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CURRENT STATE OF THE INTERNATIONAL NURSING SHORTAGE

ALMOOSA SPECIALIST HOSPITAL,
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INTRODUCTION

Nurses are core to the patient care team, comprising roughly half the global health workforce.[1] A persistent nursing shortage threatens the stability of health systems worldwide, highlighted by repeated warnings by the World Health Organization (WHO).[2-3] Many factors have contributed to this shortage – some have diminished the supply of nurses, others have increased the demand for nursing services. However, the COVID-19 pandemic has introduced new problems and made old problems worse, making this global nursing shortage far more concerning than any in the past. The spread of the virus has swiftly forced countries around the world to take radical health measures to protect people and health systems,[4-5] and addressing the ongoing nursing shortages has become a top priority.

The objective of this whitepaper is to introduce a model demonstrating the old and new pressures on the global supply and demand of nurses in the hospital setting. The model is adapted from a similar whitepaper on the State of the Nursing Shortage in the United States. This whitepaper will not exhaust the list of contributing factors to the global nursing shortage; however, it will attempt to outline and model some of the most significant ones. We distinguish between pressures the academic literature has noted for over a decade to new pressures resulting from the COVID-19 pandemic. For this whitepaper, when we refer to a nurse, we mean a Registered Nurse (RN) working at the bedside in a hospital setting, unless otherwise stated.

Acknowledgments: The authors would like to thank Michele Cleary of Cleary Medical Intelligence for her assistance in preparing this manuscript.
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THE SIZE OF THE GLOBAL SHORTAGE

In the 2020 State of the World's Nursing report, WHO estimated despite a global nursing workforce of 27.9 million as of 2019, a needs-based shortage of 5.9 million nurses persists.[6] Nursing shortage estimates vary drastically based on the projected need for RNs and the estimated number of new nurses entering the field. Plus, shortages of nurses vary greatly by geographic region. WHO reports these shortages overwhelmingly impact low and lower-middle-income countries (see Table 1). Their findings show while the Americas and Africa have similar populations, there are almost 10 times more nurses in the Americas than throughout the African continent. Over 55% of WHO Member States report a nurse density (number of nurses/midwives per 10,000 population) less than 40, while 23% of Member States report a nurse density less than 10.[1]

TABLE 1. NUMBER OF NURSES GLOBALLY AND DENSITY PER 10,000 POPULATION, BY WHO REGION, IN 2018.

Table reproduced from data from World Health Organization.[1]

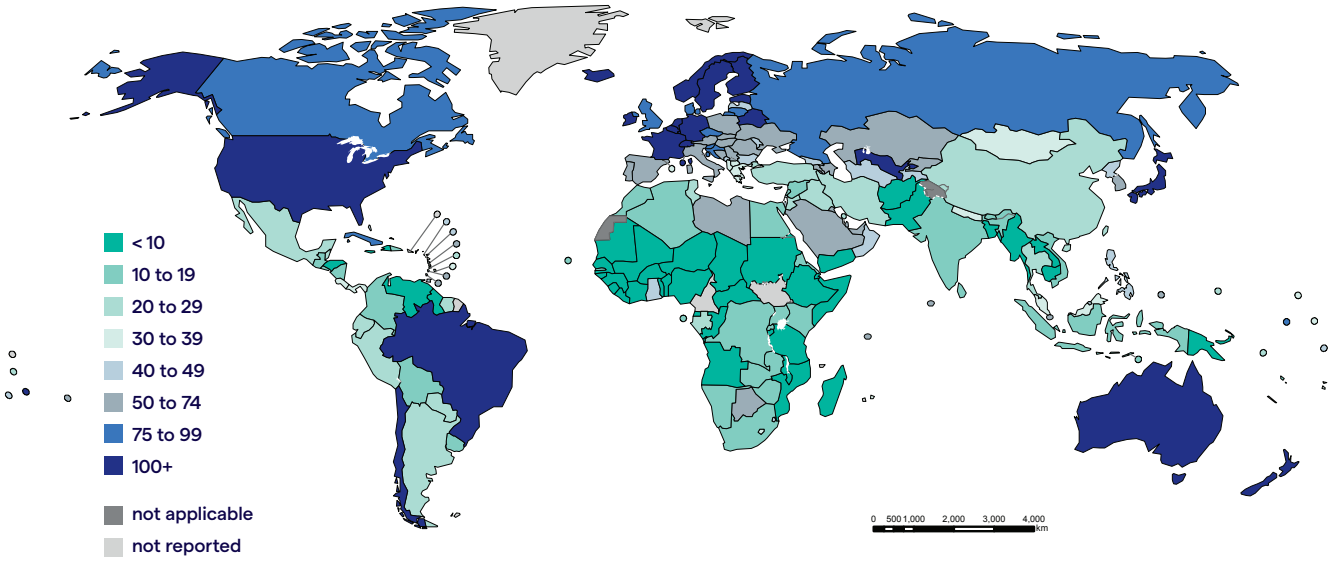
WHO Region	Number of nurses in millions (%)		Density per 10,000 population
Africa	0.9	(3%)	8.7
Americas	8.4	(30%)	83.4
South-East Asia	3.3	(12%)	16.5
Europe	7.3	(26%)	79.3
Eastern Mediterranean	1.1	(4%)	15.6
Western Pacific	6.9	(25%)	36.0
Global	**27.9**	**(100%)**	**36.9**

Even within a region, considerable variation exists. For example, within the Middle East, nurse density varies greatly. When the Gulf Cooperation Council (GCC) countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates) are excluded, the density would be much lower.[7]

WHO estimates a global nursing shortage of 5.9 million nurses.

Country-specific data from WHO's State of the World's Nursing report revealed those countries accounting for the largest shortages (in numerical terms) in 2018 included Bangladesh, India, Indonesia, Nigeria, and Pakistan.[6] The report further noted, in the Americas, more than 80% of nurses work in three countries (Brazil, Canada, US) despite being home to only 57% of the population. Figure 1 presents country-specific density of nursing professionals summarized in WHO's State of the World's Nursing report.

FIGURE 1. DENSITY OF NURSING PERSONNEL PER 10,000 POPULATION IN 2018[6]



**Includes nursing professionals and associates.*
Source: *National Health Workforce Accounts, World Health Organization 2019. Latest available data over the period 2013–2018.*

Even some countries with seemingly high nurse densities suffer from nurse shortages due to regional inconsistencies.

COUNTRY-SPECIFIC NURSING SUPPLY INDICATORS*

- Germany: in 2021 there was a nursing gap of approximately 50,000 nurses[8]
- England: in 2021 there were 39,000 vacancies for registered nurses[9]
- Italy: in 2018 a study found 49,000-54,000 nurses were needed to reach the European average proportion of nurses[10]
- Spain: in 2020 there was a projected shortage of 88,000 - 125,000 nurses[11]
- China: in 2018 a study found 7.3 million more nurses were needed to meet WHO's goal of at least 8 nurses per 1,000 citizens[12]
- Japan: by 2025 800,000 additional nurses will be needed to ensure sufficient nursing care for its rapidly aging population[13]
- Canada: by 2022 there is a projected shortage of 60,000 nurses[14]
- Australia: by 2030 there is a projected shortage of 123,000 nurses[15]
- South Africa: the most recent analysis showed that in 2014 45,000 nurses were needed due in part to nurse migration to Europe[16]
- United States: by 2030 there is a projected shortage of 500,000 nurses[17]

**Note these data were collected from different studies using different data sources, different definitions of labor shortage or labor gap, hence they cannot be used for comparative purposes.*

FIGURE 2. INTERNATIONAL NURSING SHORTAGES MODEL

Demand

- Aging world
- Universal healthcare coverage
- Expanded scope of practice
- Pandemic consequences
  - ICU staffing requirements
  - Pent-up demand from delayed care

Supply

- Nursing aging out
- Lack of nursing faculty
- Job-related injuries
- Pandemic consequences
  - Fewer foreign-trained nurses
  - Physical and emotional exhaustion
  - Increased violence against nurses

DRIVING FACTORS

The gap between the supply of nurses and the demand for their services is a multi-faceted problem (see Figure 2). Some of the forces impact supply, such as an aging workforce, nursing student enrollment limitations, and an industry plagued by high rates of workplace injuries. Other factors, such as an aging global population, higher acuity patients, an expanded scope of nursing practice with evolving standards of care, and the impact of universal health coverage, have increased the demand for nursing. Of course, not all factors impact countries and regions to the same extent. The factors mentioned above have been studied, documented, and discussed by others for decades.[18-20] Why is the current nursing shortage and looming nursing shortage different from the past? The simple answer is the COVID-19 pandemic. In this next section, we briefly describe factors impacting the supply and demand for healthcare services. Then, we will describe how the pandemic has intensified those existing pressures and created new ones.

ONGOING PRESSURES ON GLOBAL NURSING SUPPLY

While the COVID-19 pandemic has increased demand for nurses, numerous persisting factors have fueled nursing shortages for decades. In this section, we detail how historical challenges to hospital staffing continue to impact today's nursing environment globally.

Increased Demand for Nurses

Factors increasing demand for nursing include a globally aging population particularly the growth in the 65 years plus population in developed countries and greater access to universal healthcare. These pressures are compounded when we consider nurses are expected to do more now, leading to expanded role for nurses.

AN AGING WORLD

As populations age, the need for health services associated with chronic conditions, dementia, and elder care increases. The global population aged 60 and over is estimated to increase from 901 million in 2015 to 1.4 billion in 2030 - a 56% increase.[21] Meanwhile, the number of people aged 80 and older is expected to more than triple by 2050, growing from 126.5 million to 446.6 million.[22]

REGION OR COUNTRY-SPECIFIC AGING TRENDS

- **Latin America:** As of 2020, 8% of the population is over 65 years of age. By 2050, this figure is expected to be 17.5% and will exceed 30% by the end of the century.[23]
- **Germany:** The number of people aged 67 or over will grow by 22% by 2035 to 29.3% of the population.[24, 25]
- **EU:** The share of people aged 80 years or above in the EU's population is projected to have a two and a half fold increase between 2021 and 2100, from 6.0 % to 14.6 %.[26]
- **Japan:** As of 2016, 27% of the population is over age 65.[27]
- **China**: As of 2011, 8.3% of the population is over age 65 for 111 million people. By 2050, this population will increase to over 330 million.[28]

Older persons often have multiple comorbidities requiring treatment, especially as many conditions are increasingly survivable. The Global Burden of Disease Project revealed health problems typically associated with wealthy and aged populations, such as heart disease, cancer, and diabetes, now impact a widening segment of the global population as health behaviors commonly associated with the developed world (e.g., tobacco and alcohol use, low levels of physical activity) take root in the developing world.[29] As developing countries adopt more Western diets and lifestyles, the incidence of cancer is expected to accelerate; the number of new cancer cases is projected to rise to 19.3 million in 2020 increasing to 28.4 million new cases in 2030.[30] Moreover, dementia will present a growing challenge to health systems as 115 million people worldwide are projected to be living with Alzheimer's disease or dementia by 2050. This growth will be most dramatic in low- and middle-income countries, increasing from 20 million today to nearly 80 million people by 2050.[31]

The global population aged 60 and over is estimated to increase from 901 million in 2015 to 1.4 billion in 2030 — a 56% increase.[21]

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GREATER ACCESS TO UNIVERSAL HEALTHCARE COVERAGE

Universal healthcare coverage increases demand for nursing care. In their 13th General Program of Work, the WHO articulated their goal of expanded universal health coverage (UHC) to one billion additional people by 2030.[32] Many nations have taken great strides towards UHC, increasing access to healthcare services, and further stressing the current nursing supply. However, the COVID-19 pandemic may have slowed UHC-related increase in demand for health services with more than half a billion people pushed (or pushed further) into poverty, limiting people's ability to pay for health services.

EXPANDED SCOPE OF PRACTICE

Many organizations are advocating to expand the role of nurses to improve access to care and lower costs. A 2010 report by the Institute of Medicine recommended:[33]

> "Nurses have vital roles to play in achieving patient-centered care; strengthening primary care services; delivering more care in the community; and providing seamless, coordinated care. They also can take on reconceptualized roles as health care coaches and system innovators. Nurses can contribute to a reformed health care system that provides safe, patient-centered, accessible, affordable care."

In their General Practice Forward View, the UK's National Health Service (NHS) articulated its support for an expanded role of nurses in primary care.[34] In Australia, the National Health and Hospital Reform Commission Report and the Draft National Primary Health Care Strategy also voiced their support for an expanded role for nurses in their pursuit of equitable access, improved care, and care coordination in primary health care.[35] Yet, this expanded role means greater workloads for many nurses as nurses now take a significant role in care coordination and caseload management.

Decreased Supply of Nurses

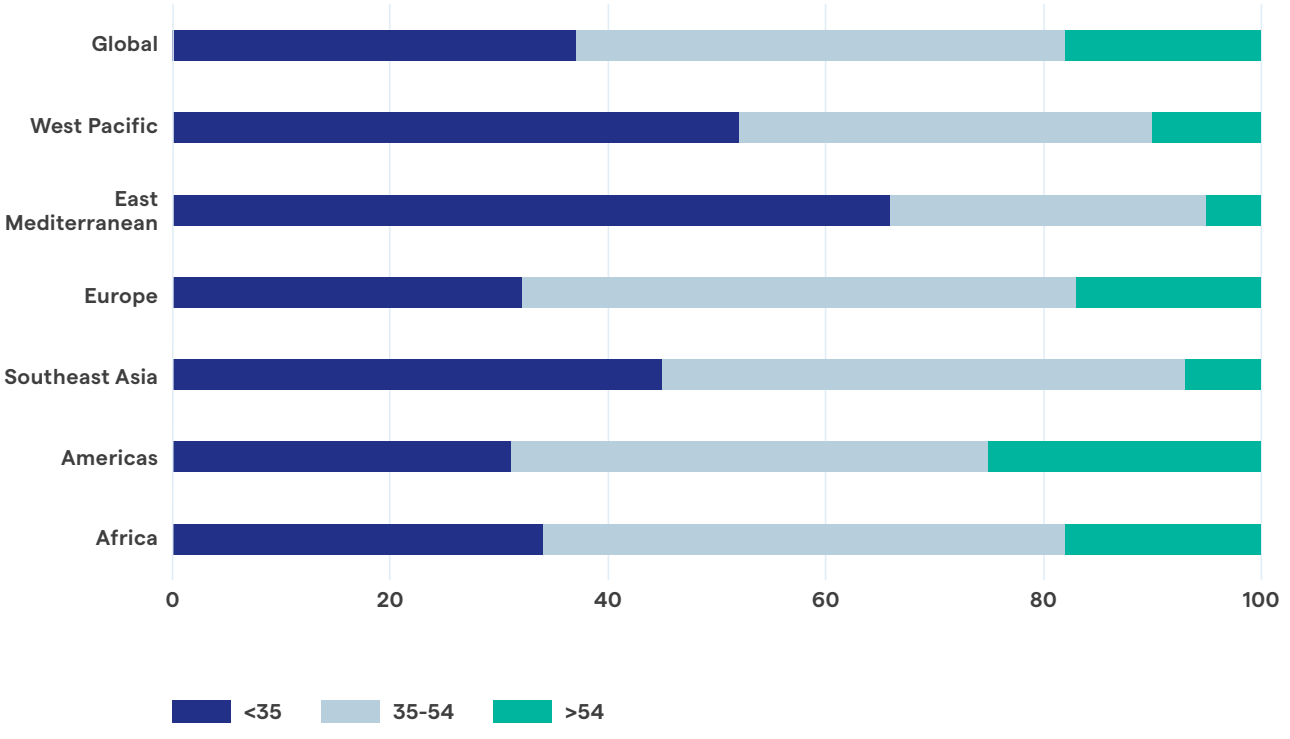
Factors contributing to the steady drop in the supply of nurses over the last few decades, include an aging workforce, insufficient nurse training opportunities, and high rates of workplace injuries.

NURSES AGING OUT

For many of the developed world countries, the nurse workforce is rapidly aging out of the profession. Retirements not only increase nursing shortages but will also contribute to a considerable loss of clinical knowledge and experience. WHO found in 2020 that 17% of nurses are 55 years old or older.[6] This means 1 of every 6 nurses worldwide could be expected to retire within the next 10 years. However, regions vary greatly in the ratio of young nurses (under 35) – the 'replacement pool' - to those nearing retirement (aged 55 or older), as shown in Figure 3. For example, in the Eastern Mediterranean, the nurse labor replacement pool is quite large with more than 60% of nurses under 35. The ratio of 'replacement pool' to 'near retirement' is 14:1. In other regions, the ratio is much smaller. In the Americas this ratio is just 1.2:1. Europe and Africa each face a low ratio of 1.9:1 (see Figure 3).

Globally, 4.7 million new nurses will have to be educated and employed over the next decade just to replace retiring nurses.[6] Age-related losses will lead not only to an increasing shortage of nurses but also a significant loss of knowledge and clinical experience.

FIGURE 3. PERCENTAGE OF NURSING PERSONNEL BY AGE AND WHO REGION[6]



LACK OF NURSING FACULTY

Replenishing the nursing workforce is a slow process. Many regions in the world fail to meet the need for educational capacity due to an inadequate supply of nursing faculty to prepare tomorrow's nurses.

In the United Kingdom, reduced government funding has limited the number of nursing student placements, resulting in fewer nurses entering the workforce.[36] Salaries for nursing faculty are often lower than clinical jobs, making teaching a less appealing career path for many experienced nurses. Even in more affluent countries, nursing faculty positions may be threatened by precarious funding. For instance, only 19.3% of Canadian nursing faculty members held a permanent position in 2016.[37] The lack of teaching resources leads nursing schools to limit class size. In the US, over 80,000 qualified applicants to nursing programs were turned away in 2019 due to an insufficient number of faculty, clinical sites, and classroom space.[38]

Several organizations have proposed solutions.[39] In 2008, the Toronto 2008 Global Alliance for Nursing Education & Scholarship (GANES) conference initiated a broader discussion of possible solutions. They called for stronger international cooperatives, coupled with collaborative teaching, with distance-learning technology and shared curriculum and faculty to meet the need for nursing faculty.[40] Other past initiatives include the Global Health Service Partnership (GHSP), a collaboration between the Peace Corps and Seed Global Health, which sent US physicians and nurses to act as faculty in medical and nursing schools in low-resource countries. In 2013, GHSP sent 30 health faculty to 11 schools in Uganda, Tanzania, and Malawi. While the pandemic may have interrupted this global conversation of faculty development, the need persists.

Contributing factors include aging faculty, global nurse migration, insufficient funding, and inadequate salaries.[39]

JOB-RELATED INJURIES

Nursing has always been a physically demanding profession and many nurses are forced to leave the profession due to job-related injuries. Physically challenging tasks, such as manual handling and transferring of patients, are often performed while the patient is in bed, imposing significant postural stress. In addition, biomechanical studies have demonstrated how low-back loads (physical stresses placed on the lower back) associated with patient handling tasks frequently exceed recommended safe limits.[41]

Work-related musculoskeletal disorders are common in this population, with health care workers reporting work-related musculoskeletal injuries far more frequently than other professions.[42-44] A systematic literature review found on average 65% of nurses (RNs and nurse assistants) reported low-back pain and 54% reported shoulder pain at some point during their career.[44] Work hours, especially shift work and long hours, compound the risk of injury.[45-47]

ICU care may present an even greater physical burden to nurses, given patients are often unable to move and adjust themselves. Ye et al surveyed 202 nurses from four hospitals in Zhejiang province.[48] The prevalence of low back pain among ICU nurses was higher than in the non-ICU population in the Lin study; 70.8% of ICU nurses reported low back pain.

In its 2017 position statement, the International Council of Nurses (ICN) reiterated its position on the importance of ensuring all nurses work in a "healthy and safe environment without risk of injury or illness resulting from that work."[49] The position statement noted that occupational health and safety legislation for the healthcare sector varied widely with some countries offering no legislative protection, and, in many countries, minimal ability to monitor implementation or ensure accountability. It further stated that "where data is collected regularly, data collection can be hampered by underreporting of work-related injuries and illnesses." Some of initiatives it proposed included urging governments to develop policies that can ensure safe work environments, including the availability of appropriate protective equipment and healthcare employers to comply with any safety legislation.

NEW PRESSURES CAUSE AN UNPRECEDENTED SHORTAGE

The COVID-19 pandemic has had a significant impact on nurses and the growing nursing shortage. The pandemic created waves of unprecedented strain on the health care system and therefore increased demand for bedside nurses. Moreover, pent-up demand for non-COVID-19 healthcare needs also increased demand. Finally, the

INCREASED NEED FOR ICU STAFFING

Hospitals have struggled to accommodate the impact of ongoing COVID-19 surges, which often require them to increase capacity by doubling or tripling the number of ICU beds. For instance, in France, by hospitals deferring and postponing a large part of the surgical activity it freed up beds to double ICU bed capacity from 5,000 to 10,000 in two weeks.[50] While hospitals can sometimes add more beds, they cannot reliably place appropriately skilled nurses to meet patient needs. ICU nurses typically manage no more than two patients at a time,[50] but caring for COVID-19 patients in the ICU requires significantly more nursing time than typical ICU patients. A 2021 study estimated ideal care of COVID-19 patients in the ICU requires nearly a 1:1 nurse-to-patient ratio.[51] In a survey of 151 ICU nurses in Sweden, roughly half of the ICU nurses (n=75) reported being responsible for the ICU care of three or more patients during the pandemic.[52] Within this same survey, some nurses stated that they their role was more that of medical assistant given the very little time or resources available for nursing care. They felt both patient safety and care quality were compromised during the pandemic. One participant shared:

> "Many new colleagues with different experiences and competencies meant a greater responsibility for me [as an ICU-nurse]. Even if I 'just' had to care for two or three patients, I also had to ensure that the other patients received appropriate care and support from my colleagues."

Nonetheless, hospitals were sometimes forced to fill the acute need in COVID-related ICU care by asking staff to cover extra shifts, pull nurses from other specialties, and/or recruit traveling nurses.

Nursing shortages are especially challenging in China's ICUs. Unlike general medicine wards where nursing gaps may be filled by informal caregivers like family members, China's ICUs prohibit outside visitors. Plus, given the limited supply of ICU beds in China, patients admitted to these units are often more severe than typical ICU patients seen in larger health systems in many Western countries.[53]

A 2021 study estimated ideal care of ICU COVID-19 patients is a 1:1 nurse-to-patient ratio,[51] but an ICU nurse is caring for 3 or more patients during the pandemic.[52]

psychological impacts of working on the front line of a global pandemic have made the job more challenging and have decreased the supply of nursing. This section details the various driving forces the pandemic created (or amplified) increasing demand and affecting the supply of nurses.

PENT-UP DEMAND FROM DELAYED CARE

Within the early months of the COVID-19 pandemic, demand for non-COVID-19 health services fell sharply as hospitals canceled elective surgeries and people were scared to go to emergency rooms. A study of cancer surgeries in 61 countries found one in seven patients (15%) did not undergo their planned surgery.[54] In the UK, access to elective care also fell sharply in 2020 with six million fewer people being referred into consultant-led elective care than in 2019. Specialties suffering the greatest impact included trauma/orthopedics, oral surgery, and otorhinolaryngology, which each saw referrals drop by 37-38% compared to 2019.[55]

Studies showed management of specific conditions declined significantly during the COVID-19 pandemic. For example, a survey across 84 countries found both diagnostic and therapeutic practices related to colorectal cancer were delayed or otherwise impacted for 71% of respondents. Elective colorectal cancer surgery was impacted for almost all respondents (97.3%).[56] Even newborn screening programs were impacted.[57] These 'missing patients' remain the biggest unknown for health systems trying to plan for increases in demand for health services after the pandemic.

FEWER FOREIGN-TRAINED NURSES

The global supply of nurses is further complicated by changes in nurse migration patterns. Wealthy countries have grown increasingly reliant upon foreign-born and foreign-trained healthcare practitioners to meet labor shortages. In its 2020 report, WHO reported a 60% increase in the migration of healthcare practitioners to wealthier countries over the last decade.[58] The Organization for Economic Cooperation and Development (OECD) reports 16% of nurses practicing in their member countries are born in different countries, while 7% are trained in other countries.[59] However, the rates at which countries rely on bring nurses abroad varies greatly (see Table 2).

TABLE 2. COUNTRIES WITH THE HIGHEST SHARE OF MIGRANT NURSES (FOREIGN-TRAINED, FOREIGN-BORN) IN OECD COUNTRIES.

Table reproduced from data from the Organisation for Economic Co-operation and Development.[59]

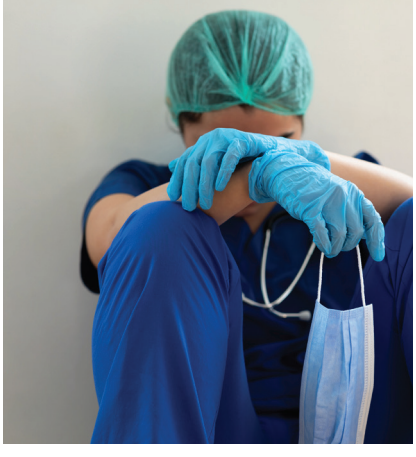
Foreign-Trained	Foreign-Born
1. New Zealand (26.2%)	1. Israel (48.0%)
2. Switzerland (25.9%)	2. Australia (35.3%)
3. Australia (18.4%)	3. Switzerland (31.6%)
4. United Kingdom (15.1%)	4. Luxembourg (29.1%)
5. Israel (9.3%)	5. Ireland (26.1%)
6. Norway (8.7%)	6. Canada (24.4%)
7. Canada (8.1%)	7. United Kingdom (21.9%)

Nurse migration can create a 'brain-drain' from the developing countries supplying nurses to developed countries. For countries of origin, the loss of trained nurses leaves their both hospitals and primary care understaffed and vulnerable to current and future public health crises, a problem that predates the pandemic.

In Lebanon, a projected 20% of nurses who receive a Bachelor of Science in nursing migrate out of the country within two years of graduation, usually to Gulf Cooperation Council (GCC) states.[60] The largest exporters of nursing talent include the Philippines, India, Poland, and Nigeria. By the end of the 20th century, an estimated 250,000 Filipino nurses were employed overseas in 31 countries around the world.[61] While 17,000 Filipino nurses migrated to other countries in 2019 to work, this number has now been capped at 5,000 due to the COVID-19 pandemic.[62] India is known as the second-largest global supplier of nurses, many working in the Gulf, OECD, and Asian countries, such as Singapore and Malaysia. In 2011, the number of Indian nurses overseas was more than 640,000.[63] The migration of nurses from India is creating a serious threat to the Indian healthcare system as they continue to experience a nursing shortage.[64] Smaller migrant nurse suppliers include Guyana, which loses 28% of all nurses it trains, Lebanon, which loses approximately 20% of its newly trained nurses, and Jamaica, which lost almost 33% of its critical care nursing workforce.[59,60] This 'brain drain' may contribute to poorer health outcomes and excess deaths in home nations.

In 2019, 17,000 Filipino nurses migrated to work in other countries, this number has now been capped at 5,000 due to the pandemic.[62]

PHYSICAL AND EMOTIONAL EXHAUSTION



The COVID-19 pandemic added further stress to an already emotionally demanding work environment and has increased rates of psychological disorders, such as anxiety, depression, PTSD, guilt, frustration, and sleep disturbance.[65] A qualitative 2020 study in Spain looking at the impact of the COVID-19 pandemic on ICU nurses[66] revealed the enormous challenges of the pandemic:

> "We have never faced this; we are living a very unusual pathology. However, when it comes to work, 90% of the load is being carried by us, it is brutal. When it comes to treating the patient ... you are alone on many occasions..."

Job dissatisfaction and burnout are driven by factors ranging from heavy patient loads, physical and emotional strain, long work hours, low pay, and lack of respect.[67] A recent study by the International Council of Nurses found that burnout rates among nurses increased from 40% in 2019 to 70% one year into the pandemic.[68]

Many nurses also experience profound moral injury, the "long-lasting psychological and emotional effect that arises from actions taken that run-in opposition to one's personal moral values or beliefs."[69] Due to the unprecedented demand for treatment, coupled with the institutional and structural limitations during the pandemic, nurses are unable to provide the best care. Often care provided runs counter to their training, responsibilities, and their personal beliefs, knowing they may not be able to best serve a particular patient.

Nurses face a disturbing increase in workplace violence, which further contributes to burnout. Since the beginning of the pandemic, healthcare workers report facing increased violence on the job, as well as frustration at being disrespected, mocked, and threatened by COVID-19 skeptics. In July 2020, the WHO reported health care workers being spat on, called derisive names, and having personal property vandalized.[70] In a 2021 study within 173 countries, researchers found health care workers were about 50% more likely than others to have been harassed, bullied, or hurt as a result of the COVID-19 pandemic.[71]

Not only do these issues increase nurses' dissatisfaction, but they also fuel the desire to leave the profession. The International Council of Nurses reported 20% of nursing associations surveyed saw an increase in the rate of nurses leaving the profession in 2020, while 90% reported concern the pandemic is driving increased numbers of nurses leaving or intending to leave the profession once the pandemic is over.[68]

Finally, far too many nurses have paid the ultimate price during this pandemic with approximately 115,000 healthcare workers have died from COVID-19 around the world between January 2020 and May 2021.[72] The International Council of Nurses voiced its significant concern about the "mass trauma" being experienced by nurses during the pandemic and its potential long-term effects on the nursing workforce, stating:

> "These issues and risks combined do not bode well for long-term nurse retention in an already overstretched and vulnerable workforce. The COVID-19 pandemic has the potential to increase the number of nurses reaching the point of burnout, and increase the number leaving the profession."[68]

COVID'S TOLL ON HEALTHCARE WORKERS

- **Japan:** 20% of nurses reported experiencing discrimination or prejudice.
- **Brazil**: 49% of nurses report anxiety and 25% report depression.
- **China:** 60% of nurses report exhaustion and 90% report anxiety.
- **Africa:** A survey conducted in 13 countries in Africa revealed 20% of healthcare workers surveyed reported daily depression symptoms during the pandemic, compared to 2% prior to the pandemic.
- **Spain:** 80% of nurses report symptoms of anxiety and increasing burnout.
- **Israel** reports over 40% of nurses fear caring for the sick and COVID-19 patients.
- **Australia:** 61% of healthcare workers report burnout and 28% report depression.

Text box reproduced from data from International Council of Nurses.

CONCLUSION

Nurses are a critical and trusted part of the global health care system. While "heroes" of the pandemic, many are emotionally, mentally, and physically shattered due to an increasingly stressful environment both inside and outside of work. These stressors are fueling a nurse exodus with thousands of nurses worldwide leaving their chosen profession. We would be remiss to forget nurses are not alone. The effects of this unprecedented nursing shortage are further compounded by shortages in many other healthcare professions, such as physicians, respiratory therapists, physical therapists, pharmacists, and more.

Many issues described in this paper are not entirely new. But these issues are highly integrated, magnified by the pandemic, and more global than ever before. The developed world can no longer rely on the global migration of nurses to fill gaps in their nursing workforces. The demand for more nurses is being driven, not only by the need for more COVID-related health services, but also by global demographic changes (older populations, an aging nursing workforce) and greater access to health services due to increasing universal healthcare policies. With so many nurses leaving the profession while demand for care is growing, never has the shortage affected so many countries.

Research regarding the many consequences of inadequate nursing personnel on care delivery, patient outcomes, nurse health, and healthcare expenditures, is known. But how these consequences will manifest in this new environment is unknown. Without swift and comprehensive solutions, high quality care delivery and optimal patient outcomes may be untenable. Collaboration and research are needed to ensure the profession of nursing optimally benefits healthcare in all healthcare markets, in both developed and developing countries.

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APR375401 rev 1 22-JUN-2022 ENG – EMEA