)	**2B – Pharmaceuticals** (Chair: NN)
14.20 – 14.55	**Hyacinthe Müller:** Does introducing physician dispensing affect drug prescriptions? Evidence from Switzerland, *discussed by Igor Francetic*	**Katharina Blankart:** The effects of off-label drug use on disability and health care use, *discussed by Helge Liebert*
14.55 – 15.30	**Tobias Müller:** Rents for Pills: Financial Incentives & Physician Behavior, *discussed by Konstantin Beck*	**Armando N. Meier:** Monetary incentives increase COVID-19 vaccinations, *discussed by Linn Hjalmarsson*
15.30 – 16.00	**Coffee Break**	
	3A – Health Equality (Chair: NN)	**3B – Health Care Expenditures** (Chair: NN)
16.00 – 16.35	**Zora Föhn:** Individual attitude for risk and income solidarity in healthcare costs, *discussed by Armando N. Meier*	**Emiliano Soldini:** Cost-effectiveness of Crisis Resolution Home Treatment for the management of acute psychiatric crises in Ticino, *discussed by Peter Zweifel*
16.35 – 17.10	**Ana Ona:** To what extent do unmet health care needs explain health inequalities? A direct regression inequality decomposition, *discussed by Katharina Blankart*	**Simon Wieser:** Health care spending by disease in Switzerland in 2012 and 2017 – A decomposition analysis, *discussed by Dilek Sevim*
17.10 – 17.20	**Christian P.R. Schmid:** Concluding Remarks	
17.20 – 18.20	**Annual Meeting of the SGGÖ**	

1A – Providers and Health Insurance

11.20 – 13.05, Room 5.250, chaired by Nicolas Schreiner, CSS Institute

The Impact of Interpersonal Discontinuities in Primary Care: A Study of Practice Handovers

Presenter: Linn Hjalmarsson, University of Bern
Co-Author(s): Tamara Bischof, University Bern
Boris Kaiser, B,S,S. Basel
Discussant: Tobias Müller, Bern University of Applied Sciences

Abstract: *Objectives:* We study handovers of primary care practices in Switzerland during the period of 2007-2015 to investigate how interpersonal discontinuities of care affect patients' health care utilization and health-related outcomes. Practice handovers provide an interesting setting because they trigger an interpersonal disruption in care, while access to care remains the same.

Methods: We employ a difference-in-differences strategy to identify causal effects by comparing changes in outcomes between patients affected by practice handovers and a similar, but non-affected group of patients. Combining rich claims-level data from a major Swiss health insurer with provider-level register data, we construct a matched patient-provider panel covering around 300,000 patients.

Results: Our preliminary findings suggest that practice handovers lead to somewhat fewer general practitioner visits, which is partially offset by a small increase in specialist visits. While we do not observe a difference in overall health care expenditures, we find that expenditures per visit are somewhat rising. Considering health-related outcomes, we observe a minor increase in hospitalizations.

Discussion: Overall, we find moderate effects induced by practice handovers, indicating that interpersonal discontinuity is less of a burden to the general patient population compared to limited access to care. These insights help to better understand previous findings in the related literature.

Who Increases Emergency Department Use? New Insights from the Oregon Health Insurance Experiment

Presenter: Helge Liebert, University of Zurich
Co-Author(s): Austin Denteh, Tulane University
Discussant: Zora Föhn, University of Lucerne

Abstract: We provide new insights into the finding that Medicaid increased emergency department (ED) use from the Oregon experiment. Using nonparametric causal machine learning methods, we find economically meaningful treatment effect heterogeneity in the impact of Medicaid coverage on ED use. The effect distribution is widely dispersed, with significant positive effects concentrated among high-use individuals. A small group - about 14% of participants - in the right tail with significant increases in ED use drives the overall effect. The remainder of the individualized treatment effects is either indistinguishable from zero or negative. The average treatment effect is not representative of the individualized treatment effect for most people. We identify four priority groups with large and statistically significant increases in ED use - men, prior SNAP participants, adults less than 50 years old, and those with pre-lottery ED use classified as primary care treatable. Our results point to an essential role of intensive margin effects - Medicaid increases utilization among those already accustomed to ED use and who use the emergency department for all types of care. We leverage the heterogeneous effects to estimate optimal assignment rules to prioritize insurance applications in similar expansions.

1A – Providers and Health Insurance

11.20 – 13.05, Room 5.250, chaired by Nicolas Schreiner, CSS Institute

Selection on moral hazard in the Swiss market for mandatory health insurance: Empirical evidence from Swiss Household Panel data

Presenter: Igor Francetic, University of Manchester

Co-Author(s):

Discussant: Hyacinthe Müller, University of St. Gallen

Abstract: *Objectives:* The extent of selection on moral hazard – coverage driven by heterogeneity in behavioural responses to health insurance, i.e., utilization slopes rather than levels – is mostly an open empirical question. Our goal is to measure it in the context of the Swiss managed competition system.

Methods: We use a mix of data from the Swiss Household Panel and from publicly available regulatory data. We use the (log) number of doctor visits as a proxy for healthcare utilization and study the response to unexpected injury or illness, which we argue to be plausibly exogenous conditionally on covariates. To address the endogeneity between coverage choice and risk types, we employ an instrumental variable approach and compare responses of individuals switching deductible to those maintaining the same coverage.

Results: On average, individuals switching from higher to lower deductible levels consumed 12 to 25 percent more healthcare compared to individuals who had already selected the same deductible level. Analogously, individuals switching from lower to higher deductible showed milder responses to the health shock compared to high-risk individuals.

Discussion: Our results support the mechanisms of selection on moral hazard, confirm predictions of simple models of selection on moral hazard in health insurance, and match the magnitude of results found in previous contributions. We discuss potential implications for the regulation of the Swiss mandatory health insurance market.

1B – Health Economic Theory

11.20 – 13.05, Room 5.258, chaired by Lukas Kauer, CSS Institute

How to evaluate the number of lost life years due to a pandemic disease?

Presenter: Konstantin Beck, University of Lucerne
Co-Author(s):
Discussant: Simon Wieser, ZHAW Winterthur Institute of Health Economics

Abstract: *Objective:* The standard approach to quantify the burden of a pandemic disease is to calculate the volume of individual life years lost, times an appropriate value per year. This paper focus on the first factor, frequently applied, however often in an inconsistent way. Given a population with constant life expectancy, each individual has a positive expected amount of remaining life years. So, each death seams to produce a loss in life expectancy. But, as long as the total number of deaths within a period is equal in number and structure to the expected share of deaths, the society cannot lose life expectancy. There seems to be a contradiction between individual and societal expectation.
Method: This paper introduces the concept of excess-mortality as the missing link necessary to balance out individual and societal expectations described above. It derives the concept through logical reasoning, and shows its impact in an empirical part, based on public demographic data, that would be updated for the presentation.
Results: This argumentation goes way beyond the often-criticized distinction between died because of or merely with Covid-19, since the proposed change in calculation shrinks the number of years lost by Covid-19 dramatically – e.g., by -95% for people below 65 years of age.
Discussion: It goes without saying, that redefining the number of lost life years will have a huge impact on the evaluation of public health measures taken to cope with a pandemic disease.

Mitigating adverse selection through multi-peril insurance policies

Presenter: Peter Zweifel, University of Zurich
Co-Author(s):
Discussant: Emiliano Soldini, University of Applied Sciences and Arts of Southern Switzerland (SUPSI)

Abstract: *Objectives:* The objective of this paper is to pursue an intuitive idea: If a consumer who is an unfavorable health risk but a “better” risk as a driver, would a multi-peril policy not be associated with a reduced selection effort on the part of the insurer? If this intuition should be confirmed, it could serve to mitigate the decade-long concern with risk selection both in the economic literature and by policy makers.
Methods: A two-perils model is developed in which consumers deploy effort in search of a policy offering them most coverage at the going premium while insurers deploy effort designed to stave off unfavorable risks. Two types of Nash equilibria are compared, one in which the insurer is confronted with a high-risk and a low-risk type for coverage of one peril and another one, where both types are “better” risks with regard to a second peril.
Results: The difference in selection effort confronting high-risk and low-risk types is indeed found to be reduced in the two-peril case.
Discussion: In countries with competitive health insurance (including Switzerland), risk selection is a major concern. Yet the separation of insurance lines makes it impossible for insurers to issue multi-peril policies including compulsory health insurance. The findings of this paper suggest that lifting this separation could be beneficial in terms of mitigating adverse selection especially in health insurance.

1B – Health Economic Theory

11.20 – 13.05, Room 5.258, chaired by Lukas Kauer, CSS Institute

Decision Thresholds for Medical Tests Under Ambiguity Aversion

Presenter: Dilek Sevim, University of Basel
Co-Author(s): Stefan Felder, University of Basel
Discussant: Ana Ona, Swiss Paraplegie Center

Abstract: *Objectives:* Medical decisions are often made based on limited information, which makes the attitudes of decision makers (DMs) towards ambiguity significantly relevant. This paper aims to establish the effect of ambiguity aversion on the test and treatment decisions under diagnostic and therapeutic ambiguity.

Methods: Our analysis is based on the two classical decision-making models under uncertainty: Pauker and Kassirer's (1980) model on diagnostic risk and Eeckhoudt's (2002) model on therapeutic risk. We introduce ambiguity as multiple probabilities of disease in the diagnostic model and as multiple failure rates of treatment in the therapeutic model. We use the smooth ambiguity model by Klibanoff, Marinacci and Mukerji (2005) to study the effect of ambiguity aversion on the test and treatment decisions.

Results: We show that under diagnostic ambiguity, ambiguity aversion makes testing more attractive if the default option is no treatment and less attractive if the default option is treatment. Under therapeutic ambiguity, ambiguity aversion reduces the tolerance towards treatment failure so that test option is chosen at a lower failure rate of treatment.

Discussion: This paper extends the classical decision threshold analysis by establishing the effect of ambiguity aversion on the test and test-treatment thresholds. By doing so, our analysis contributes to the understanding of the observed heterogeneity of treatment decisions in medical practice.

2A – Physician Dispensing

14.20 – 15.30, Room 5.250, chaired by Christian P.R. Schmid, CSS Institute

Does introducing physician dispensing affect drug prescriptions? Evidence from Switzerland

Presenter: Hyacinthe Müller, University of St. Gallen

Co-Author(s):

Discussant: Igor Francetic, University of Manchester

Abstract: Prescribing and dispensing medical drugs is strictly separated in many developed countries in outpatient care. One major reason for this separation is the prevention of moral hazard. However, some countries explicitly allow physicians to directly dispense drugs to their patients (physician dispensing). Earning markups on dispensed drugs may incentivise physicians to not prescribe drugs that are optimal for their patients, but rather drugs that maximise markups. Using rich health insurance claims data, I empirically investigate this agency problem by measuring the effects of the introduction of physician dispensing on prescription drug expenditures in three Swiss cities, Zurich and Winterthur in 2012, and Schaffhausen in 2018. I apply a difference-in-difference approach and provide long-term dynamics of the potential effects in Zurich and Winterthur. My hypothesis is that prescription drug expenditures per patient increase following the policy changes. Two channels are likely to drive potential effects, quantities and prices of prescribed drugs. In the absence of a welfare evaluation of the policy changes, eliminating markups on prescription drugs dispensed by physicians could be a way to prevent moral hazard even under the presence of physician dispensing.

Rents for Pills: Financial Incentives & Physician Behavior

Presenter: Tobias Müller, Bern University of Applied Sciences

Co-Author(s): Christian P.R. Schmid, CSS Institute
Michael Gerfin, University of Bern

Discussant: Konstantin Beck, University of Lucerne

Abstract: *Objectives:* We study the impact of financial incentives on the prescription behavior of physicians.

Methods: We exploit a natural experiment that resulted from a recent reform in two large cities in Switzerland. The reform opened up an additional income channel for physician by allowing them to earn a markup on drugs they prescribe to their patients (so-called "physician dispensing"). Based on a two-step procedure that combines entropy balancing and DiD estimation, we estimate the effect of dispensing on drug costs, prescription volumes and physician earnings.

Results: We find that the reform leads to an increase in drug costs by about +$20 per patient translating to significantly higher physician earnings (+$30). We show that the revenue increase can be decomposed into a substitution and rent-seeking component. Our analysis indicates that physicians engage in rent-seeking by substituting larger with smaller packages and cherry-picking more profitable brands. Although patient health is not sacrificed, the rent-seeking behavior results in unnecessary costs for society.

Discussion: Recent estimates by the OECD proclaim that 20% of health care spending in industrialized countries are wasteful and inefficient. Large chunks of that waste result from inadequate incentives. In light of this, it's highly questionable whether it is a smart idea to expose physicians to additional monetary incentives. Our analysis provides a clear answer.

2B – Pharmaceuticals

14.20 – 15.30, Room 5.258, chaired by NN

The effects of off-label drug use on disability and health care use

Presenter: Katharina Blankart, University of Duisburg-Essen
Co-Author(s): Frank Lichtenberg, Columbia University
Discussant: Helge Liebert, University of Zurich
Abstract:

Objectives: The inefficiency of using a drug off-label (whether the drug has been approved to treat the condition) is not well understood. We examine the potential gains from using the right technology (drug) in the right place (condition) and also account for the contribution of innovation (when the drug was approved).

Methods: To empirically investigate the role of off-label use, we combine data from a pharmaceutical reference database (Thériaque) with data from the U.S. Medical Expenditure Survey for 1996-2015. We link 13,561 unique combinations of active ingredients by condition to data on 201,489 individuals by 219 conditions and product-level prescription data provided by the US Medical Expenditure Panel Survey, 1996-2015. To investigate the effect of the fraction of drugs used off-label we estimate 2-way (by individual and condition) fixed-effect models.

Results: Our estimates suggest that work loss would be 15% lower, and that hospital utilization would be 22% lower, if no drugs were used off-label relative to 2015 levels of off-label use. The estimated per capita value of eliminating off-label use is $515--12.9% of medical expenditure and work-loss cost. Off-label use is higher in smaller markets and for older vintage drugs. The fraction of treatments used off-label declined from 59% in 1996 to 44% in 2015.

Discussion: Off-label drugs are technologies that either have no effect or harm the person.

Monetary incentives increase COVID-19 vaccinations

Presenter: Armando N. Meier, University of Lausanne
Co-Author(s):
Discussant: Linn Hjalmarsson, University of Bern
Abstract:

The stalling of COVID-19 vaccination rates threatens public health. To increase vaccination rates, governments across the world are considering the use of monetary incentives. Here we present evidence about the effect of guaranteed payments on COVID-19 vaccination uptake. We ran a large preregistered randomized controlled trial (with 8286 participants) in Sweden and linked the data to population-wide administrative vaccination records. We found that modest monetary payments of 24 US dollars (200 Swedish kronor) increased vaccination rates by 4.2 percentage points (P = 0.005), from a baseline rate of 71.6%. By contrast, behavioral nudges increased stated intentions to become vaccinated but had only small and not statistically significant impacts on vaccination rates. The results highlight the potential of modest monetary incentives to raise vaccination rates.

3A – Health Equality

16.00 – 17.10, Room 5.250, chaired by NN

Individual attitude for risk and income solidarity in healthcare costs

Presenter: Zora Föhn, University of Lucerne
Co-Author(s):

Discussant: Armando N. Meier, University of Lausanne

Abstract: Solidarity in health care financing is a central element of European health policy but differs between financing systems. In light of current debates, knowledge of citizens' preferences on solidarity is crucial for governance. There are studies on the determinants of redistributive preferences, but they do not specifically address solidarity in health care financing. This article examines the Swiss population's attitudes towards risk and income solidarity in health care costs and analyses which aspects determine attitudes towards it.

Data from a population survey in Switzerland (N=4'873) are used. Based on regression modeling, the statistical relationship between self-interest (income, health status, risk aversion), belief (trust in health care, attitude towards self-causation of health or poverty, political attitude) and attitudes towards income and risk solidarity is tested.

For both aspects of solidarity, political attitudes and trust in the current health system are the most important determinants of individual attitudes. Risk aversion is positively related to income solidarity, but not to risk solidarity. Health status is negatively associated with risk solidarity, while higher income has a negative association with both forms of solidarity.

The results suggest that factors of self-interest and belief are related to attitudes towards risk and income solidarity in health care financing, but that attitudinal factors have a stronger influence than aspects of self-interest.

To what extent do unmet health care needs explain health inequalities? A direct regression inequality decomposition

Presenter: Ana Ona, Swiss Paraplegie Center
Co-Author(s): Kyriakides Athanasios, U. of Patras; Christian Sturm, Med. HS Hannover; Piotr Tederko, Medical U. of Warsaw; Xu Guang, Hospital of Nanjing Med. U.; Reuben Escorpizo, U. of Vermont; Diana Pacheco, Swiss Paraplegic Res.; Mohit Arora, U. of Sydney

Discussant: Katharina Blankart, University of Duisburg-Essen

Abstract: Inequality in health is a prevalent and growing concern across countries where people facing disabilities are disproportionately affected. Unmet healthcare needs explain a large part of the observed differences; however, there are other causes, many unavoidable, that also play a role.

This article explores the health concentration across income levels in populations with spinal cord injury (SCI). SCI is of special interest in the study of health systems, as it is an irreversible, long-term health condition that combines a high level of impairment with a series of comorbidities. Through a direct regression approach to decomposing socioeconomic health inequality, we analyze the importance of avoidable and unavoidable factors in these inequalities. To do so, we use two health outcomes: years with the injury and a comorbidity index. Data come from the International Spinal Cord Injury Survey (InSCI), which collected information on the lived experience of people with SCI in 22 countries around the world.

The results show that for the years living with SCI, the differences are mainly explained by the age of the injury of the participants (unavoidable factor). However, in terms of comorbidities, avoidable factors explain most inequalities observed: unmet healthcare needs followed by the causes of the injury. Results vary by country exhibiting a prevalence of pro-rich inequalities: better health outcomes are concentrated among high-income groups.

3B – Health Care Expenditures

16.00 – 17.10, Room 5.258, chaired by NN

Cost-effectiveness of Crisis Resolution Home Treatment for the management of acute psychiatric crises in Ticino

Presenter: Emiliano Soldini, University of Applied Sciences and Arts of Southern Switzerland (SUPSI)

Co-Author(s): Luca Crivelli, SUPSI
Maddalena Alippi, Cantonal Psychiatric Clinic

Discussant: Peter Zweifel, University of Zurich

Abstract: Crisis Resolution Home treatment (CRHT) is an alternative to hospitalization for acute psychiatric crises management recently introduced in Ticino. We assessed the cost-effectiveness of CRHT in comparison with hospitalization for the treatment phase and for a follow-up phase of 2 years after discharge.

We used a natural experiment based on geography (CRHT is available only in the Bellinzona e Valli region). As effectiveness measures, we considered psychiatric symptoms reduction at discharge (treatment) and the number of non-readmission days and the proportion of non-psychiatric costs (follow-up). Treatment direct costs were obtained from the clinic accounting; follow-up direct costs were obtained from health insurance reimbursements. Indirect costs were estimated on the basis of sick leave days. Bootstrapped clustered regression analysis was used to assess cost differences between intervention and control groups; cost-effectiveness was assessed with Cost-effectiveness Acceptability Curves.

Data were available for 208 patients for the treatment phase and 163 for the follow-up phase. CRHT was less costly for the treatment phase, but its cost-effectiveness was strongly related to the type of psychiatric symptoms considered. For the follow-up phase, CRHT resulted both less costly and cost-effective.

CRHT proved to be a cost-effective alternative to standard inpatient treatment. Further research is needed to explore the characteristics of patients that may benefit the most from CRHT.

Health care spending by disease in Switzerland in 2012 and 2017 – A decomposition analysis

Presenter: Simon Wieser, ZHAW Winterthur Institute of Health Economics

Co-Author(s): Xavier Schärer, ZHAW; Stefan Scholz, SUIVA; Maria Trottmann, SWICA; Michael Stucki, ZHAW

Discussant: Dilek Sevim, University of Basel

Abstract: *Objectives:* The drivers of the increasing health care spending in Switzerland are poorly understood. We decompose spending by diseases and other dimensions and estimate the contribution of single cost drivers to spending growth between 2012 and 2017.

Methods: We decompose total healthcare spending by 45 major diseases, 19 health services, 21 age groups, and gender of patients and identify the contribution of four main drivers of spending: population growth, population structure, disease prevalence, and spending per prevalent patient. The analysis is based on micro-data from a multitude of data sources (hospital inpatient registry, health and accident insurance claims data, etc.).

Results: Total health care spending increased by 19.7 % from 2012 to 2017. Preliminary results show that musculoskeletal diseases were the most expensive disease group in both years. The largest increase in relative spending was observed for nutritional deficiencies, sense organ diseases, well care, and neoplasms. Cardiovascular diseases and mental disorders showed below-average growth rates. Spending per prevalent patient was the most important driver of the spending growth.

Conclusions: A large part of health care spending growth in Switzerland was associated with increases in spending per patient. This must be due to higher treatment intensity or to the introduction of new expensive treatments, as prices of existing treatments did not in increase the study period.