BUDGET 2010: THE PROBLEM WITH PRODUCTIVITY

By Dr Jeremy Lim, Editorial Board Member

If there is one word that sums up the Singapore government's 2010 Budget, it is "productivity". What does "productivity" mean in the healthcare setting?

Our key goal is to grow our productivity by 2% to 3% per year over the next decade, more than double the 1% we achieved over the last decade… The Government will commit its resources and energies to support this major uplift in productivity. But this has to be a comprehensive national effort, with everyone pitching in and taking ownership.

Tharman Shanmugaratnam, Minister for Finance
Budget Speech 2010

Productivity is commonly defined as the quantity of output relative to the quantity of input. In the manufacturing sector, it could mean the number of widgets produced by employees, and in the retail sector, sales per hour and so on. In healthcare, defining productivity has been fraught with challenges. Some of the earliest papers on healthcare productivity exhorted metrics such as costs per bed-day and even composite metrics including days of service, diagnostic tests, and procedures performed, amongst other measures (Saathorf and Kutz, 1962), but these are all deeply flawed as casemix (patient variability) and outcomes are not specifically imputed into the analysis. Regrettably, this is the norm for healthcare productivity studies because it is so difficult to do it right. For example, a 2007 report from Canada highlighted that using conventional input/output characterisations of productivity, Canada's "health and social assistance" sector actually recorded a drop in productivity of 0.69% per year between 1987 and 2006. A British government report released last month likewise concluded healthcare productivity in the United Kingdom fell by 3.3% between 1995 and 2008.

In Singapore, the Minister for Health reported in Parliament last month: "Our headcounts have increased by 44%. Our doctor staffing level has gone up from 6 doctors to 8 doctors per 10 beds. Nurse staffing level has gone up from 20 to 26 nurses per 10 beds." The ministry's subvention budget grew by S$372 million between last year and this year. Using a simplistic input/output computation of productivity looking at the traditional factors of manpower, capital and land compared against number of patients or consultations, it would not be unreasonable to postulate that healthcare productivity in Singapore will slip dramatically, and this decline will be by deliberate government design!

Challenges in Measuring Productivity in Healthcare

There are at least three challenges associated with measuring productivity in healthcare but given the national imperative, it is vital that we overcome these constraints.

Determining Casemix – Patient variability and the need to adjust for casemix are simple concepts to understand but horrendously difficult to operationalise. We all agree that a patient undergoing a joint replacement but otherwise well is very different from another undergoing the same surgery but has multiple co-morbid diseases such as heart failure, diabetes and hypertension. Hospitals treating different types of patients should therefore be appraised using different yardsticks. The great physicist Albert Einstein has reminded, "Not everything that counts can be counted." That said, we cannot hide behind an opaque curtain of medical mystique and expect to be shielded from the rigor of independent accountability and evaluation.

We need to ensure that despite inherent constraints and caveats, we can and must count well enough to recognise productivity gains, assure the public and guide policy decision-making. The science of casemix differentiation is relatively young in Singapore sans a few areas such as cardiac surgery, although it is moving rapidly in many other countries. We will also need to move with determined speed to ensure a fair comparison of before/after performances and hence productivity.

Measuring Quality – "Better, Faster, Cheaper" may be the rallying call of productivity aficionados and while laudable, needs to be nuanced by a stringent ability to truly measure "Better". "Cheaper" and "Faster" are easier metrics to articulate and capture, and in a frenetic bid to demonstrate productivity, we run the risk of becoming faster and cheaper to the detriment of "Better" and ultimately compromise patient safety and care. Healthcare leaders need to be especially mindful of this; "What gets measured, gets done" has the unfortunate corollary, "What doesn't get measured… can be sacrificed."

Quality is to some extent dependent on casemix and the concept of Standardised Mortality Ratios, popularised in the United Kingdom by Brian Jarman can overcome this constraint by contrasting the actual against expected mortalities or other outcomes in any given cohort. The ability to compute expected outcomes derives from both the availability of appropriate data and the necessary expertise to interpret. Both are in short supply in Singapore today and this has to change.

Shifting the Burden

One last point about quality: If healthcare is a sausage, we need to ensure that the entire sausage has sufficient meat and flavour distributed evenly. Squeezing one end of the sausage, or shifting the burden in systems nomenclature, may

drive "productivity" in that narrow aspect, but overwhelm another contiguous part. We can quite easily bring waiting times for acute hospital beds down by discharging more patients to community hospitals and nursing homes, but unless the downstream organisations are ready to appropriately manage the patients, we have done no favours to either the patients or the providers. Total system productivity is what we should be aspiring towards.

Multiple Outputs – Public healthcare is disadvantaged by having multiple missions, which often are in conflict with each other. Grooming the next generation of healthcare professionals is vital for the collective future but militates against today's efficiency. Likewise, we have national ambitions of becoming a world-renowned biomedical research hub but abundant clinician-scientists and a thriving ecosystem of clinicians – passionate about research and actively participating in clinical trials and studies – necessitate fewer doctors in the wards and clinics treating patients. The various competing national objectives including productivity gains depend on the same resources, and policy makers need to prioritise and balance the basket of metrics accordingly. Silence on research and education prioritisation amid the cacophony of voices exhorting productivity will be deafeningly interpreted to mean that only healthcare services productivity matters and our dreams in the other spheres will remain unrealised.

What Should We Do?

Shifting from "traditional" Productivity to Value Creation – There is an urgent need to develop new metrics to define and measure "productivity" in the healthcare setting. We should cast aside the input-output mental model as used commonly and replace it with a "**Value = Benefit – Cost**" equation instead. This perspective places emphasis on the benefits created by healthcare and contrasts with the price individuals and society are prepared to bear. It is alright to accept a higher cost outlay for better outcomes; what is crucial is that we are collectively ready to bear the additional burden and accept some trade-offs elsewhere. And society cannot make such trade-offs without being able to understand the benefits accrued, such as robust outcomes data beyond financials and wait times, so that sound decisions can be made collectively.

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"I'm from the government and I'm here to help" – Ronald Reagan's words have been described half tongue-in-cheek as the nine most frightening words in the English language. On a more sober note however, governments have a critical role in promoting productivity through enlightened regulations and consequent enabling of innovations in healthcare delivery.

Think about the phenomenally popular retail clinics in the US (Best known in Singapore is probably the MinuteClinic chain which is part of the CVS pharmacy chain) which are run by practitioners supported by sophisticated computer algorithms, treating only specific symptoms and conditions, and are priced much lower than traditional practices. Oh, retail clinics are run by nurses and physician assistants. Could these take off in Singapore? Should they? What about pharmacists prescribing medicines like varenicline (Champix®) since retail pharmacies are common places where smokers seek advice on smoking cessation? Also, how about blended face-to-face/tele-health initiatives to care for chronic diseases such as hypertension and diabetes remotely?

All these are already happening in other parts of the world very successfully and are living examples of productivity in healthcare, creating benefits for lower costs and in some instances, larger benefits AND lower costs. The government as regulator can catalyse or stifle productivity innovations through laws and policies and the government as payor (and many governments are the single largest payors in healthcare) can adroitly leverage on purchasing power to drive productivity and sidestep vested interests/override inertia.

In Singapore, the government as the largest owner of healthcare facilities can play a much more direct role in encouraging productivity at the system level. "Systems Engineers" were powerfully used by the Ministry of Defence in the 1970s. Is it time that healthcare build up teams of our most talented and diverse managers from across the various strata of the healthcare family to systematically "help to create and sustain systems" (as Prof Lui Bao Chuen, former Chief Defense Scientist describes the MINDEF engineers of yesteryear)? There is little point castigating healthcare professionals who innately already want to do their best to be more productive; so much the better to provide the tools and the expertise to enable this.

The national mantra of productivity will have little resonance in a healthcare system already struggling to cope unless it can be redefined in terms viscerally understood and prioritised by healthcare professionals, such as better clinical outcomes for more patients. Conversely, an inability to help policy makers outside the sector understand the nuances of healthcare and why the traditional metrics of productivity are insufficient will tar healthcare as belligerent and difficult. Such perceptions will render us as a sector ineligible for the vast resources the government will pour into enhancing productivity. Traditional "productivity" approaches fail healthcare and new paradigms are needed not just in measurement but in management. SMA

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