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Author(s)	Matchar, David Bruce; Car, Josip; Koh, Gerald Choon Huat
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The role of primary care in the dynamics of a health system

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David Bruce Matchar¹, Josip Car² and Gerald Choon Huat Koh³

Everything changes and nothing remains still... you cannot step twice into the same stream.

Heraclitus¹

As much as we might want to imagine the health system as a solid, static entity, it is, like all things, in constant flux. This is especially evident in Singapore, which has transitioned over the last 50 years in ways that make it barely recognizable. For all the ways we know Singapore has changed, from the perspective of the health system, nothing has been more Protean in its effects than the demographic transition – from high birth and death rates to low birth and death rates.

The Singapore health system has been highly effective in addressing the needs of a young population with single acute or occasional complex chronic conditions through the cultivation of advanced emergency and hospital services, and highly capable specialists. Now, faced with an older population with many chronic conditions and complicating social issues, the structures that served Singapore well are coming under stress. Many of these stresses have been reported in the press: increasing emergency department attendances, longer waiting times for admission and hospital overcrowding.^{2,3}

To the extent that these stresses reflect population changes, one could imagine resolving the difficulties by increasing staff and facilities in proportion to the increasing demand. However, there is evidence that such a reactive approach will not suffice. In particular, without a structural shift to primary care services with greater capacity and capability, *the demands on hospitals and specialists will increase disproportionately to the increase in population.*⁴

Why might that be? Hints of the answer come from data on hospital bed use. Admission trends over the past two decades in Singapore indicate that not only are there more older people being admitted to hospital, but that older people are more likely to be admitted to hospital than in the past: from 1991 to 2014, the per-capita rate of admission for individuals aged over 80 years has increased 1.6 times.^{5,6} Similar trends have been noted in other countries as well.^{7,8}

A recent study of acute services gives a further clue: on one geriatrics ward, nearly 50% of bed days were occupied

for reasons other than acute needs, such as long-term rehabilitation, arranging long-term care, or monitoring or management in lieu of discharging to an outpatient clinic.⁹ Another clue comes from an evaluation of discharge rates at an acute care hospital during periods of high bed occupancy. It was observed that rates of discharge increased during periods of high bed occupancy, but this was largely limited to discharging individuals who had been in hospital for more than 4 days (unpublished data). Anecdotal evidence suggests that when hospital capacity permits, it is reassuring for the care team to keep the patient in hospital. In the absence of any shift in how acute services are used, simulation studies based on these data indicate that the rate of increase in future demand is likely to continue to outstrip population growth.⁴

Which brings us to the role of primary care in shifting this dynamic. As the health needs of an ageing population have expanded, an increasing number of people are being referred to the public sector outpatient services. This has many causes, one being the cost advantage, particularly for patients on multiple medications. Greater visit volume leads to increasing time pressure on public clinic visits. A natural consequence is that, as patients' needs become more complicated, problems are uncovered that cannot be readily addressed in a brief encounter, especially if it is with a new provider, and these patients are referred to acute services. Another natural consequence of limitations of outpatient care is that when a patient is admitted, inpatient doctors may extend the length of stay if they are not confident that transitional issues will be effectively addressed.

¹Program in Health Services and Systems Research, Duke NUS Medical School, Singapore

²Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

³Yong Loo Lin School of Medicine; Saw Swee Hock School of Public Health, NUS, Singapore

Corresponding author:

David Bruce Matchar, Duke NUS Medical School, 8 College Road, 169857, Singapore.

Email: david.matchar@duke-nus.edu.sg



If the hospital can be compared to a full bathtub, the current situation is akin to having a tap still running with a clogged drain. This metaphor suggests that if primary outpatient care can be enhanced to accommodate patients with more complex needs, pressures on hospital beds can be substantially alleviated by reducing admissions and enhancing discharge rates.

Can enhancing primary care really relieve systemic stress? That depends on two considerations. If we build it, will they come? That is, will providers and the public embrace such enhancements? For providers, this means changes in the financing and organization of services and potentially new expectations for 'value-based' performance. For patients, it means developing new provider relationships and changes in the accessibility and affordability of services.

Equally important considerations are the health and cost implications of a fundamental shift in the balance of health care in Singapore. Will such a shift be in the best interest of the Republic? The Ministry of Health and the Agency for Integrated Care, among other entities, are actively pursuing a variety of approaches to enhancing primary care both in capacity and capability.

What is clear is that our health system is complex and dynamic. Understanding how we can accommodate the needs of a rapidly changing Singapore will require a concerted effort. In support of this agenda, investigators at the Duke NUS Programme in Health Services and Systems Research, in collaboration with the Saw Swee Hock School of Public Health (NUS) and the Centre for Population Health Sciences, Lee Kong Chian School of Medicine (NTU) are working towards engaging in a series of data collection and simulation

studies in partnership with government entities and the primary care community, to evaluate the potential for new models of primary care.

Remaining still is not an option.

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