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Research Summary

The health care industry – one of the world's largest and fastest-growing industries, consuming nearly 10% of world GDP and over 17% in the US – stands at a triple inflection point. With costs continuing to outgrow income, populations ageing and becoming increasingly comorbid, and growing digitization and personalization of medicine, there is a pressing need to transform the design and delivery of health care services to meet the fundamental challenge of improving clinical outcomes while controlling costs. Meanwhile, expansions in data and information sharing in the health sector have exposed huge disparity in health care costs and outcomes across providers, regions, and countries, signalling significant opportunities for improvement in how health services are coordinated and delivered. Leveraging this increasingly detailed micro- and macro-level data, my research employs sophisticated econometric techniques to explore how organizational conditions create discrepancies in health care service delivery. By understanding these processes and mechanisms better, my research aims to inform and transform the ways in which health professionals and policymakers deliver effective and efficient health care.

A particular focus of my research is to understand in what ways hospitals – described by Clayton Christensen as "some of the most managerially intractable institutions in the annals of capitalism" – are affected both operationally and financially by the tremendous variability and uncertainty in patients' service needs, and how to better manage the resultant complexity. To this end, I currently have three papers on this topic. The first (Freeman et al. 2016), accepted at *Management Science*, shows that health care access varies depending on the workload of the service provider, with service complexity moderating this relationship. The second (Freeman et al. 2016b), in preparation for resubmission to *Management Science*, investigates the productivity implications of treating together patients with different levels of urgency and clinical need, finding benefits of greater specialization for planned care and pooling for emergent care. The third (Freeman et al. 2016c), in preparation for submission, examines the impact on routing decisions when diagnostic uncertainty is high and decision-makers are risk averse, and explores a mechanism that can be employed to reduce variability in service delivery.

In future research I intend to continue to study how health service delivery can be coordinated better so as to ensure that patients receive appropriate treatment from the right provider at the right time and place. With this stream of research I aspire to provide a prescriptive path as to how hospitals and other health providers can evolve their business models in order to meet the dual challenge of improving clinical outcomes while controlling costs. To achieve this it is important to me that I continue to build connections with local hospitals and other health providers, professionals and policymakers, as I have done during my Ph.D., in order to evolve new insights and perspectives, gain access to further data, and to disseminate the findings of my research. Forging relationships between academia and practice does I believe offer the best opportunity for innovative and relevant research with real and lasting impact. I am excited to continue with the research agenda that I have set out, as well as to working with new colleagues in the future on other important and consequential problems.

References

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