

Challenges Confronting the Practice of Nursing in Singapore

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ABSTRACT

Singapore, a young nation like many developed countries, faced a shortage of nurses. Attempts to resolve the workforce shortage through the employment of foreign nurses started in the mid-1980s. Over the years, workforce recruitment from traditional sources nearby, namely Malaysia and Philippines, has expanded to include nurses from countries such as People Republic of China, India, and Myanmar. Attempts have also been made to train, recruit, and retain local nurses such as improving working conditions and remunerations, raising the profile of nursing, improving career recognition and progression, and encouraging nonpracticing nurses back to the workforce. However, the institutions' and the government's attempts to ameliorate the nursing shortage were met with limited success. Even with the recruitment of foreign nurses, the shortage of workforce persists. The shortage is compounded by the three major health-care challenges

confronting Singapore: (1) rapid growth in population; (2) rapid aging of the population; and (3) increasing burden of chronic diseases. As the population continues to grow and as more of the population ages, as life expectancy increases and the burden of chronic diseases increases, not only will the demand for nurses continue, but the intensity and the nursing care they require will also increase. This article describes the challenges confronting the practice of nursing in Singapore and their implications. Although these challenges are daunting, they offer nursing the unprecedented opportunities to shape health-care delivery systems and increase nursing influences everywhere across settings and along the delivery continuum.

Key words: Challenges, foreign nurses, innovations, leadership, workforce shortage, nursing, Singapore

Introduction

Singapore, a young, small island state nation of 721.5 km²,^[1] is densely populated with 5.83 million people.^[1] It has attained a high standard of health with the

average life expectancy at birth for males at 81 years and 85.4 years for females.^[2] It is a multiracial and multicultural country, consisting of Chinese (76.2%), Malays (15%), and Indians (7.4%).^[3]

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Singapore Health-Care Delivery System

Singapore health-care delivery system is a dual system: public and private. It consists of primary health care, secondary and tertiary care, and intermediate and long-term care.

Primary health care is accessible through 1700 private general practitioners' clinics throughout the island which provide 80% of primary health-care services with the government providing 20% through 20 polyclinics.^[4] In contrast, the public sector accounts for 80% inpatient and specialist outpatient health-care service via 8 acute public hospitals, a hospital for women and children, and a psychiatric hospital, under three clusters: National Healthcare Group, National University Health System, and SingHealth Services.^[5] Each cluster has the full suite of health-care services, from primary care to general hospitals and community hospitals. The intermediate and long-term care, such as nursing homes, are provided mainly via voluntary welfare organizations.

The Ministry of Health (MOH) oversees the provision and regulation of health-care services such as monitoring the accessibility and quality of health-care services, allocating resources, and issuing required licenses for health-care establishments.^[6]

Major Challenges Facing Singapore Healthcare

Over the past decade, the population has grown from 4 million in 2000 to 5.83 million in 2019^[7] due to immigration and this is expected to grow. Compounded to this is the aging population as baby boomers reaching the age of 65 from 2012.^[8] It is estimated that 20% (1 in 5) of Singaporean residents will be aged 65 and above by 2030.^[9] This will be a 3-fold increase to 960,000 elderly from around 350,000 in 2012. The increased number of older people with the associated complexity of their health condition will pose many challenges to the health-care systems. Not only will the demand for nurses increase, but the intensity and the nursing care they require will also increase.^[10] Chronic diseases are the major cause of death and disability worldwide.^[11] In Singapore, chronic diseases accounted for 83% of all deaths in 2002.^[11] Other than longer hospital stays, chronic diseases also pose health-care service demands for their long-term management. The burden of chronic diseases is expected to increase due to the increase in life expectancy, an aging population, and changing lifestyles.

Nursing workforce profile

Nurses form the largest professional group in our health-care workforce. Our overall registered

nurse (RN)-to-population ratio is around 7.5 nurses/1000 population in 2018 or 1:134 (ratio to population).^[12] There are 42,125 on the Singapore Nursing Board (SNB) register, comprising 33,614 RNs (79.8%), 8394 enrolled nurses (ENs: 19.9%), and 117 registered midwives (0.3%). There are 5778 nurses (13.7%) not in active practice. Six out of 10 of our practicing nurses work in the public health-care sector^[12] [Table 1].

Foreign nurses constitute a fairly large portion of the nursing workforce and are categorized under two groups. The majority group which comprises those who have already obtained their nursing qualification in their home country are recruited either as RN or EN or health-care assistants (HCAs) under biannual contracts. They would need to take the SNB licensure examination and undergo a 3-month competency assessment by the employing institution. The minority group consists of school leavers who are given scholarship to study nursing at the polytechnics with a 6-year bond upon graduation. The foreign nurses who are employed as ENs or HCAs (due to the lack of clinical experience in their country) have opportunities to progress in the nursing career based on their work performance and successful licensure examination. The SNB regulates and ensures that the standards of education and practices of nurses and midwives are maintained.

Nursing education model

The nursing education for RNs in Singapore is provided by both tertiary (polytechnic/university) and private health-care education institutes. There are three educational approaches a person may undertake to become a RN in Singapore. The first is a bachelor of nursing degree track (full time 3 years training after 12 years of basic education or 4 years training leading to an honors); the second is a diploma in nursing track (full time 3 years training after 10 years of basic education); and the third is a 2-year accelerated diploma/degree program for midcareer entrants (based on prior qualification) track. Nurses from both tracks are registered with the SNB as RNs and there is no difference in their scope of practice. Following their basic nursing training, RNs can undertake a 1-year, institution-sponsored, advanced or graduate diploma course in various clinical fields such as community nursing.

Table 1: Nurse population

Category of nurses	Public sector	Private sector	Not in active practice	Total
Enrolled nurses	4854	2241	1299	8394
Registered nurses	20,734	8441	4439	33,614
Registered midwife	48	29	40	117
Total	25,636	10,711	5778	42,125

Diploma graduates can acquire a degree either through the local university route or through a baccalaureate nursing degree via post-registered courses offered by SNB accredited universities, namely from Australia. An 18-month, full-time, institution-sponsored master of nursing (MN), leading to registration as advanced practice nurse (APN) program, is available for nurses who are keen in the clinical tract.

The nursing education for ENs, a 2-year certificate program, is provided by the Institute of Technical Education where greater emphasis is placed on technical skills. School leavers or mid-career entrants may enroll and be trained as ENs. This is an alternative pathway for those interested to pursue a career in nursing but do not qualify for enrollment into nursing diploma program. Promising personnel may be sponsored to take up a 4-month bridging course held at the polytechnic and upon successful completion may progress to a 3-year diploma in nursing program.

Upon successful completion of their local nursing courses, graduates can apply for registration with the SNB. Unlike many countries such as the United States, there is no licensure examination for graduates prior to registration.

Training for local HCAs is conducted by the accredited training institutes and is varied and is related to their place of work. Training consists of both theory and practical aspects such as understanding the health-care environment; lifting, transferring, and position of patients; and assisting with basic hygiene activities and nutritional needs.^[13,14] A large portion of the training consists of on-the-job training with competency assessments. Upon successful completion of the 1-year training, trainees become certified HCAs.^[13,14]

Workforce Issues

Singapore, a young nation like many developed countries, faced a shortage of nurses. Recruitment and retention remain a crucial challenge for nursing. The underlying causes for the nursing shortages are the declining number of enrollments in nursing schools due to low status of the profession, remuneration, rotating shifts, limited career mobility, as well as competing career opportunities for women and attrition. Nursing leaders in Singapore attempted to resolve this acute workforce shortage through the employment of foreign nurses in the mid-1980s. Initially, the supply was from traditional sources nearby, namely Malaysia and Philippines. It was also at this stage that the role of HCAs evolved. Foreign nurses with limited work experience were employed as HCAs to assist the RNs and ENs with basic nursing care. By the 1990s, workforce recruitment expanded to beyond traditional source to include nurses from countries such as People Republic of China, India, and Myanmar.^[15] Even with the recruitment of foreign nurses, the shortage of nursing workforce persists.

The supply of foreign nurses is also at threat as the current nursing shortage is global.^[16]

Over the years, working conditions had been reworked and wages of nurses had been subjected to regular revisions to ensure that competitiveness in the tight job market. Other strategies included raising the profile of nursing, improving career recognition and progression, and encouraging nonpracticing nurses back to the workforce. In addition, multiple pathways were created for mid-career professionals entering the profession and the lowering of the entry point for nursing courses to one of the lowest offered in the polytechnics and university. Despite numerous attempts by both institutions and government to retain local and existing nurses and encourage school leavers to join the nursing workforce, our health-care industry is still hungry for nurses.

Despite these foreign recruitment efforts including efforts made by increasing the number of education institutions, significant workforce shortages are still being projected by the MOH. The shortage is compounded by the three major health-care challenges confronting Singapore: (1) rapid growth in population, (2) rapid aging of the population, and (3) increasing burden of chronic diseases. To cope with the demand for health-care services, the government is actively building more acute and community hospitals, polyclinics, and long-term care facilities. Likewise, the private sectors are expanding their capacity too. The expansions of infrastructures in health-care industry for the acute, ambulatory, and long-term care have increased the demand and competition for nurses and other health-care professionals.

Practice Issues

Patient safety is the universal principle of health care^[17] and it is the responsibility of every health-care professional to ensure the delivery of safe care. As nurses are the patients' primary providers of care and are often the linchpin component across a wide variety of setting providing continuum of care, their knowledge, skills, and availability can affect quality, safety, and efficiency.^[17] Besides lower level of patient satisfaction,^[18] literature indicates that the fewer the number of nurses, the greater the likelihood of fragmentation of care, longer response times, patient safety issues, and adverse health outcomes.^[19,20] Fatigue, distraction, and interruptions affect cognitive abilities and problem-solving^[21] and can pose serious threats to patient safety.

While the employment of foreign nurses may appear to increase the number of nurses, other problems have emerged. Besides variations of nursing practice, these foreign nurses bring along with them social, cultural, and communication complexities and these have implications

on care delivery. Language barrier in particular is an area of concern. A meta-synthesis by Xu^[22] reported the lack of language proficiency, coupled with fear of embarrassment of having to clarify instructions which could potentially cause harm to her patients, hindered the nurse from asking questions. The attempt to integrate foreign nursing staff with different cultural and educational background into an already culturally and ethnically diverse staff and patient population in Singapore has increased stress among local nurses. In addition to their workload, local nurses have to act as interpreters and are also given the additional task to precept these newly employed in their transition.

Compounded to these is the shortage of physicians. Similar to the nursing workforce, the medical workforce is also resorting to employing foreign medical staff. Current physician–patient ratio is 2.4/1000 and 1:410 to population.^[12] These medical personnel, like their nursing counterparts, bring along social, cultural, and language differences. Often, the local nurses have to act as interpreters, while these foreign physicians communicate with patients or relatives. In addition, over the years, the nursing workforce is increasingly being asked to take up some roles that are being provided by the physicians as they concentrate on more complex cases and procedures. The expanded scope of practice includes but not limited to venipuncture, cannulation, administering of intravenous injections, clerking of patients, and being surgeons' assistants. These "shifting of burden" responsibilities placed more pressure to the existing nursing workforce.

In almost all health-care settings, nurses are multitasking and performing non-nursing roles above their nursing assignments. There are endless paperwork and added workload as other support teams are unable to take over. To cope with the "shifting of burden" and the increasing workload, nursing has also deployed HCAs to assist them with the delivery of basic nursing care. However, this group of people is difficult to recruit even in the ambulatory care settings where working hours are regular and they do not need to take care of patients' activities of daily living.

A knowledgeable workforce is needed to provide the safe and quality care, education, and support needed by patients and families. With the nursing workforce shortages and competing demands from the clinical and education fraternities, the risk arises that nurses with limited experiences are employed or promoted to take up teaching and supervisory positions.

The shortages are generally widespread but are especially felt in the community hospitals and long-term care facilities where these care settings are not as popular with nurses due to their perceived lack of reputation, development, and promotion opportunities. Caring has a history of being

central to the professional practice of nursing and has long been held to be the core of nursing.^[23] Issues relating to nursing workforce shortage and added workload mean that the nurses may not be able to deliver care to the standard they may wish to. This factor often leads to stress as they felt torn between providing quality care and getting everything done on time and has been associated to job satisfaction and in turn to retention.^[22]

Education Issues

There are many educational challenges facing nursing. These challenges are related to clinical teaching and learning for trainee nurses, life-long learning or continual nursing education (CNE), and postgraduate education.

It is a challenge to provide adequate clinical experiences for undergraduates as it is the clinical institutions (service sector) who determine the number of students they will take, the clinical areas accessible to these students, and the number of clinical supervisors that are required (ratio of students: supervisor). Thus, the number of clinical placement allocations may be limited as it is subjected by the ability of the clinical institutions to accommodate them due to the lack or competing demand for clinical supervisors.

In addition, there is a need to provide a seamless transition from theory to practice as student nurses^[24] and newly qualified nurses^[25] found clinical transition fearful. In Teoh *et al.*'s review,^[25] the researchers found that feelings of being ill-prepared for the reality of nursing practice in the clinical areas are still expressed by many of the nurses who have completed their nursing education and have been deemed fit for registration as a qualified RN. The shift of nursing training from the School of Nursing to the tertiary institution (Nanyang Polytechnic) in 1992^[26] resulted in lesser hands-on clinical experience. As such, the nursing graduates are generally not adequately prepared to do their work. Although the advanced education in the tertiary settings is extremely important, the loss of time with clinical experience has caused a gap in graduates being prepared for the workplace. This lack of experience posed challenges to the clinical settings, and institutions have to develop induction programs and assign preceptors to these staff, placing more strain on the more experienced nurses besides taking them away from patient care.

Access to staff development including CNE is also an area of concern due to the acute nursing shortage. This is especially so in the intermediate and long-term care facilities. These institutions find it hard to send nurses to attend full-time postgraduate courses as well as the institution based nursing updates. Although it was proposed for the compulsory continuing education as a condition for annual renewal of nurse practicing license more than a

decade ago, it was not adopted due to the potential barrier to practice at a time of acute nursing shortage.

There is also the lack of locally trained doctorally prepared faculties to teach the increasing number of baccalaureate and master prepared nurses.^[27] Since its first intake of baccalaureate nursing students in 2006, graduates have to undertake their postgraduate nursing education at the various polytechnics. The development of a postgraduate course was slow due to the limited faculties and the only postgraduate course offered by the university is a 18-month full-time MN program, leading to registration as APNs.^[28] It is only in 2018 that the first part-time postgraduate course for community health nursing was started. This slow progress resulted in the limited options available for the baccalaureate-prepared RNs and they either pursue their studies overseas (potential risk of not returning) or enroll in a non-clinical master program.^[27] The lack of doctorally prepared faculties may also impede the development of the local workforce due to a lack of nurse researchers to teach, supervise, and generate a scientific knowledge base for nursing practice in Singapore.^[27]

Implications for Nursing

Over the past two and a half decades, nursing has attempted to resolve the increased in workload and workforce shortage issues through foreign recruitment, relinquishing “non-core” nursing roles to support staff (HCAs), and lowering the entry requirements for nursing schools. The deploying of these foreign nurses as well as the deployment of roles to the HCAs and the lowering of nursing entry requirements bring along their inherent challenges. For instance, the lowering of the entry criteria in nursing schools has resulted in attracting many who were rejected from their courses (“cannot make it”) into nursing to get a diploma. Many of these students may never join nursing upon graduation or may be a good fit.^[24] This may also deter the best and the brightest from making nursing as their career choice and may be counter-intuitive to the image and professionalism that nursing is striving to build.

As nursing grows increasingly stretched due to the continued added load and demands, and as more and more symptomatic solution appears to work (albeit for a while before other problems manifest), it is very attractive to employ such symptomatic measures to resolve problems. The resultant effect of such symptomatic solutions is its core professional image and responsibilities will start to suffer. The implication of these challenges for nursing is much more than tweaking existing policies and practices; it requires the rethinking of the very foundations of which the profession of nursing is built and safe-guarding it. In

addition, the complexities of the nursing care demand that nursing must continue to attract the best and the brightest of young people into the career to continue to provide the highest quality of patient care.^[29] These demand the concerted collective efforts to systematically approach and address the problems. Instead of each competing with one another for workforce or adopting symptomatic solutions, complex problems call for a collaborative approach toward problem identification through evidence, solution setting, and action by nursing leadership. A task force headed by the Chief Nursing Officer from the MOH, with representatives from administration, education, clinical, and research sectors, across all settings working collaboratively to address the issues is a promising approach in developing effective responses to many of the problems confronting the nursing profession today.

In addition, there is a need to rethink of ways to improve care and productivity through innovations and adopting best practices. According to the International Council of Nurses, innovation is the process of developing new approaches, technologies, and ways of working.^[30] It is about doing things differently or doing different things to achieve large gains.^[31] Efforts to enhance safety and improve workflow such as redesigning systems and processes to mitigate the effects of human factors, standardizing and simplifying procedures and tasks (e.g., protocols, checklists, and equipment) and user-centered design to make it easier for nurses to do the right action,^[21] and benchmarking best practices of others to improve efficiency and effectiveness could be considered or expanded. One potential source of expert clinical support is through the APNs and nurse clinicians (NCs). Increasing the pool and capabilities of the APNs and NCs to meet both the medical and nursing needs of patients should be considered. With their expertise in their field of specialization, they not only can function as clinical experts, and consultants, but also as educators and mentors to provide education and oversight of nurses providing care.^[32]

The potential contribution of technology toward nursing to enhance capacity is tremendous and nursing should continue to adopt them in their practices and delivery of care. Over the past few decades, many advances in technology have been made available to help nurses in their performance of their jobs more efficiently and safely such as automated intravenous pumps, electronic beds, patient lifting devices, and portable monitors. Patient-focused technology platform such as computer-based delivery of patient educational materials including eBooks and YouTube, podcast, interactive decision, and teaching aids;^[33] monitoring of care and providing easy access to drug formularies and evidence-based practice protocols;^[21]

and adopting radiofrequency identification to improve traceability of assets/people, deliver care, and monitor patients' vital signs for inpatient or outpatient^[34] should be considered in nursing's quest to meet the needs of both patients and nurses. Such innovative delivery modes may also be adopted by the education and clinical institutions to lessen the overreliance of workforce and to enhance teaching abilities such as patient scenarios simulation^[35] and e-learning which is the preferred mode of learning^[24] for the technology savvy generation of learners.

According to the Institute of Medicine,^[36] besides the optimal use of informatics and continuous improvement, safe care must be guided by evidence. Evidence of research activity and incorporation of best available evidence into clinical practice is also one of the hallmarks for achieving excellence in a profession.^[37] These research and evidence-based activities may be facilitated by the APNs through their provision of support, clinical expertise, and knowledge of current research findings.^[38] In addition, academic and clinical institutions would need to consider adopting a collaborative approach toward achieving this professional excellence through the provision of evidence-based, patient-centered, high-quality care. There should also be channels for sharing of information including research findings and best practices. It may also be timely to consider the development of state-wide evidence-based nursing procedure guide to standardize practice and ensure safe care.

Conclusion

Nurses are the backbone of the health-care system as they are often the linchpin component across a wide variety of setting, providing continuum of care. They form the largest proportion of health-care workers and are the only resource person available round-the-clock for the patients' needs. As they are the primary care providers, their knowledge, skills, and availability can affect quality, safety, and efficiency.

As discussed, there are many challenges confronting the practice of nursing in Singapore. Needless to say, there are many more. Although these challenges are daunting, they offer nursing the unprecedented opportunities to shape health-care delivery systems and increase nursing influences everywhere across settings and along the delivery continuum. However, it would require leadership, wisdom, and courage to tackle them effectively and efficiently. Taking advantage of these challenges and turning them into opportunities will require leadership from all areas of nursing and a collaborative spirit and team approach.

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Conflicts of interest

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