Annex: COVID-19 and the global nursing workforce: impacts on World Health Organization regions

- In the State of the World's Nursing report, the global nursing workforce was estimated at 27.9 million nurses; nine out of ten nurses worldwide are female.
- The global shortage of nurses was estimated at 5.9 million nurses.
- Nearly all (89%) of these shortages were concentrated in low- and lower middle-income countries.
- High income countries had more than three times the nurse graduation rate (38.7 graduate nurses per 100,000 population on average) than low-income countries (10.4),
- One out of six of the world's nurses were expected to retire in the next ten years, meaning that 4.7 million new nurses will have to be educated and employed just to replace those who retire; higher rates will be evident in some high-income countries.
- One in every eight nurses practised in a country other than the one where they were born or trained.

A joint OECD and European Union report on policy responses to the pandemic in 36 countries in Europe has highlighted that "Pre-existing shortages of nurses were exacerbated during the peak of the epidemic, also because many nurses themselves became infected by the virus… The demand for nurses is expected to continue to rise in the years ahead because of population ageing while many nurses are approaching retirement age.

Nurses working overseas: The United States reports the highest number of registered international nurses, estimated at almost 197,000; second was the United Kingdom with over 100,000 foreign-trained nurses, then Germany with 71,000, and Australia with 53,000 . OECD has concluded that "The COVID-19 pandemic revealed once more that foreign-trained nurses are key assets for health systems in many OECD countries. Along with bringing into the spotlight the important role and dedication of frontline health workers, the pandemic has further highlighted the deeply embedded challenge of staff shortages as well as the significant contribution that migrant nurses make to the health workforce.

World Health Organization (WHO) AFRICAN REGION

A World Bank study of the East, Central and Southern Africa Health Community in 16 countries (**Botswana, Eswatini, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Seychelles, South Africa, South Sudan, Tanzania, Uganda, Zambia, Zimbabwe**) noted that outmigration of nurses reduced the available supply of nurses in these "sending" countries. This means that these countries can "face needs-based shortages of nurses to achieve Sustainable Development Goals" and "poses direct and indirect costs to sending governments, including tuition as well as foregone wages and tax revenue."

Economic Community of West African States (ECOWAS):

Online survey, 1,000 nurse respondents, 15 countries of ECOWAS, April-May 2020. Moderate (78%) or severe (10%) stress was reported by most nurses; the proportion with normal or low-level stress was only 12%.

South Africa:

Survey of nurse managers, rural district hospital, South Africa. Managers had to deal with pandemic related nurse staffing shortages on a daily basis, resulting from absenteeism due

to COVID-19 infection or COVID-19 infected family members at home. The shortage was also worsened by early retirement, resignation or death of nurses.

Uganda:

395 nurse respondents in five hospitals, February 2021. 40% reported high levels of burnout. Predictors of nurses' burnout were lack of availability of PPE and increased workload.

WHO REGION OF THE AMERICAS

Brazil:

On-line survey of nurses and nursing technicians in four hospitals (n=499), August-Sept 2020. Burnout was identified in 60 (12%) workers; there was higher prevalence among nurses (17%)

Canada:

In Canada it has been highlighted that the number of vacancies for registered nurses (RN) Registered Psychiatric Nurses (RPN) almost doubled from 12,860 in the first quarter of 2020, to 22,425 in the second quarter of 2021.

1 Survey of 1705 frontline nurses, July-November 2020 (of whom 782 reported caring for COVID-19 patients). High chronic fatigue, poor quality of care, lower work satisfaction and higher intention to leave their organisation were found for nurses caring for COVID-19 patients.

2 Survey of 3676 nurses, June-July 2020. 52% reported inadequate nurse staffing, 49% indicated some level of disagreement about access to sufficient PPE in their workplace; almost half the sample (47%) met the diagnostic cut-off indicative of potential PTSD. Nurses with negative ratings of most workplace safety indicators were more likely to suffer from PTSD, anxiety, and depression.

Latin America:

A recent assessment of the impact of the pandemic on the health workforce in five Latin American countries, published by WHO, covering Bolivia (Plurinational State of), Chile, Colombia, Ecuador and Peru reinforced the point that these countries entered the pandemic with staff shortages, and made the critical point about sustainability- "The biggest challenge ahead is to develop mechanisms to absorb the newly recruited HRH (Human Resource for Health) to reduce pre-pandemic gaps and maintain improvements in their terms and conditions of employment, such as pay increases, which in turn largely depend on identifying adequate sources of funding"

United States of America:

The Bureau of Labor Statistics' Employment Projections 2020-2030 report that the registered nurse workforce is expected to grow from three million in 2019 to 3.4 million in 2030, and that there will 194,500 vacancies for RNs created each year when nurse retirements and other leavers are considered

1 A study of nurses and patients in 254 hospitals in the US states of New York and Illinois between December 2019 and February 2020, (i.e. just before the pandemic) concluded that "Hospital nurses were burned out and working in understaffed conditions in the weeks prior to the first wave of COVID-19 cases, posing risks to the public's health[i]".

2 Survey of healthcare workers (20,665 respondents, incl. 2301 nurses, at 124 institutions), 2020. Burnout was reported in 63% of nurses, and 56% of nurses also reported work overload. Approximately 1 in 3 physicians and nurses surveyed intend to reduce work hours. One in five physicians and 2 in 5 nurses intend to leave their practice altogether. Burnout, workload, and COVID-19–associated stresses were associated with intent to reduce hours or leave, whereas feeling valued was strongly associated with lower odds of reducing hours or leaving.

3 Survey of 400 frontline nurses, 2021. 22% indicated they may leave their current positions, 60% said they were more likely to leave since the pandemic began, with insufficient staffing, workload, and emotional toll being the most reported factors

4 Survey of 5,000 nurses and nurse managers, 2021. Pandemic impact on intention to leave was rated high overall and was highest in nurses with 25+ years of experience and in managers/directors. 11% of the total sample indicated they intended to leave their position, and 20% were undecided. "The combination of those who intend to leave and those who are uncertain about leaving their positions could cause instability in the workforce if not reversed"

WHO SOUTH-EAST ASIAN REGION

India:

Survey of 120 frontline nurses in the emergency department of a tertiary care centre in North India, August 2020. The nurses experienced a moderate-to-severe level of burnout in emotional exhaustion and depersonalisation.

India has a "train for export" model, which has seen the number of nursing schools increase dramatically. In 2000 there were 30 colleges offering the internationally desired BSc in nursing: this had grown to 1,326 by 2010, and to 1,996 by 2020. Nearly all of these colleges (1833 : 92%) are in the private sector.

The countries accounting for the largest shortages of nurses (in numerical terms) in 2018 included **Bangladesh**, **India**, **Indonesia** and **Pakistan**.

WHO EUROPEAN REGION

Belgium:

Web based survey;1135 Intensive Care (ICU) Nurses. Two-thirds of ICU nurses were at risk of burnout and this risk was associated with their working conditions during the first wave of the COVID-19 pandemic.

Germany:

The average number of vacant positions for registered nurses in long term care in 2019 was 15,000 and in acute care 12,400. On average it took 205 days to fill a position for a nurse in long-term care and 174 days for a nurse in a hospital

Two surveys of nurse long term care managers, April 2020 (532), Dec 2020 (301). Consideration of intention to quit the profession often or very often since the outbreak of the pandemic increased significantly from 12.8% in survey one to 20.3% in survey two.

Ireland:

Online survey of 2,642 nurses and midwives in Ireland, August-September 2020. 52% had a patient they cared for die because of Covid19, 82.72% reported Covid-19 had a negative psychological impact on them and 61% considered leaving the profession.

Netherlands:

National survey of ICU nurses, 726 nurses, September 2020. Symptoms of anxiety, depression, and post-traumatic stress disorder were reported by 27.0%, 18.6% and 22.2% of nurse respondents.

Spain:

National survey, 11,560 nurse respondents April 2020. Lack of personal protective equipment was a crucial issue; 80.2% reported high or very high psychological impact of COVID-19; 29.5% of the nurses reported COVID-19 symptoms.

Switzerland:

There will be a shortfall of 65,000 nurses across all training levels by 2030 if no action is taken. This is partly due to the fact that only about half of the number of nurses in Switzerland that will be required in the future are currently undergoing training. A third of all nurses working in Swiss hospitals are foreign trained. During the pandemic this high dependency on foreign staff posed problems: When countries closed their borders to limit the spread of the virus, Switzerland was forced to negotiate with its neighbours to allow health workers to continue to cross the border to work.

United Kingdom:

The National Health Service (NHS) in England reported a registered nurse vacancy rate of 10.5% at 30 September 2021 (39,813 registered nurse vacancies). There have been recent projections suggesting that there will be a need for 69,000 more nurses by 2024/5 to meet growing pandemic related demand.

Royal College of Nursing online survey of 9,577 members, October 2021. 74% report regularly working beyond their contracted hours at least once a week, 68% report they feel under too much pressure at work, and 62% reported that they are too busy to provide the level of care they would like to. 57% of respondents stated they are considering or planning to leave their job (the survey in the previous year had reported that 36% of respondents were thinking about leaving). Commonly cited reasons were feeling undervalued (70%), feeling under too much pressure (61%), feeling exhausted (60%), low staffing levels (59%) and low levels of pay (53%).

WHO EASTERN MEDITERRANEAN REGION

Egypt:

Sample of 207 nurses working in teaching hospitals, March-April 2020. More than half reported increasing workload and stress.

Iran:

Survey of 479 nurses working in COVID-19 response, Iran, June 2020. Study reports a positive relationship between PTSD, general health, job demand and job strain with turnover intention.

Lebanon:

Online survey of nurse members of NNA, July-October 2020, 511 respondents. Two in five nurses indicated that nothing would make them give up nursing (40.6%); but nearly as many (38.3%) indicated that they did not want to be a nurse anymore, but that their families need their salary; a quarter of respondents indicated that they were thinking of working outside the country (24.8%).

Oman:

National survey, 1,130 nurse respondents, August 2020. 75.6% reported stress, 44.2% reported anxiety, 38.5% reported depression and 73.7% reported poor sleep.

Qatar:

Survey of 512 nurse respondents, August-September 2020. Nurses in Qatar had significantly higher turnover intentions during COVID-19 compared to before COVID-19; nurses who worked in a COVID-19 facility for more than three months had significantly higher turnover intention than those who did not work in a COVID-19 facility.

WHO WESTERN PACIFIC REGION

Australia:

The Federal Health Minister was recently quoted as saying that international nurses who had already applied to come to Australia "would be able to sidestep travel restrictions to secure flights and take up critical jobs" during the pandemic response, and that international inflow of nurses had been "severely disrupted" by international border closures. The cost of flights and quarantine will also be met, and the "airlift" is reportedly likely to be made up largely of nurse migrants from Britain, Ireland and other countries where nursing qualifications are recognised by regulators as being equivalent to those in Australia.

1 Online survey, 11,000 respondents, Aug-Oct 2020. 44.11% of respondents were moderately or extremely concerned for their personal health and safety; 16.63% of respondents had sought mental health or wellbeing support from external providers; Almost half (46.74%) felt their workload had significantly or moderately increased; Around half were moderately or extremely concerned about having adequate staff (53.18%), the welfare of their colleagues (52.15%) and having the right skills mix in the workplace (51.43%).

2 Online survey of nurses in primary health care (637 respondents) 2020. 22.0% reported having considered resignation, the primary reasons being concern for personal physical and psychological safety; only approximately one fourth of respondents reported always having sufficient gowns and P2/N95 masks.

China:

Online survey of frontline hospital nurses, February 2020: 4,692 respondents. The overall mental health of frontline nurses was generally poor during COVID-19 outbreak; 9.4% exhibited depression; 6.5% reported suicidal thoughts.

Japan:

National survey of 2765 hospital administrators, September 2020. Hospitals that were designated to accept COVID-19 patients exhibited a higher nurse leaving rate: 21.3%, compared to 11.3% in other institutions.

Philippines.

Survey of 261 frontline nurses in 5 COVID-19 referral hospitals. Fear of COVID-19 was shown to decrease job satisfaction and increase organisational and professional turnover intention among frontline nurses.

Republic of Korea:

1 Survey of 2,489 nurses, April-May 2020. 72.8% of those who participated experienced unfair treatment such as forced shift change, forced individual time off, forced change of work units, and unpaid leave.

2 Survey of 340 nurses at seven public hospitals, October, 2020. Nurses who cared for COVID-19 patients had higher turnover intentions than general nurses: "a decrease in the job resource stress is vital for reducing nurse turnover intentions"

Taiwan:

Survey with 12,596 nurse respondents, April 2020. 52.3% were affiliated with hospitals designated for COVID-19 treatment, and 7.1% had provided care for patients with COVID-19.The proportion of nurses with high levels of emotional exhaustion was significantly higher in critical care units and in departments related to COVID-19.

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