Paper 1

Reo Takaku (Institute for Health Economics and Policy, Japan) and Hiroshi Aiura

Physicians' Responses to Medical Subsidy Programs: Evidence from Japan

Abstract:

Previous studies find that expansion of health insurance enrollment encourages physicians to work for underserved area where many uninsured lived. However, in the countries where universal health coverage has been already achieved, further expansion of the generosity of health insurance may not have such an equalization effect. Rather it may secure sufficient profit to operate in urban area for physicians, generating concentration of physicians into cities. To test this hypothesis, this paper examines how a large scale expansion of medical subsidy program changes the behavior of primary care physicians. In Japan, the local subsidization programs which significantly reduce out-of-pocket expense for children's health care utilization, named Medical Subsidy for Children and Infants (MSCI), have spread rapidly since 2000, while there were large regional differences in the eligibility criteria. By using the census of clinics from 1999 to 2011 which is matched with municipality-level eligibility criteria of MSCI, we implement difference-in-differences-in-difference analysis. The results show that MSCI increases monthly number of visits per clinic with the similar impacts indicated by the RAND Health Insurance Experiment. In addition, clinics choose to be located in densely populated area under generous MSCI system, indicating the expansion of the generosity of health insurance system may accelerate the concentration of physicians into urban area. Finally, we find significant reduction of the number of consultation days under generous MSCI.

Paper 2

Hao Xue (Shaanxi Normal University), Hongmei Yi, Yaojiang Shi, Gordon Liu, and Sean Sylvia

Fixed-Term Contracts, Decentralization, and the Quality of Primary Care: Evidence from China's Iron Rice Bowl

Abstract:

Several developing countries have sought to improve public service delivery through decentralization reforms granting managers of public facilities greater authority over hiring and firing and employee compensation. In this paper, we present causal estimates comparing the quality of primary care provided by centrally-deployed civil service physicians with physicians hired directly by facility managers on fixed-term contracts in rural China, where physicians of both types are commonly employed to provide primary care at the same facilities. We control for important sources of endogeneity by using data from interactions with unannounced standardized patients and controlling for facility fixed effects. We present three key findings. First, physicians employed on fixed term contracts substantially outperform those on civil service contracts on measures of clinical process quality and this difference increases after controlling for observable clinician characteristics. Second, we find direct evidence that these effects are due to increases in effort as civil service physician exhibit greater underperformance relative to their knowledge of appropriate clinical practice. Third, despite the potential for stronger incentives to generate clinic revenue, we find no evidence that contract physicians increase outpatient costs or are more likely to prescribe unnecessary treatments.

Paper 3

Li-Lin Liang (National Sun Yat-sen University)

Impact of Integrated Health Care for Multimorbid Patients: Lessons from Taiwan's Family Doctor Plan

Abstract:

Global consensus has reached on the importance of integrated health services for multimorbid patients. Policies to achieve integrated health services are highly context-specific. Knowledge-sharing, however, is limited by the existence of wide gaps in the evidence for multimorbid care. The present research examines the impact of the Family Doctor Plan (FDP) in Taiwan. FDP covers mostly multimorbid patients, and is designed to integrate primary care with specialized treatment across medical specialities and institutions.

To tackle various sources of bias in estimating the causal effects, we adopt difference-in-differences method, propensity score matching, panel data models and an instrumental variables approach. Our analysis of data for 2009 through 2013 from more than 160 thousands patients shows that FDP increased health care utilization, and had little effect on health expenditures, primary care quality and service integration. FDP have beneficial effects on uptakes of preventive health services. However, we found unintended consequences associated with an increase in potentially unnecessary visits for common cold and drug injections, as well as patients shifting to large academic medical centres.

Three contextual conditions in Taiwan, i.e. freedom of provider choice, the fee-for-service system and a shortage of primary care workforce, have appeared to impede successful implementation of FDP. Potential problems with the program design also drive FDP away from its policy goals. Strategies were proposed in this study to promote integrated, multimorbid care in Taiwan. Some of these strategies require inter-sectoral collaboration. Results from the present study will support evidence-informed policy making and be instrumental to health systems that share similar contexts with Taiwan.

Paper 4

Keaton Miller (University of Oregon), Amil Petrin, and Robert Town

Optimal Managed Competition Subsidies

Abstract:

The Medicare Advantage program enables Medicare recipients to receive their health care benefits via private insurance plans instead of through the federal government. Insurers receive a payment from the government for each individual enrolled, and may add additional benefits and charge an additional premium – an approach which mirrors many other goods provided via a government subsidy. The optimal subsidy in different markets – conditional on a fixed amount of government expenditures across all markets – depends on the interactions between consumer demand and supply-side responses to changes in the payments offered by the government. However, governments subsidies are typically pegged only to a measure of average cost. We study optimal subsidy design in Medicare Advantage by estimating a flexible supply and demand systems in an oligoply setting that features demand-side heterogeneity and switching costs, and supply-side price-setting and benefit design behavior. We find the the optimal subsidy structure differs from the implemented one and significantly improves consumer surplus.

Paper 5

Rong Fu (Waseda University) and Haruko Noguchi

How Did Hospitals Respond to Prospective Payment System under the Japanese Universal Healthcare System?

Abstract:

This research evaluates performances of Japan's inpatient prospective payment system (PPS) in terms of the impacts on medical payment, operational efficiency, and healthcare quality. We focus on a group of hospitals enrolled mandatorily into the program in 2003, for which the change in reimbursement method is an exogenous shock. Applying difference-in-difference approach to a set of nationally representative datasets, we find evidence that the PPS does not contain medical costs as expected, because the program is adopted only to part of procedures in inpatient care and has no interference with those in outpatient care. The hospitals could respond in a "real" fashion—reduce volume of the PPS procedures to avoid deficit; or in a "nominal" fashion—assign the PPS procedures from inpatient care to outpatient care. We also find a decline of length of stay (LOS) in the hospitals, indicating an improvement on operational efficiency. The reduction is larger at upper quantiles of the LOS. Finally, we confirm a moderate deterioration in healthcare quality. Following the adoption of PPS, the hospitals become more likely to discharge patients with symptoms lightened or unchanged, rather than being fully cured.

Paper 6

John C. Ham (NYU Abu Dhabi) and Ken Ueda

The Perils of Relying Solely on the March CPS: The Case of Estimating the Effect on Employment of the TennCare Public Insurance Contraction

Abstract:

In a recent paper, Garthwaite, Gross and Notowidigdo (2014) report large positive labor supply effects of a major contraction in public insurance coverage in Tennessee, announced at the end of 2004 and implemented in mid-2005, using data from the March CPS. These results are important given the expansions of Medicaid coverage under the Affordable Care Act and the potential for large Medicaid contractions under President Trump and the Republican Congress. Their results are surprising given the previous work on the employment effects of health insurance expansions, but the authors argue that these differences are due to the fact that the Tennessee program went much higher into the income distribution than the programs studied by other researchers.

In this paper we show, under reasonable parameter restrictions, that the framework used by Garthwaite, Gross and Notowidigdo (2014) only allows for estimating the lower bound on the labor supply response to the contraction, which makes their results all the more striking. However, we show next that their large estimates are the result of focusing on the March CPS in estimation. When we use their estimation strategy on a dataset based on all the months of the CPS, or a dataset based on the American Community Survey, we find much smaller, and sometimes negative, estimates of the lower bound on the labor supply response. Note that compared to the March CPS, these alternative datasets offer much larger sample sizes and are not affected by seasonal factors.

We attempt to distinguish between the estimates across databases using placebo tests. While these tests reject many estimates, there is still a very wide range in the surviving estimates. Hence we conclude that, at best, we do not have good estimates of the treatment effect of interest.

Paper 7

Mriduchhanda Chattopadhyay (Waseda University), Toshi H. Arimura, Hajime Katayama, Mari Sakudo, and Hide-Fumi Yokoo

Subjective Probabilistic Expectations, Indoor Air Pollution and Health: Evidence from Cooking Fuel Use Pattern in India

Abstract:

We use information on probabilistic expectations elicited from the individuals in rural India to investigate how the individuals' expectations of becoming sick with diseases related to indoor air pollution, may directly affect the individuals' cooking fuel usage pattern. Concurrently, we also try to explore the indirect impact of individuals' probabilistic expectations of becoming sick on their health status related to diseases caused by indoor air pollution through its impact on cooking fuel usage pattern. Subjective probabilistic expectations about becoming sick have some influence in determining the share of days of dirty fuel usage in the households but the magnitude of its impact is limited in the short run. There is a positive and significant impact of the share of days of dirty fuel usage on the health status of the individuals. However, the indirect impact of probabilistic expectations on health is observed to be insignificant in our measurement.

Paper 8

Prachi Singh (Indian Statistical Institute), Sagnik Dey, and Sourangsu Chowdhury

Early Life Exposure to Pollution: Effect of Seasonal Open Biomass Burning on Child Health in India

Abstract:

This paper examines effect of outdoor air pollution on child health in India by combining satellite PM2.5 data with geo-coded Demographic and Health Survey of India(2016). Pollution levels vary due to seasonal open biomass burning events (like crop-burning and forest fires) which are a common occurrence. Our identification strategy relies on spatial and temporal differences in these biomass burning events to identify the effect air pollution on child health. Our results indicate that children exposed to higher levels of PM2.5 during their first trimester and during the post-natal period of first three months after birth have lower Height-for-age and Weight-for-age; the effect is not limited to just rural areas, but prominent for Northern states of India which have higher incidence of such events.

Paper 9

Janjala Chirakijja (Monash University), Seema Jayachandran, and Pinchuan Ong

Surviving the Winter: Inexpensive Heating Reduces Mortality

Abstract:

This paper examines how the price of home heating affects mortality in the US. Exposure to cold is one reason that mortality peaks in winter. A higher heating price increases exposure to cold by reducing heating use. It also raises energy bills, which could affect health through cutbacks in food or health care spending. Our empirical approach combines spatial variation in the energy source used for home heating and temporal variation in the national prices of different energy sources; whether natural gas or electricity is used for heating varies significantly across counties, and the relative price of natural gas to electricity varies over time, notably due to the boom in shale natural gas production during our 2000 to 2010 study period. Using vital statistics data on deaths, we find that a lower heating price reduces winter mortality, driven mostly by cardiovascular and respiratory causes.

Paper 10

Ashley Wong, Bhashkar Mazumder, and **Timothy J. Halliday** (University of Hawaii, Mānoa)

The Intergenerational Transmission of Health in the United States: A Latent Variables Analysis

Abstract:

Social scientists have long documented that many components of socioeconomic status such as income and education have strong ties across generations. However, health status, arguably a more critical component of welfare, has largely been ignored. We fill this void by providing the first estimates of the Intergenerational Health Association (IHA) that are explicitly based on a rigorous non-linear latent variable model. Adjusting for only age and gender, we estimate an IHA of 0.3 indicating that about one third of a parent's health status gets transmitted to their children. Once we add additional mediators to the model, we show that education, and particularly children's education, is an important transmission channel in that it reduces the IHA by one third. This study complements earlier work since we show estimates of the IHA from non-linear models are only moderately higher than those from linear models; rank-based mobility estimates are identical.

Paper 11

Jie Gong, Yi Lu, and **Huihua Xie** (CUHK Shenzhen)

The Average and Distributional Effects of Teenage Adversity on Long-Term Health

Abstract:

A central question in human development is what causes health inequalities over the life cycle. This paper links adversity in the teen years to individuals' long-term health outcomes. We examine a mandatory rustication program, the "send-down" policy during China's Cultural Revolution, and employ Regression Discontinuity Design to estimate the impact on people's physical and mental outcomes 40 years later. Our results suggest that rusticated youths were more likely to develop mental disorders but not to have worse physical outcomes. Further assessing distributional effects through marginal treatment effect (MTE), we find strong heterogeneous treatment effects and selection on gains.

Paper 12

Toshiaki Aizawa (University of York)

A Decomposition of Differences in Concentration Indices: With an Application to Socio-economic Inequality in Over-nutrition in India

Abstract:

This paper proposes a new semi-parametric method to decompose the differences between two concentration indices, without assuming functional forms of health and socioeconomic status (SES). Constructing the counterfactual concentration index by taking advantage of the statistical property of copulas, we first decompose the observed differences into the part which is due to the differences in the dependence structures (the dependence effect) and the other part due to the differences in the marginal distributions of health (the health effect). Next, we decompose both effects further into parts explained by differences in the covariates in the model and the part that cannot be explained. The proposed methods are applied to differences in socio-economic inequality in over-nutrition between rural and urban areas in India, along with existing decomposition methods. The results show that the difference in the proportion of Hindus and the proportion of households that use safe cooking fuel contribute the most to the observed differences.

Paper 13

Zichen Deng (Vrije Universiteit Amsterdam and Tinbergen Institute) and Maarten Lindeboom

A Bit of Salt, A Trace of Life: Long-Run Impacts of Salt Iodization in China

Abstract:

In 1994, China implemented the national program of regulating salt to contain iodine, a key micronutrient in development of cognitive ability. After the adoption of the new salt, individuals' access to iodine improved dramatically. We compare the human capital development of cohorts born before and after the salt iodization in areas with varying pre-intervention iodine deficiency prevalence (goiter rates). For females in the rural area, a one standard deviation reduction in goiter rates results in a roughly 15% increase in cognitive ability measured by standardized math and verbal tests. Females who benefit from the new salt also obtain 0.5 additional years of schooling and have a higher educational attainment. Yet, we don't find significant effects for males for both cognitive ability and educational outcomes. Therefore, we see a substantial reduction of the gender (notably math) ability gap. For females, the gains are highest in neighborhood with strongest son preferences, suggesting that health interventions have the largest impact among those received limited parents' investment.

Paper 14

Katharina Janke, **David W. Johnston** (Monash University), Carol Propper, and Michael Shields

The Causal Effect of Education on Chronic Health Conditions

Abstract:

We study the causal impact of education on 17 chronic health conditions by exploiting two UK education policy reforms. The first reform raised the minimum school leaving age in 1972, affecting the lower end of the educational attainment distribution. The second reform is a combination of several policy changes that affected the broader educational attainment distribution in the early 1990s. Results are remarkably consistent across both reforms, with an extra year of schooling having no identifiable impact on the prevalence of most chronic health conditions. But both reforms suggest that education significantly reduces the probability of having diabetes.