Role of GPs in Hospital Choice

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OVERVIEW

- **Very Important economic & policy Issue**
  - Hospital competition likely to matter for patient outcomes; e.g. Bloom, Propper, Seiler & Van Reenen (2012) find improvements survival rates, MRSA, etc. instrumenting #hospitals using political marginality. Extra hospital in market improves survival rates by ~8.8%
  - Also Gaynor et al, 2012; Cooper et al, 2012
  - More competition promised in “new NHS”
  - Estimating demand elasticity wrt quality helps simulate effects of mergers (although need to model supply response)
- **Great Data**
  - HES data some of richest in the world
  - Focus on hip replacement (elective, high volume procedure)
  - 2008-09 in England where new system introduced
  - 51k+ patients at 146 NHS Trusts

BCC1 MARK I, ECONOMIC JOURNAL, 2012

- **Reduced form model of choice**
  - What factors influence patient *i* to go to hospital *j*?
- **There is some choice**
  - 40% of patients do not go to local hospital
  - 50% are aware of choice
- **Factors influencing decision**
  - Distance
  - Hospital Quality (mortality, CQC rating, waiting, size)
  - % GP referrals (GP specific effect)
- **Comment**
  - Be nice to see this *before & after* choice introduced (Gaynor, Propper & Seiler, 2012) find quality matters more & distance less after policy kicks in, especially for low income

BCC2 MARK II, THIS PAPER

- Concerned about the endogeneity of choice set facing the patient as influenced by GP
- Set out an econometric framework of how to investigate this (2 step MNL logit based)
- Present a more simple exercise to demonstrate the importance of GP factors, i.e. those things that should matter to GP but not to patient (like financial health of GP practice)

TOUGH PROBLEM TO TACKLE

- Related to deep problems of join decision making in economics
  - Intra-household bargaining
  - Organizational decisions (committees, governments)
  - Two sided markets (experts)
- We don’t observe what is offered to patients (do we?). Even if we did there are subtle influences
- Even if we could cleanly identify, why do we care?
  - GPs may be bad agents & don’t know patients preference
  - BUT patients do not fully know their own best interests
  - Inevitably a joint decision

PROPOSED METHOD

- Two stage model: GP decides which hospitals to offer patient and then patient chooses from constrained set
- Need strong assumptions of independence in errors across the two stages
- Essentially a multi-stage logit formulation
- Not yet implemented!

ACTUAL EMPIRICAL MODEL

- Logit: which hospital chosen from 30 hospitals closest to the patient
- ~192k GP-hospital observations (~25k hip replacements and ~12k knee replacements)
- **Comment:** Unclear where patient-level data comes in. Don't you want % of patients referred to each hospital instead of dummy?
- Hospital characteristics matter: distance, mortality rate are bads (BUT why are there positives on MRSA & waiting; and negatives on CQC rates?)
- **Their Main point: GP factors matter**
  - PCT deficit means less likely to refer
  - Market Forces Factor less likely
  - Good hospital communication more likely

COMMENTS ON RESULTS

- I agree that GP interests likely to matter but case is not proven
- *Market Forces Factor*
  - High MFF areas are those (by definition) were outside labor market strong. Hospitals typically have problems retaining and recruiting staff (e.g. lots of agency & overseas nurses)
  - This is because wages don't adjust to MFF. Propper & Van Reenen (2010, Jnl Pol Economy) show that this causes lower hospital quality
  - Unless this lower quality fully controlled for then MFF could mean patients won't want to go

COMMENTS ON RESULTS

- *Hospital Communication*
  - Again this is not just a private benefit for the GP (e.g. transmission of medical notes)
  - Could reflect more general managerial quality in trust
  - Endogenous to the quality of the patient-hospital match. If a history of good matches then communication better

- *PCT deficit*
  - Unclear to me where variation within a GP across hospitals comes from since (to my knowledge) GPs can only be in one PCT it is a GP-specific effect

CONCLUSIONS

- Interesting and important research program to understand the determination of hospital choice using disaggregate data
- Descriptive correlations very informative, especially in how these change over areas (with more or less effective choice) and over time (as reforms kick in)
- Look how coefficients change on
  - Distance vs. “quality”
  - Patient interests vs. GP interests
- Above fundamental sources of identification more compelling than functional form

FURTHER READING

"Can Pay Regulation kill? The impact of labor markets on hospital productivity" (Carol Propper and John Van Reenen), *Journal of Political Economy* (2010), 118(2), 222-273, http://cep.lse.ac.uk/textonly/_new/research/productivity/jpe_final_payRegKill.pdf

"The Impact of Competition on Management Quality: Evidence from Public hospitals" (Nick Bloom, Carol Propper and Stephan Seiler and John Van Reenen), CEP Discussion Paper No. 983 http://cep.lse.ac.uk/pubs/download/dp0983.pdf