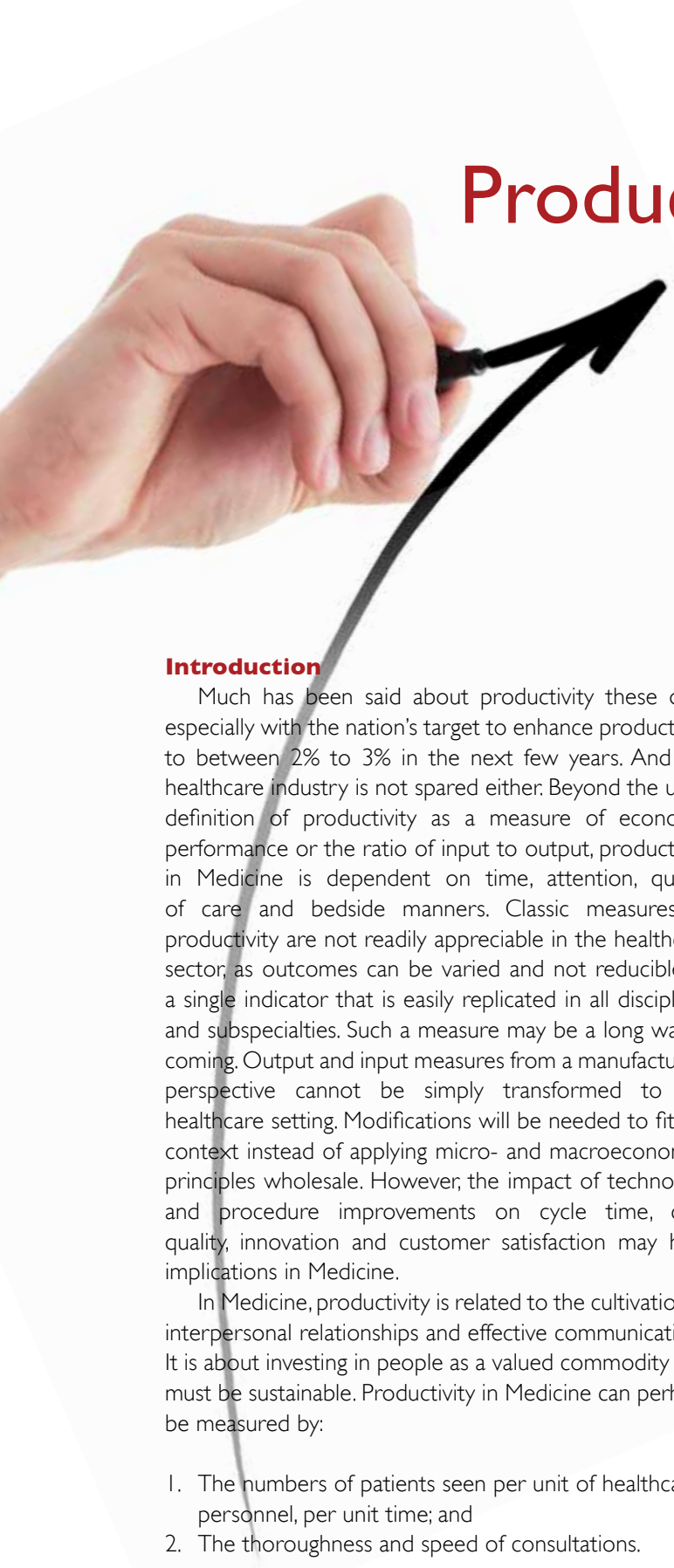


# Productivity in Medicine – Where Are We Headed?

By A/Prof Fatimah Lateef

## Introduction

Much has been said about productivity these days, especially with the nation's target to enhance productivity to between 2% to 3% in the next few years. And the healthcare industry is not spared either. Beyond the usual definition of productivity as a measure of economic performance or the ratio of input to output, productivity in Medicine is dependent on time, attention, quality of care and bedside manners. Classic measures of productivity are not readily appreciable in the healthcare sector, as outcomes can be varied and not reducible to a single indicator that is easily replicated in all disciplines and subspecialties. Such a measure may be a long way in coming. Output and input measures from a manufacturing perspective cannot be simply transformed to the healthcare setting. Modifications will be needed to fit the context instead of applying micro- and macroeconomics principles wholesale. However, the impact of technology and procedure improvements on cycle time, cost, quality, innovation and customer satisfaction may have implications in Medicine.

In Medicine, productivity is related to the cultivation of interpersonal relationships and effective communications. It is about investing in people as a valued commodity that must be sustainable. Productivity in Medicine can perhaps be measured by:

1. The numbers of patients seen per unit of healthcare personnel, per unit time; and
2. The thoroughness and speed of consultations.

This is obviously labour intensive and may seem less productive at first glance, but it is linked to quality and satisfaction, for both healthcare providers and patients. Moreover, indicators in the primary, secondary and tertiary healthcare settings, as well as health promotion sector may be different. Some factors that may be considered in measuring healthcare productivity include:

1. The improvements in the population's health;
2. The quality of life of the population;
3. The number of hours of a physician's time utilised
4. The number of hospital bed-days utilised; or even
5. Value for money service.

In healthcare, we often deal with infinite demand for finite resources. Our healthcare sector is certainly an important contributor to Singapore's economy, but patients' well-being and economic targets do not necessarily go hand in hand all the time.

In the literature review of a 2005 paper, James Buchan suggested that there are five different factors that play a role in raising productivity among healthcare workers:

1. **Being there:** addressing staff absence and leave entitlement;
2. **In the right place:** issues of geographical location;
3. **At the right time:** matching staffing with workload;
4. **Doing the right thing:** being more responsive to patient needs, and making the best out of workers' skills and competencies (Buchan also suggested that individual workers may be less productive because they are not focusing on their core competencies and activities, and that health teams may be less productive if their mix of skills is less than optimum); and
5. **Doing things different/doing different things:** improved training, management and enhanced roles, etc.[1]

Productivity is also closely linked to the value of care, which is a concept of relative worth and a function of quality over payment. Value would mean slightly different things to different stakeholders. For example, patients would link value to affordable cost, safety, excellent communications and outcomes of their treatment. Simply put, this is satisfaction which comes about from the mutual understanding generated between patients and their physicians or healthcare providers.

## The issue of space

If one were to discuss productivity with any healthcare professional in Singapore, the issues of space (including beds), as well as manpower numbers will surely surface. As a small nation, space will always be a primary consideration in Singapore. Here are some innovative ways to utilise space more efficiently in our healthcare setting.

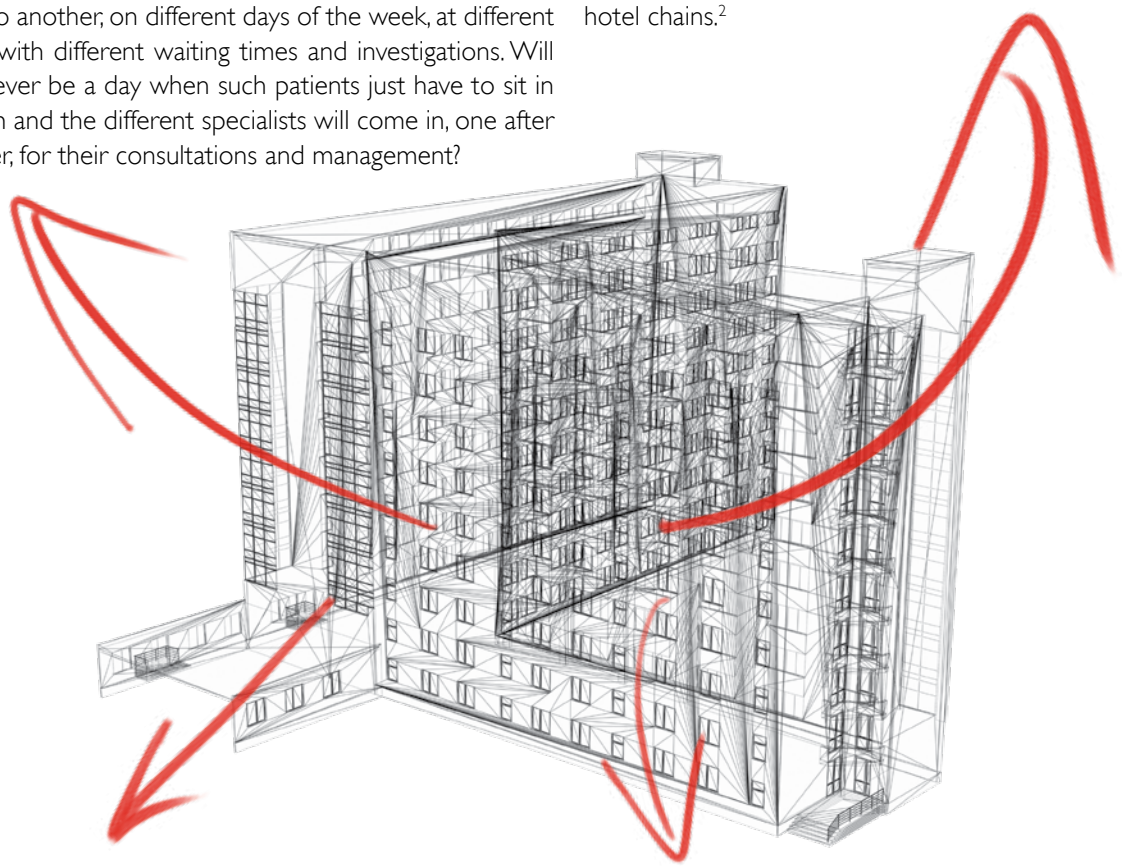
### *Sharing of space*

If each institution and each discipline can be less "territorial", there will be fewer silos and lesser segmentation in patient care. "Seamless" care is an ideal to strive for. Experience this from the patients' perspective: patients with multiple medical issues, moving from one specialist clinic to another, on different days of the week, at different times, with different waiting times and investigations. Will there ever be a day when such patients just have to sit in a room and the different specialists will come in, one after another, for their consultations and management?

### *Building up… and down*

Rooftop spaces are being utilised in some institutions today. Basements are currently where hospital support services (for example, kitchen and mortuary) are located. There is nothing stopping us from using other basement areas and underground space for future patient care facilities.

90% of Singapore's population live in high-rise apartments, and we are good at building HDB flats. If we can build step-down care or long term care facilities in a relatively similar fashion, one block can house many such chronically ill patients (eg, those needing rehabilitation or nursing support), and with lifts that stop on every floor, access is not an issue. This is already being done in Scandinavia, where such services are being run by private hotel chains.[2]



### *Use of "dead space"*

Can we utilise "dead space" in our current healthcare environment? For example, an area used by one discipline at certain times can be used by another discipline at other times. The corridors in hospitals can be redesigned to create ambulatory consult rooms or areas for administrative services. How about the use of double decker beds in certain areas of the hospitals (not the intensive care units, of course) where the patients are more stable? If we can shift our cars, with the use of technology, to double-decker parking units, I am sure our healthcare staff can find some innovative ways to handle double-decker or multi-decker nursing for stable patients.

### *Virtual space*

Will our patients reach the level of maturity where consultations can be done through teleconferencing? Patients will have to be versatile, knowledgeable and trusted to record their vital signs, reporting symptoms, transmitting details, and being compliant, vigilant and accurate. It will take a more empowered population to be able to do this on any significant scale. This can also be utilised by the primary healthcare sector to consult specialists in hospitals. GPs and polyclinic doctors can use this modality to consult on cases that may not need hospital referrals. This is one of the ways to reduce unnecessary referrals to tertiary healthcare services and reduce the high patient loads in hospitals' emergency departments.

## Manpower issues

Training, skills and quality are keywords for healthcare manpower. Enhancing the employability and functionality of different sets of staff is a good option to consider. How do we redesign our teams and working practices, such as having more nurse practitioners and nurse specialists? How can we utilise mechanisation and automation? An example would be despatching laboratory tests and specimens using a "telelift transportation system" instead of having to employ people to deliver them manually. Robotics are in these days too, but we still need trained persons to operate the robots.

Healthcare manpower is generally skilled manpower. The link between skills and productivity continues to be studied today.[3, 4, 5] Skills are one of the major drivers of productivity in healthcare.

Skilled manpower can raise productivity either in a direct manner, via the impact of individuals' skills, or indirectly, through links to innovation, progressive thinking and enterprising capabilities (for example, more skills mean the ability to generate new ideas, innovate and adapt to changing environment and developments). Skilled manpower can handle more complex tasks, thus the potential in producing higher level services as well. Skilled workers and staff can also facilitate the learning of others in the organisation. It is also important to realise that the skill-productivity link does not operate in isolation.[3, 4, 5]

> ***"Beyond the usual definition ... productivity in Medicine is dependent on time, attention, quality of care and bedside manners.***

Each year, thousands apply for the limited places at our local medical schools. Can we find some innovative ways to engage youths to join various sectors of the healthcare industry, as they must be obviously interested in healthcare, having applied for a course related to it? We can also explore other areas in terms of care in the community and care partnerships with nonmedical or paramedical groups, which can relatively and effectively enhance our manpower numbers.

## Quality and productivity

Perhaps a multidimensional measure is the most appropriate to assess productivity in the healthcare setting. This would include the measurement of productivity from the perspectives of:

1. The organisation or institution;
2. The staff or healthcare personnel; and
3. The patients or public.[3, 4]

Quality and efficiency are important considerations in assessing productivity in the healthcare sector.[6, 7] Quality can be segmented and assessed from the point of view of:

1. Structural quality: measuring resources, labour and use of technology;
2. Process quality: manner of service delivery and its evolution and improvement; as well as
3. Outcome quality: patient or customer satisfaction, or patient reported outcomes measures.

These subcategorisations will make it easier and more focused for institutions to track quality.

Every employee has a role in contributing towards quality care and enhanced productivity. The smallest conceivable service system in healthcare involves a single person or staff, like a doctor, patient or nurse. Such small systems will merge and interact with larger ones and may even form multiple service systems like hospitals and large institutions. We must be able to ensure that even with the merging and interaction among the systems, quality is maintained or enhanced and does not deteriorate with the complexities of larger systems.

## Conclusion

This is just a very short opinion piece, and much is left to be done in this area of productivity in Medicine. There is a need for deeper understanding of health and healthcare, in order to produce solutions.

Meanwhile, the search – to identify the synergistic effects, differentiations and interferences of quality and productivity metrics in healthcare – continues. For the individual doctor or healthcare personnel, work will continue to be hectic, but hopefully rewarding and satisfying. SMA

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