



CONSEQUENCES OF 'RIGHT-SITING' OF ENDOCRINOLOGY PATIENTS- A FINANCIAL AND CASELOAD SIMULATION

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INTRODUCTION



Right siting enthusiastically promoted by government officials

"..we need to have patients treated in the most appropriate locations by medically-competent teams at the lowest possible cost. This is referred to as "right-siting" healthcare services. The logic is obvious. But the outcome is seldom the case." (Budget Speech 2007)

"We should right-site the treatment at wherever the medical expertise is available at the lowest possible cost. When a patient who can be adequately treated by a GP is instead managed by a specialist in a tertiary hospital, it means a waste and abuse of expertise, at the expense of the seriously ill who require the expertise of the specialist." (China Singapore Joint Healthcare Forum 2006)

Khaw Boon Wan, Minister for Health

- Tremendous barriers at the level of patient, e.g. perverse pricing, quality differential perceptions
- BUT disincentives at level of provider not well-studied

BARRIERS TO RIGHT SITING FROM PROVIDER PERSPECTIVE ONLY DEALT WITH QUALITATIVELY AND CONCEPTUALLY THUS FAR



- Commentary into what providers need to do to achieve right siting
 - “As long as our doctors are monitored, measured and rewarded by the number of patients they see (especially private patients), the procedures they carry out and the dollar value they bring to the **institution** (as opposed to the country), right siting will never succeed.”
 - “...it would be hypocrisy to exhort right siting and holistic care while at the same time, penalize the doctor who sees fewer but more complex patients and maintains the best possible outcomes for them.”

AIM



- We sought to determine through modelling and simulation the financial and volume impacts of ‘right-siting’ of endocrinology outpatients in a large tertiary hospital in Singapore.

METHODS



- Data needed to construct model
 - Case mix of outpatient consultations: simple and complex
 - Annual Attendance data
 - Financial value of consultation including medicines and laboratory tests
 - Consultation time for simple and complex cases
- Data collected
 - 2 week census of all outpatient consultations by diagnosis and complexity (Endocrinology Dept)
 - Attendance data (Hospital administrative data)
 - Financial data (Hospital administrative data)
 - Consultation time (Time-Motion Analysis)

RESULTS



	SIMPLE	COMPLEX	DERIVATION
CLINICAL CASE MIX	64%	36%	N=1,221 consultations (94.9%)
AVERAGE BILL SIZE	\$248	\$285	N=330
AVERAGE CONSULTATION TIME	8.2 minutes	14.7 minutes	N=105

Research Scenario- No replacement of right-sided cases; time freed up used for research or education related activities



What we know so far:

Complex cases have \$37 higher revenue compared to simple cases but require 5.5 minutes more consultation time.

Type	Average bill size [SOC & pharmacy bill size xlink Census]	Average duration (mins) [TMA xlink Census]	Corrected SOC workload (%) [Census]
Simple	\$248.38	8.2	64
Complex	\$285.07	14.7	36

Case: Typical (assuming 33,000 patients per year)

Type	Total bill size	Total time (mins)	n
Simple	\$5,245,816.61	173184	21120
Complex	\$3,386,690.36	174636	11880
Total	\$8,632,506.97	347820	33000

Set capacity limit at 347820 mins

Case 1: Total right site, no capitalization of freed up capacity

Type	Total bill size	Total time (mins)	n
Simple	\$0.00	0	0
Complex	\$3,386,690.36	174636	11880
Total	\$3,386,690.36	174636	11880

- \$5.2 million decrease in revenue; 21,120 fewer patients seen
- Freed up time = 2,886 hr/yr or 2.8 hr/wk per clinician (Dept headcount of 20)

Service Scenario- Replacement of simple cases with complex cases



What we know so far:

Complex cases have \$37 higher revenue compared to simple cases but require 5.5 minutes more consultation time.

Type	Average bill size [SOC & pharmacy bill size xlink Census]	Average duration (mins) [TMA xlink Census]	Corrected SOC workload (%) [Census]
Simple	\$248.38	8.2	64
Complex	\$285.07	14.7	36

Case: Typical (assuming 33,000 patients per year)

Type	Total bill size	Total time (mins)	n
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Total	\$8,632,506.97	347820	33000

Set capacity limit at 347820 mins

Case 2: Total right site, total capitalization of freed up capacity with complex cases

Type	Total bill size	Total time (mins)	n
Simple	\$0.00	0	0
Complex	\$6,745,158.29	347816.7	23661
Total	\$6,745,158.29	347816.7	23661
Losses	\$1,887,348.67		

- \$1.9 million decrease in revenue; 9,339 fewer patients seen
- No freed up time

DISCUSSION



- Significant proportion of specialist endocrinology patients are 'simple'
=> Potential impact of right siting substantial at hospital level
- BUT the approximately 120 patients seen per day in this hospital is <15 times the number seen in primary care every day (Primary Care Survey 2005- 2,030 diabetics seen by primary care physicians per day)
- Currently little incentive for public sector providers to right site patients
 - Reduction in revenue
 - Reduction in patient numbers
 - Minimal freed up time for high opportunity cost

CONCLUSION



- 'Right-siting' reduces significantly tertiary care patient volumes and revenues and may discourage 'right-siting' efforts in a block budget setting. A viable business model for the tertiary institutions is needed to facilitate support for 'right-siting'.
- There is a role for a national strategy to incentivize all echelons of healthcare to promote right siting