

e c o n e x

competition and
applied economics

ACTUARIAL
 SOCIETY
OF SOUTH AFRICA

QUANTIFYING RISK, ENABLING OPPORTUNITY

Supply-Induced Demand

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Econex Experience

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Econex Experience

- Consulting in the healthcare sector since 2004 (Clicks)
- Detailed, full costing of proposed NHI (2009/10)
 - Work sponsored by HASA
- Series of Health Reform Notes
- Stakeholder engagement: pharmaceutical industry, private hospitals, specialists (SAPPF), funders
- Private hospital mergers/ acquisitions
- Public sector work for DoH – HR strategy
- ASISA – NHI work stream
- Private health sector market inquiry (HMI) by SA CC
 - Client: Mediclinic

SID: Background & Context

- Familiar economic concept
- Say's law: supply creates its own demand
- Causality runs from supply to demand of a product/ service
- **NB: Correlation \neq causation**

- Locally, in South Africa's private healthcare sector:
 - HMI forthcoming report on SID
 - Above inflation increases to medical scheme contributions blamed on SID in popular press – DH & GEMS
(increase in the supply of *private hospital beds* specifically)

- Data show significant increases to demand (utilisation)
 - Driving factors include ageing, BOD, technologies, benefit changes, regulation

Economics 101: SID in the Health Sector

- In healthcare markets specifically this is not a new idea:
 - Increase in health facilities/ doctors causing an increase in the use of, or demand for, that service
 - Academic and research papers abound
- However, little agreement on exact definition:
 - *“a physician providing care that a fully informed patient would not choose for himself”* (Chandra et al.)
 - *“the phenomenon of physicians deviating from their agency responsibilities to provide unnecessary care with the main objective of increasing their own pecuniary resources”* (Leonard et al.)
 - a doctor *initiating* a consultation as SID (Rossiter & Willensky)
 - *“the concept of physician-induced demand relies heavily on the notion of a knowledge imbalance between provider and consumer that the physician can and will exploit for financial gain”* (Hay & Leahy)
 - ‘unnecessary surgery’ not to be confused with ‘discretionary’ or ‘elective’ surgery (Leape)

SID in Practice

- So, basically... motive & opportunity
- Also, two important facts emerge from the literature:
 1. The *measurement* of SID will rely entirely on the *definition* considered; and
 2. Few (if any) definitions of SID refer explicitly to the role of hospitals or healthcare facilities in their discussion of the phenomenon.
- Defining SID in the local context:
 - Practical mechanism?
 - E.g. if hypothesised that SID is driven by hospitals, then need to provide logical explanation of how hospitals are able to act without the agency of doctors and without constraint from medical schemes/ administrators
 - Role of the doctor?
 - Health outcomes?

Measurement & Model Specifications

- Lessons from the literature:
 - Lack of rigorous theoretical models
 - Measurement error (inferences about micro behaviour from aggregated data, unrepresentative sampling)
 - Specification error (omitted variable bias, under-identification of demand equations, endogeneity amongst independent variables)
- Most important considerations from our own experience:

Market definition
<ul style="list-style-type: none">• May be dynamic, especially over time• Most healthcare services are not perfect substitutes• PROVIDER NETWORKS

Initial conditions
<ul style="list-style-type: none">• Assumptions are key• Market in equilibrium?• Pent-up demand• Prior (implicit) rationing• Doctor density is endogenous

Proof of causality
<ul style="list-style-type: none">• Correlation \neq causality• Relevant controls for other factors influencing demand• LOGICAL EXPLANATION OF THE HYPOTHESIS

“Supply may be high because demand is high. Distinguishing whether greater equilibrium quantities are provided because supply is high or demand is high is always difficult, and is virtually impossible when prices are not allowed to adjust.” (Chandra et al.)

Concluding Remarks

- Despite the recent interest in SID in the SA private health sector, it is an age-old economic concept
- According to the wealth of literature:
 - Doctor plays a central role
 - Remains difficult to measure/ isolate
 - Upfront explanation of the practical mechanism is required
- Policy responses almost always refer to:
 - Revised reimbursement structure for doctors
 - Introduction of (more effective) managed care

Please see Econex Research Note 40 and our blog on SID: www.econex.co.za

THANK YOU

QUESTIONS & DISCUSSION

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