Sources of specialist fee variation: an investigation using private health insurance claims data

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Aims
Large variation in fees is a major cause of non-transparency in specialist fees. This paper explores the drivers of variation in specialist fees and whether the variation can be attributed to patient risk factors, doctor characteristics, or market conditions. We make use of insurance claims data from a large private health insurer in Australia. The data cover the period 2012–2019 and contain 15.9m claims from more than 1.6m patients receiving care from nearly 42,000 doctors. To the best of our knowledge, this is the first study using insurance claims data in the Australian context.

Background
Australia has a mixed public-private health system. All Australians are covered under Medicare, the publicly funded universal health insurance scheme. However, some 40% of Australians also have private health insurance cover. Consumers purchase private health insurance for various reasons, including to avoid long waiting times at public hospitals, to obtain better care as private patients, or to avoid paying tax penalty in the case of high income earners. The Australian government not only encourages individuals and families to purchase private health insurance by subsidising insurance premiums (by about 30% on average), but also subsidises private health care at the point of use through the Medicare Benefits Schedule (MBS).

The MBS defines a list of schedule fees for provider consultations and various procedures. The schedule fees determine the amount of subsidies provided by the Australian government. Private health care providers, including specialist doctors, dentists, ophthalmologists, and allied health providers, can charge more than the schedule fees depending on what they feel 'the market will bear.' For inpatient services, the difference between what a provider charges and MBS subsidies will be covered by private health insurance and patient out-of-pocket payments. For non-admitted patient services, the difference will be entirely borne by patients, since by law it cannot be covered by private health insurance.

Specialist fees in the private healthcare sector in Australia are not regulated. Specialists can charge any price they want, depending on how they perceive the market and their patients will respond. There is no regulation on price discrimination either––specialists are allowed to charge differently on patients receiving the same treatment. In recent years, non-transparent fees and high out-of-pocket charges have been key issues confronting consumers who purchase private health insurance, often under the belief that it sheaths them from the high cost of private treatment. These have, together with other reasons, contributed to the recent decline in private health insurance membership.

Methods
Using insurance claims data, we examine the variation in specialist fees using two price measures: total fees charged and out-of-pocket payments. In each case we follow a two-stage method of analysis. In the first stage we adjust the price measure using patient characteristics, which include risk factors such as age, gender, case complexity, number of procedures performed, etc. For the risk adjustment of total fees we estimate a linear fixed effects model using least squares. For out-of-pocket payments, due to the bunching at zero, i.e., specialists charging no out-of-pocket payments, we estimate a fixed effects Poisson model using pseudo-maximum likelihood regressions. In both equations the fixed effects include year of admission, hospital, principal diagnostic chapter, and the first two procedure codes.

The two risk adjustment equations allow us to predict respectively what total fees and out-of-pocket payments ought to be for each claim, given the patient characteristics and risk factors. In essence, the predicted prices capture the average effect of patient risk factors. We next remove the influence of patient risk factors from the observed prices by taking the difference between the observed and predicted prices, and average over all claims made by each specialist each year. This allows us to measure both the level and dispersion of prices for each specialist each year. In the second stage the variation in adjusted prices is then analysed and compared with unadjusted prices using descriptive statistics and regression analyses. The analysis here considers the variation of prices both within and between doctors, and within and between specialties.

Results

Our preliminary findings show that the variation in prices remains relatively unchanged after removing the influence of observed patient characteristics and health conditions. Our results suggest that patient risk factors contribute relatively little to the variation in total fees and out-of-pocket payments; other factors, including doctor characteristics and market conditions, are likely responsible for most of the variation in specialist fees and out-of-pocket payments.

Key Words

Private healthcare, Specialist fees, Price variation, Australia.