



NURSING AND MIDWIFERY

THE KEY TO THE RAPID AND COST-EFFECTIVE EXPANSION OF HIGH-QUALITY UNIVERSAL HEALTH COVERAGE

A Report of the WISH Nursing and UHC Forum 2018

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With a foreword from Dr Tedros Adhanom Ghebreyesus,
Director-General of the World Health Organization



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EXPLANATORY NOTE: NURSES, MIDWIVES AND THE WIDER HEALTH WORKFORCE

Effective and high-quality health systems rely on multidisciplinary teams. This report argues that strengthening the role of nurses and midwives within these teams – and allowing them to work to their full potential – will bring enormous rewards. This report is about the contribution of both nurses and midwives to universal health coverage (UHC) but will focus mainly on nurses, who are the larger group and who work in a wider range of healthcare settings.

All references to nurses and midwives in this report are to people who have had a professional education and are registered to practice in the country where they are working. They are qualified and accountable for their practice.

FOREWORD FROM THE DIRECTOR-GENERAL, WORLD HEALTH ORGANIZATION

This is an important and timely report. Nurses and midwives are at the heart of progress toward universal health coverage (UHC) and the Sustainable Development Goals (SDGs). They play a critical role not only in delivering healthcare to millions around the world, but also in transforming health policies, promoting health in communities, and supporting patients and families.

The World Health Organization's (WHO's) top priority is supporting countries to strengthen their health systems, including their health workforce and service delivery models. Nurses and midwives constitute more than 50 percent of the health workforce in many countries, working across almost all service delivery settings.

More than half the world's population currently lacks access to essential health services, and almost 100 million people are pushed into extreme poverty every year by the costs of paying for care out of their own pockets. The world is also facing a shortfall of 18 million health workers needed to deliver and sustain universal health coverage by 2030. More than half of that shortfall is nurses and midwives. This report makes a persuasive set of arguments for investing in nursing and midwifery as part of a multidisciplinary, people-centered workforce.

I encourage all countries to engage in policy dialogue around investment in the nursing and midwifery workforce as a means of strengthening people-centered care, creating quality employment opportunities for women and youth, and achieving UHC. Governments must see jobs for nurses and midwives not as a cost, but as an investment in sustainable development.

Nurses and midwives are not only essential for delivering health services; their experience and knowledge are also valuable assets in shaping health policy, and their voices deserve to be heard at the policymaking table.

Looking forward, we must capitalize on the insights in this report to strengthen nursing and midwifery around the world. The 200th anniversary of the birth of Florence Nightingale in 2020 will serve as a reminder of the power of nurses to advance both patient and population-level health outcomes. We can help uphold that important legacy by showcasing and augmenting the contributions of nurses and midwives for a healthier, safer, fairer world.



A handwritten signature in black ink, which appears to read "Tedros Adhanom Ghebreyesus". The signature is fluid and cursive.

Dr Tedros Adhanom Ghebreyesus
Director-General, WHO

FOREWORD

The central message of this report is that the World Health Assembly's ambitious target of 1 billion more people benefiting from universal health coverage (UHC) won't be achieved without investing in nursing and midwifery, thereby enabling nurses and midwives to work to the full extent of their skills and potential.

Globally, nurses and midwives represent half the professional health workforce. They are at the center of almost every healthcare team and make an enormous contribution to health. Their roles have been developing in recent years and, as this report shows, there are increasing numbers of new and innovative nurse- and midwife-led services in countries around the world. This report argues that, with their person-centered and holistic approach to health and closeness to the local community, nurses and midwives are particularly well-suited to tackling the growth in non-communicable diseases (NCDs), comorbidities in aging populations, and the needs of the high proportions of children and adolescents in low- and middle-income countries. This means that we can expect to see further innovation and development in health and healthcare, particularly in primary care, the management of NCDs and the development of new approaches to promotion, prevention and health literacy.

Evidence shows, however, that nurses and midwives are too often undervalued and that their true potential is not understood. This is often accompanied by under-resourcing and nurses and midwives not being enabled to work to 'the limit of their license'. Nurses and midwives need to be empowered, and their roles developed, so that they can play a major part in spreading UHC rapidly, cost-effectively and to a high level of quality.

This report concludes with a clear plan of the practical steps that need to be taken in every country that aspires to introduce, develop or sustain UHC for all its citizens.



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EXECUTIVE SUMMARY

Nurses and midwives play a central role in all health systems. They support people in every aspect of their health and wellbeing – from health promotion to chronic disease management and specialist services. Together they make up half of the professional health workforce globally and account for about 90 percent of the contacts between patients and health professionals.

This report argues that countries that invest in and develop their nursing and midwifery workforce can achieve a rapid, cost-effective expansion of high-quality UHC. This will also help to realize the World Health Assembly (WHA) target of 1 billion more people benefiting from UHC within five years.

The report makes three main sets of arguments:

- 1.** The initial emphasis in UHC policy has been on financing and access to services. Much more attention now needs to be given to service quality, the promotion of health and the prevention of diseases – areas where nurses and midwives can play an increasing role – as well as investment in the health workforce.
- 2.** Nurses and midwives are well-placed to meet changing health needs – particularly for non-communicable diseases (NCDs) – to deliver increased levels of health promotion and disease prevention, to develop primary care, and to provide support and supervision for community health workers. However, they are very often not enabled, resourced and supported to use their education and experience to their full potential. This is an extraordinary waste of talent and resources.
- 3.** There are already many nurses who have taken on advanced and specialist roles, and globally many midwifery- and nurse-led services provide new and innovative models of care. These can be the foundation for a rapid, cost-effective expansion of high-quality UHC.

Moreover, a survey of attitudes in seven countries showed that the public were open to an increase in nurse-led services. More than two-thirds of respondents said that it didn't matter who treated them for a non-life-threatening illness or condition – a doctor or a nurse – as long as they had the right training and skills. More than 80 percent saw nurses and doctors as equally valuable members of the healthcare team.

However, as other surveys show, there are currently many nurses and midwives working in poor conditions without adequate equipment and support, and consequently providing poor services.

Investment is needed in nursing and midwifery, as well as effective legislation, regulation, education and employment practices. There also needs to be a fundamental shift in policy at a national and global level to recognize what nurses and midwives can achieve if enabled to do so.

This report concludes by setting out a clear plan – with nursing and midwifery at its heart – for how countries can achieve a rapid, cost-effective expansion of high-quality UHC, and help to realize the WHA target.

SECTION 1. ALL ROADS LEAD TO UHC

This report takes the WHO definition of universal health coverage (UHC) as its starting point:

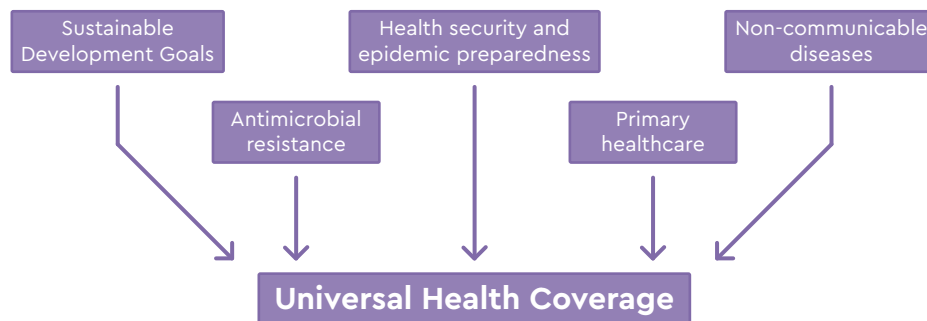
“All people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that people do not suffer financial hardship when paying for these services.”

In 2017, WHO Director-General, Dr Tedros Adhanom Ghebreyesus, wrote:

“All roads lead to universal health coverage – and this is our top priority at WHO ... Universal health coverage is a human right.”¹

This wide-ranging definition and Dr Tedros's personal commitment have meant that UHC has become the unifying theme for almost all global health policy – as shown in Figure 1.

Figure 1. All roads lead to universal health coverage (UHC)



Taking these policies in turn:

- UHC is central to the achievement of Sustainable Development Goal 3 (SDG 3), which aims to “ensure healthy lives and promote well-being for all at all ages”.²
- UHC is also an essential part of policies to improve global health security and epidemic preparedness. The West African Ebola outbreak in 2014, for example, demonstrated how important it is to have a resilient and universal health system in managing epidemics.

- The Global Action Plan on antimicrobial resistance (AMR) recognizes the importance of health systems, both in preventing disease and in controlling access to antibiotics.³
- The 2018 WHO Independent High-level Commission on Non-Communicable Diseases emphasized the link between NCDs and UHC stating: "Coverage for health promotion and NCD prevention and management, including mental disorders, should be part of UHC entitlements and included in a UHC public benefits package."⁴
- The 2018 40th anniversary celebrations of the WHO Alma Ata Declaration reemphasized that "primary health care is essential health care" and "is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work..."⁵

Underpinning all these policies is a vision of strengthened health systems that: are more primary- and community-based; place a greater focus on health promotion, disease prevention and tackling the social determinants of health; and provide high-quality, person-centered services, accessible to all. They are concerned with all aspects of health – mental, physical, social, cultural, environmental and spiritual. As these changes come about, nurses and midwives can play an even greater role in the future.

The changing burden of disease

These policies reflect the shift in patterns of disease globally from communicable to non-communicable diseases (NCDs). The share of deaths from NCDs globally reached 70 percent in 2015 and is still rising.⁶ Nurses can play a major role in this area with their focus on holistic patient-centered care.

Many middle- and low-income countries, however, still have a quadruple burden of diseases: with communicable diseases, maternal mortality and physical trauma, as well as the growing impact of NCDs.

In 2015, 303,000 women died during pregnancy and childbirth, 99 percent in developing countries, and many more suffered from injury or disease.⁷ Midwives have the central role in tackling these devastating problems.

The evolution of UHC policy

Early UHC policy focused on service provision and finance. The 2010 WHO World Health Report conceptualized UHC along three dimensions: population coverage (*who* is covered); services (*what* is covered); and cost (*how much* of the cost of care is covered).⁸

In this model, complete UHC is achieved when all services are available to all people, without any out-of-pocket cost incurred. In practice, WHO and the World Bank Group (WBG) recommend that countries pursuing UHC should aim for 80 percent population coverage of essential health services, and that everyone should be protected from catastrophic care costs.

The model is useful because it shows the trade-offs that need to be made to determine how funds are allocated between, for example, increasing service coverage as opposed to improving financial protection. Other studies have also considered, among other things, how UHC could be financed, and what strategies could be adopted to make UHC politically sustainable.⁹

Figure 2. The evolution of UHC policy



This model does not, however, describe what UHC looks like in practice – the shape, profile and quality of services needed, for example – or how to get there. This will be different in every country, depending on disease burden, age profile, history, geography and socioeconomic factors.

It also does not refer to the quality of services provided. This may have the perverse consequence that countries that increase funding and access to poor-quality services may appear to make good progress toward UHC. A new report from WHO, WBG and the Organisation for Economic Co-operation and Development (OECD) published in July 2018, however, stresses the importance of quality in all its aspects and shows how poor-quality services will damage health.^{10,11}

This model failed to include health promotion and disease prevention, and the wider population health and public health agenda. Here, too, there is scope for perverse incentives to influence planning and implementation.

The third neglected area is the workforce. This is perhaps the most significant restriction on achieving UHC. WHO and WBG estimate that 40 million new health and social care jobs will be needed by 2030, driven by a combination of population increases, aging, growth in NCDs, technological advances and growing economies.¹² They also project that, despite some growth in the health workforce, there will be a shortfall of 18 million health workers by 2030, primarily in low- and middle-income countries – thus putting the achievement of UHC at risk.

Nurses and midwives will have an even more important role to play in the future as UHC policy evolves to embrace quality, promotion, prevention and the need to develop the workforce.

SECTION 2. NURSING AND MIDWIFERY – AT THE HEART OF UHC

Nursing and midwifery around the world

Nurses and midwives are at the heart of every health system. Their scope of practice and the circumstances in which they work may differ, but there are a set of values and approaches that are common to all. The International Council of Nursing (ICN) captures this common ground stating that:

“Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles.”¹³

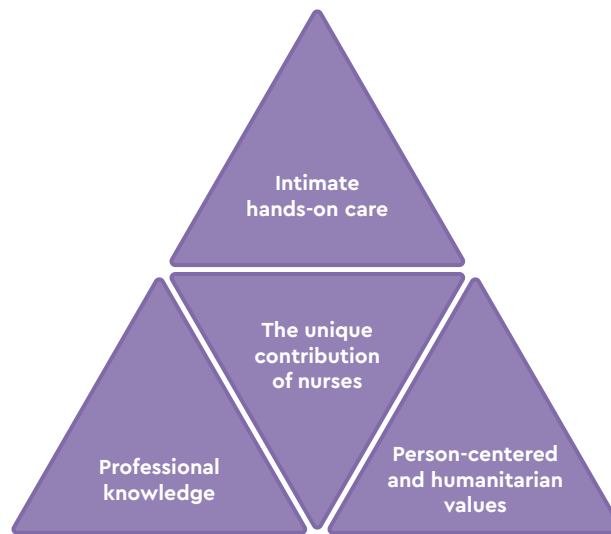
Midwives have a similarly person-centered approach and undertake a wide range of roles in their care of women during pregnancy, labor and the post-partum period, as well as in the care of newborns.

These wide-ranging descriptions reveal how nurses and midwives respond flexibly to patients' needs, taking a holistic and bio-psycho-social-environmental view of health, rather than the purely biomedical approach that underpins Western scientific medicine. A recent review argued that the *unique* contribution of nurses comes from the combination of professional knowledge, intimate hands-on care, and person-centered and humanitarian values – as shown in Figure 3.¹⁴ In addition, of course, nurses carry out many of the same roles as other professionals such as policymaking, leadership and advocacy.

The scope of practice of nurses and midwives depends on the legal and professional regulations in place. Nurses in many countries, for example, can prescribe medication, perform minor surgery, lead outpatient clinics or run hospitals, while nurses in others are much more limited in their practice.

The relationship between nursing and midwifery also varies from country to country: in some countries most midwives are nurses, while in others they are separate groups. Some countries have few, if any, midwives, and obstetric or general nurses assist women during childbirth.

Figure 3. The unique contribution of nurses



Source: All-Party Parliamentary Group on Global Health (2016)

Numbers of nurses and midwives

WHO estimates that there were 20.7 million nurses and midwives in 2013 out of 43.5 million health workers globally.¹⁵ The figures are based on reports from individual countries, some of which included unqualified workers in their count, while others did not. Taking this into account, it is reasonable to assume that qualified nurses and midwives make up half the global professional workforce.

There are no accurate figures for the split between midwives and nurses. The best estimates suggest that there are between three-quarters of a million and 1 million midwives globally, and many more nurse-midwives or obstetric nurses looking after women and newborns.¹⁶

Nurses and midwives are distributed very unevenly around the world and within countries. Low-income countries on average had approximately 0.5 nurses and midwives per 1,000 population in 2013, while high-income countries had 6.5 per 1,000.¹⁷ The percentage of nurses and midwives in the health workforce varied from below 25 percent to more than 85 percent in parts of Sub-Saharan Africa.

Current levels of nurses and midwives are insufficient to meet healthcare demands now and in the future. WHO figures for 2013 reveal a shortage of 9 million nurses and midwives and suggest that another 19.2 million will be needed by 2030. At the current rate of expansion, however, there would still be a shortage of about 7.6 million nurses and midwives in 2030.¹⁸

A summary of these numbers is shown in [Table 1](#).

Table 1. Nursing and midwifery in numbers in 2013

Numbers globally	20.7 million; between 0.75 and 1 million are midwives
Distribution globally	Low-income countries had 0.5 per 1,000 population; high-income countries had 6.5
Percentage in workforce	Global average of around 50%; range from below 25% to above 85%
Estimated global shortage	9.3 million now, but 19.2 million more needed by 2030

Source: WHO (2013)

The increasing contribution to health and wellbeing

There are three main reasons why nurses and midwives have the potential to make an increasing contribution to health and wellbeing globally.

First, nurses and midwives, with their holistic values and patient-centered practice, are ideally placed to provide the sort of care that is needed globally as the number of people with NCDs and age-related comorbidities continues to grow.

Second, they very often live in the communities they serve, and are able to understand the customs and culture and how best to deliver services. This closeness to the community means that they can provide support with health promotion, disease prevention and health literacy. They can also detect early signs of disease and help prevent outbreaks, identify community needs, initiate public health programs and help tackle some of the wider social determinants of health. The WHO High Level Commission on NCDs report describes this role very well:

“Within a multi-disciplinary health workforce, nurses have especially crucial roles to play in health promotion and health literacy, and in the prevention and management of NCDs. With the right knowledge, skills, opportunities, and financial support, nurses are uniquely placed to act as effective practitioners, health coaches, spokespersons, and knowledge suppliers for patients and families throughout the life course.”¹⁹

Third, in much of the world, nurses are very often the first health professionals people meet, and sometimes the only ones. They play a role as the gateway to the formal health system, with its hospitals and specialist services, and support locally-based community health workers by providing training, supervision and a first point of referral to a health professional (see Figure 4).

Figure 4. Nurses and midwives make an increasing contribution to health and wellbeing



Changed burden of diseases

- More NCDs
- Aging populations with more comorbidities



Close to the community

- Person-centered and holistic models of care
- Health promotion, disease prevention and health literacy
- Tackle social determinants



The first health professional

- Gateway to hospitals and specialists
- Support, supervise and receive referrals from community health workers

The Nursing Now campaign

This increasing contribution is being championed by the Nursing Now campaign, which was launched in February 2018 to improve health globally by raising the profile and status of nurses. It aims to influence policymakers and supports nurses to lead, learn and build a global movement.²⁰

The campaign has had an extraordinary response from nurses and local nursing organizations, with Nursing Now groups being established and launched – without any central funding – in 40 countries, spanning the UK to South Africa to Qatar to China within three months. This suggests that nurses are ready and willing to rise to the challenge, and to play an even larger and more significant role in improving health globally.

Public perspectives on nursing

As part of this report, we commissioned a short survey (see Figure 5) from YouGov across seven countries to gauge public perception of nurses providing services and of the attractiveness of nursing as a career. A total of 6,458 people were surveyed.

This survey provided only a partial view of public perspectives on nursing from a few countries. However, it shows very clearly that the large majority of respondents would be happy to have nurses treating them for non-life-threatening conditions, as long as they had the appropriate standards of education, training, skills and experience. An even larger majority said that they valued nurses and doctors as equally important members of the healthcare team. These results suggest that there would be widespread public support for nurses making an even greater contribution to healthcare in the future.

In addition, a large majority of the respondents said they would be proud if their daughter became a nurse. Moreover, a majority in every country, except China, said they would be proud if their son became a nurse. This suggests that there is the potential to attract more people – men as well as women – into nursing as a career.

The survey is analyzed in more detail in Appendix 1, which considers the differences between countries and age groups.

Figure 5. Survey of public perspectives on nursing



Source: YouGov survey for WISH (2018)

SECTION 3. NEW AND INNOVATIVE SERVICES

Nurses and midwives are playing a leading role in many new and innovative services, all of which show what can be achieved in the future. These examples fall loosely into the four groups shown in Figure 6: improving access; promotion and prevention; improving quality; and role redesign and technology.

Figure 6. New and innovative services



Improving access

Nurse practitioners deliver many specialist services. For example, the care of patients with NCDs, such as diabetes and chronic obstructive pulmonary disease (COPD), is now routinely managed in many countries by nurses, with doctors available as necessary. [Case study 1](#) is an example from a middle-income country.

Case study 1. Managing NCDs in Tonga²¹

Building on a successful model for community-based reproductive health nurses, in 2012 the Government of Tonga implemented a pilot program in five community centers where dedicated, community-based NCD nurses provide services across the spectrum – health promotion, early detection, illness prevention, treatment adherence, rehabilitation and palliation.

The initiative has improved: diabetes and cardiovascular disease monitoring and treatment; community participation in exercise and nutrition programs; data collection; and reduced amputations.

Based on these promising results, the program was expanded to 20 community centers, and 20 community nurses completed an Advanced Nursing Diploma in the Prevention, Detection and Management of Non-Communicable Diseases. These nurses will also play a large role in the 2015–2020 strategic plan for NCDs.

In many low- and middle-income countries, a nurse or midwife may be the only health professional that populations ever see. In Uganda, for example, there are more than 2,000 government health facilities where the sole provider is a nurse or midwife. Many nurses and midwives in this situation also provide training and supervision for community health workers, who may be working in even more remote areas, and receive referrals from them. In 2014, for example, the government of Côte d'Ivoire set up an initiative with the international, not-for-profit US-based health organization Jhpiego to improve access to care for NCDs. Nurses lead community-based services that provide care at home and in local health centers, and supervise the work of community health workers.²²

Nurses and midwives, who often live in the community they serve, can understand the needs of isolated and hard-to-reach populations and design services accordingly (see [Case study 2](#)).

Case study 2. Access for hard-to-reach groups²³

A nurse at the Albert Einstein Hospital in São Paulo, Brazil set up a service called 'Bar Talk' in 2013 for men living in the Paraisópolis district, who generally did not use health services except in emergencies.

Meetings are held in local bars monthly for men aged between 20 and 59. They last about two hours and cover topics that men might otherwise feel too inhibited to discuss. A week later, at the Primary Healthcare Center (PHC), there is 'After-Bar,' a follow-up clinic with appointments for men to consult on their health needs in more detail.

Over four years, male visits to the PHC increased by 80%, and the initiative has now expanded to multiple bars in the area.

Health promotion and disease prevention

Nurses and midwives can make a particularly powerful contribution to promotion, prevention and health literacy. In Fife, Scotland, midwives lead a specialist service called *Quit4Life* – a friendly, flexible and non-judgmental service that provides home-based support for pregnant women and their partners struggling to quit smoking.²⁴

Nurses also often support promotion and prevention efforts as part of a wider team (see [Case studies 3 and 4](#)).

Case study 3. Promotion and prevention in Sri Lanka²⁵

Cardiovascular diseases and diabetes are the leading causes of death in Sri Lanka, which has a large burden of NCDs.

Nurses from the National Hospital of Sri Lanka provide outreach services as part of a multidisciplinary team. These services include: physical assessment; blood pressure monitoring; blood sugar testing; height and weight; blood and urine analysis; family planning and fertility care; nutritional support; eye clinic; ear, nose and throat clinic; health education for disease prevention and early detection; healthy lifestyles counseling; exercise and weight management; sleep and health; mental health and meditation.

Over three years, more than 300,000 people have been seen in the clinics.

Case Study 4. Improving mental health in schools in Portugal²⁶

Suicide is the third-highest cause of death among teenagers in Portugal, and self-inflicted injuries are increasing in this age group.

A multidisciplinary program, coordinated by nurses, engages with school teachers and ancillary staff, parents and students. It aims to promote wellbeing and self-esteem, develop coping strategies, and combat stigma and depression.

Over seven years, there has been a positive impact in all these areas and a reduction in symptoms of depression leading to suicidal behavior.

There are also many examples of nurses directly confronting the social determinants of ill-health by tackling housing issues, or the availability of food, clean water and education, or confronting violence against women. For example, as part of the Nursing Now campaign, the Jamaican Chief Nursing Officer and her department have joined with local people in tackling violence against women. The program combines education and awareness-raising in the population, and care and treatment for the victims of violence and their children.²⁷

Quality and improvement

Quality and person-centeredness are at the heart of nursing and midwifery philosophy and practice. [Case study 5](#) shows that nurses in India working with patients and carers have had a beneficial impact on health outcomes.

Case study 5. Working with patients and carers²⁸

India-based Narayana Health and US-based Stanford University of Design devised the Care Companion program in 2013 to educate patients and carers.

Patients waiting for cardiac surgery and their carers have a preoperative appointment with a nurse to discuss how best to optimize their health before surgery, and what to expect afterwards. After surgery, nurses teach patients and relatives postoperative care. They are taught to take and record pulse and blood pressure. They are also advised on wound care, washing and what to do in the event of complications.

Pilot studies showed that patients' understanding of vital signs increased by 42 percent, knowledge of complications increased by 30 percent, and feeling prepared increased by 38 percent.

The program was rolled out to other intensive care units and the nurses took ownership of the program. Further evaluations showed that postoperative complications reduced by 36 percent and anxiety by 74 percent.

Role redesign and technology

Most of the examples in this report describe nurses and midwives learning new skills, but doing so within their normal scope of practice. But, other examples demonstrate how they extend their practice, taking on roles and responsibilities previously undertaken by other healthcare practitioners. This is sometimes described as task-shifting, task-sharing or skill-mix change. Nurse practitioners, introduced in the US 50 years ago, for example, are cost effective in many care environments, compared to physicians. They are more likely to be willing to work in primary care settings and to work in areas of high socioeconomic need.²⁹ Advanced nurse practitioners, nurse consultants and nurse specialists now undertake many extended roles, including running clinics, undertaking procedures and prescribing medication. In South Africa, for example, national policy changes allowing nurses and other non-physicians

to receive training in assessment, diagnosis and management of HIV/AIDS – including in some cases, the administration of Anti-Retroviral Therapy (ART) – has led to significant improvements in care.³⁰

In Mozambique, nurses and other health workers have been trained in emergency obstetric care to perform cesareans in remote rural areas where such services were previously unavailable. Peer-reviewed research shows that their results are comparable to those achieved by doctors in the same conditions and environment, but at significantly lower cost.³¹

Advances in technology have also enabled health workers to perform tasks previously outside their professional remit, thereby freeing other professionals to concentrate on higher-cost tasks (see [Case studies 6 and 7](#)).

Case study 6. Midwives providing point-of-care ultrasound (POCUS)³²

The Aga Khan University Hospital in Nairobi successfully developed training for midwives in POCUS at rural health service centers. This involved developing competencies in the use of a tablet platform, connected care (CCC teleradiology) software, an internet browser and mobile technologies.

The program increased POCUS accessibility at three outreach clinics, with proven outcomes in the early detection and referral of risk factors in pregnancy.

The key to success in all these examples was careful planning, good leadership and systematic implementation.³³ Changes in the role of one profession affect all the others and the resulting impact on the whole system needs to be understood and managed. There can easily be tensions between professions and disputes over professional territory, where this is not managed well.

One way to manage the changes is through a review of the roles of all practitioners within a system. The Practical Approach to Care Kit (PACK), as described in [Case study 8](#), does this by focusing on who within a system can do what, and making sure that everyone understands each other's competencies.

Case study 7. Intensive care unit (ICU) care in India³⁴

At Narayana Health in India, the cardiac ICU piloted the use of a tablet connected wirelessly to patients' monitoring devices. Measurements are fed into a clinical decision support tool used by ICU nurses to manage patient care. For example, when oxygen levels dip, it is picked up immediately and the device suggests actions for the nurse to carry out, such as checking the endotracheal tube connection.

This support tool means nurses rather than doctors are able to make clinical decisions and manage care at the bedside, which allows doctors more time to concentrate on other tasks.

Case study 8. The PACK system for managing care across professions³⁵

In 2000, a respiratory physician in South Africa began to develop evidence-based algorithms to manage common chronic conditions in primary care, and primary healthcare teams (doctors, nurses and pharmacists) were trained in their use. The guidelines were color-coded to indicate which health professional was qualified to perform each task. This allowed health professionals to work confidently at the top of their license.

Four pragmatic cluster Randomized Controlled Trials (RCTs) have now evaluated PACK. They show improved rates of case detection and more appropriate prescribing. They also show improved long-term health outcomes for patients with HIV. The approach involves more primary care visits and fewer and shorter hospital admissions, which is appreciated by staff.

PACK has now expanded to cover the majority of common conditions in primary care, including mental health, antenatal care and HIV. PACK has also expanded geographically. It is incorporated into South Africa's ministerial primary health program and has been successfully transferred to Malawi, Botswana, Nigeria and Brazil. Each time, it has taken six months to modify guidelines so that they take account of local legislation and fit into local referral pathways.

SECTION 4. MAXIMIZING THE CONTRIBUTION OF NURSING AND MIDWIFERY

The case studies outlined in Section 3 show that there is enormous energy and momentum for creating new and innovative healthcare services, with nurses and midwives playing increasingly important roles – and that this is undoubtedly improving services in a variety of communities throughout the world.

There are problems to be overcome, however, if these services are to become the norm everywhere, and nurses and if midwives are to maximize their contribution to healthcare worldwide.

Barriers to progress

Nurses around the world report that they face many problems. Interviews with nurses from 15 countries in 2016, revealed:³⁶ Widespread staff shortages

- Poor pay and few opportunities for advancement
- Poor facilities and a lack of equipment and medicines
- Inadequate education and training
- Ineffective regulation and application of quality standards
- Difficulties with recruitment and retention
- Weak leadership and poor management practices.

These are not isolated findings, and they indicate both a lack of investment and the low priority given to nursing and midwifery in many countries.³⁷ These problems are not just about the need for resources, but also about legislation, regulation, education and employment practices.

Another concern is the way nurses and midwives are perceived. Respondents to these surveys described how they felt "invisible", "taken for granted", "undervalued", not "engaged in decision-making" and "low status". Many described not being able to work to the limit of their competence or "the top of their license."

Addressing these issues is made more difficult by poor data on the health workforce, which means the problems are often not visible to policymakers. Moreover, nursing and midwifery are too often left out of key policies or, just as problematically, treated in isolation within human resources or nursing policy.

All of these problems are compounded by the fact that nurses and midwives are generally not included in policymaking and planning. They are typically not included on top-level management boards or commissions, and their unique and practical insights about health needs and service delivery are not considered in decision-making processes.

Opportunities

These problems are an enormous waste of talent and resources, but once they are understood, they offer a major opportunity for improvement. These considerations and the evidence of what nurses and midwives can achieve suggest that there are four actions to take to maximize this contribution:

- 1.** Raise the profile and status of nursing and midwifery so that policymakers and planners understand better what nurses can contribute
- 2.** Engage nurse leaders in planning services so that insights from nursing can inform service design and operation
- 3.** Ensure that there are effective arrangements for legislation, regulation, education and employment to support quality and raise standards
- 4.** Implement Human Resources Accounts, as required by the WHO, and improve data quality.

The greatest opportunities for development appear to be in primary care and public health, as revealed in many of the case studies in [Section 3](#). These areas are becoming increasingly central to global policy as diseases change and the need for long-term community-based care grows, with more emphasis on promotion, prevention and health literacy. It is not just that nurses have an aptitude for this, but that the work is proving increasingly unpopular with physicians worldwide.

General practice has declined in popularity as a specialty for doctors. In the US, for example, between 2001 and 2010 there was a 6.3 percent decrease in the number of graduate residents entering primary care, but a 45 percent increase in residents entering medical and surgical subspecialties. In low- and middle-income countries, national-level data is limited, but surveys of medical students showed a much higher preference for specialization over general practice. In Egypt, India, Jordan, Tunisia and Turkey, less than 10 percent of physicians choose family medicine.

Development of the nursing and midwifery professions represents a real opportunity to bridge this gap. Nurses are as effective as primary care physicians at many things – and as acceptable to the public, as already described (see page 15). They also take less time to train and cost less in terms of both training and deployment costs. There are, however, a number of critical enabling factors that have to be in place for the successful development of the professions. These include:³⁸

- **Enabling legislation** – Nurses, Midwives and Health Practitioner Act with provision for advanced and specialty practice, task-sharing and nurse prescribing.
- **Effective regulation** – nurse and midwife licensing bodies and professional associations able to articulate and apply defined scopes of practice for basic, advanced and specialty roles.
- **Accessible, affordable and high-quality** – nursing education programs offering everything from basic entry level to advanced and specialty qualifications.
- **Commitment from employers** – healthcare organizations ready to employ nurses and midwives in advanced and specialty roles and with good employment practices.

These developments will take time. But, from the evidence in this report, it is not unrealistic to suppose that nurses and midwives will, over time, become the central professionals in primary care, supervising community health workers and other staff, and referring to hospital-based physicians for specialist input.

SECTION 5. THE RAPID AND COST-EFFECTIVE EXPANSION OF HIGH-QUALITY UHC

Current global policy on UHC barely mentions the workforce, let alone nursing and midwifery. This omission is important because it underestimates how powerful a lever the workforce is in bringing about change. To take a simple example, there would be a profound effect on how quickly and effectively UHC could be rolled out if a significant part of the workforce were enabled to work more effectively or to take on new roles.

Moreover, unless the health workforce is rapidly expanded and developed, there is simply no possibility of achieving the WHA goal of a billion more people benefiting from UHC in five years.

Rapid expansion

The WHA's ambitious goal puts a premium on making the best use of the existing workforce, as well as on increasing the rate of production of health workers – particularly those that can be trained in less than five years.

The evidence in this report suggests that countries can achieve this rapid expansion by adopting a strategy that combines investment in the workforce with changes in service delivery and practice. This can be achieved through:

- Expanding the workforce
- Enabling all health workers to work to their full potential
- Reviewing health worker roles across a whole system, and task-shifting where appropriate
- Increasing the focus on promotion, prevention, health literacy and early detection
- Developing primary care.

For nurses and midwives, this would mean building on the sorts of innovative, new developments described in [Section 3](#), removing the barriers to progress outlined in [Section 4](#), and expanding their role in primary care and public health.

Cost-effective expansion

Enabling health workers to work to their full potential, and reviewing and extending their roles as appropriate, will also improve cost-effectiveness and productivity.

There is evidence that nurses and doctors are working below their full potential, even without taking task-sharing into account. The OECD reported the findings of two studies looking at "skills mismatch" in OECD hospitals.³⁹ One study found that 76 percent of doctors and 79 percent of nurses felt that they performed tasks they were overqualified for. The other study found that more doctors and nurses felt overqualified than underqualified for their position. A study of nursing in nine EU countries found similar results, as did the interviews with nurses summarized in [Section 4](#).⁴⁰

In addition, there is enormous potential for nurses to expand their scope of practice through task-sharing. One study estimated that advanced practice nurses can complete approximately 70 percent of a GP's workload – predominantly in the management of acute minor illness and the care of chronic long-term conditions.⁴¹ Many countries are now starting to base their workforce modeling on such findings. In the Netherlands, for example, workforce models project that reallocation of tasks from GPs to nurse practitioners will reduce demand for GPs by 0.6–1.2 percent per year. Modeling in Switzerland, meanwhile, forecasts that task substitution could slow the growth in GP consultations per year from 13 percent to 2 percent.

A recent systematic review found that task-sharing was instrumental in helping low- and middle-income countries achieve both cost savings and efficiency improvements without affecting health outcomes.⁴² The evidence was strongest for task-sharing related to tuberculosis and HIV/AIDS, with additional evidence for the potential to achieve cost savings in the management of malaria, NCDs, neglected tropical diseases, childhood illness and other diseases.

There is little research on the cost-effectiveness of nursing and midwifery-led services. The Commission on Health Employment and Economic Growth found evidence of the cost-effectiveness of increasing the numbers of nurses and developing their roles, while noting that the evidence was limited and mixed.⁴³ Several studies described in [Appendix 1](#) found that nurse-led services, for example for NCDs, are more cost-effective than ones led by physicians. These positive results, however, appeared to depend largely on the local context and how services were organized.

There is also evidence of waste in the way many nurses and midwives are employed. The interviews with nurses described in [Section 4](#) revealed many examples of poor management, nurses working without proper equipment and medicines, and nurses not being paid on time – all of them extremely wasteful practices.

High-quality expansion

There is evidence throughout this report of the impact that nurses and a patient-centered, holistic approach have on quality. Many of the studies in [Appendix 1](#) also show that physicians and nurses generally achieve equivalent health outcomes for long-term NCD management, though nurses often score higher for patient satisfaction and for treatment adherence. Nurses also often provide more health promotion and disease prevention advice at the same time.

There is also evidence that the education levels of nurses can have a major impact on mortality as well as other aspects of quality. The largest study of nursing in acute hospitals in high-income countries (in 300 hospitals across nine European countries) reviewed discharge data for 422,730 patients aged 50 or older who underwent common surgical procedures.⁴⁴ Patients in hospitals in which 60 percent of nurses had bachelor's degrees, and where nurses cared for an average of six patients, had almost 30 percent lower mortality than patients in hospitals in which only 30 percent of nurses had bachelor's degrees and nurses cared for an average of eight patients.⁴⁵

Taken together, all this evidence points to the importance of developing nurses, midwives and other non-physician roles. Perhaps it is this understanding that has prompted the continued expansion in these roles in recent years. For example, between 2007 and 2012, about half of the OECD member countries expanded the scope of practice for non-physician providers, such as nurse practitioners and pharmacists. In Canada, the Netherlands and the US, education programs for advanced nurse practitioners are also expanding.

SECTION 6. RECOMMENDATIONS

Investing in the nursing and midwifery workforce will help countries achieve a rapid and cost-effective, high-quality expansion of UHC.

Nurses and midwives can play a far greater role in:

- Primary care – supporting community health workers as well as providing services and coordinating care
- Improving care for women in pregnancy, labor and the post-partum period
- Managing NCDs – working with their patients and the wider community
- Promoting health and health literacy, and the prevention and early detection of disease.

This will only happen, however, when politicians and health leaders raise the profile and status of nursing and midwifery – ensuring that policymakers and planners understand fully what nurses can contribute and engaging nurses and midwives so that their unique insights inform service design and operation.

The early success of the Nursing Now campaign shows that nurses are enthusiastic about playing an even larger role in improving health globally. In addition, research and polling data suggest that the public will welcome this.

We, therefore, recommend that national governments adopt the following four-point plan:

1. Redesign existing services and introduce new and innovative services that maximize the contribution made by nurses and midwives, enabling them to work at the top of their license. This would include:

- Making nurse-based and nurse-led services the norm for the management of most NCDs
- Making midwife and nurse-led services the norm for most community-based maternal, child health and adolescent services
- Giving nurses and midwives a leading role in primary care – in some cases *the* leading role – enabling them to support community health workers, co-ordinate care and mobilize community resources
- Strengthening nurses' and midwives' roles in promoting health and wellbeing – particularly in health promotion, disease prevention, health literacy and early detection.

2. Develop a comprehensive workforce strategy that maximizes the contribution of all professions and health workers. It is crucial that health systems rethink their current workforce strategies to expand the role of nurses, particularly in managing NCDs and primary care. Suggested actions include:

- Undertaking a redesign of roles across the health workforce and education programs – using a systematic methodology such as PACK (see [Case study 8](#))
- Investing in all aspects of nursing and midwifery – from education to recruitment and retention – as part of an integrated workforce strategy
- Strengthening nurse and midwife roles in promoting health and well-being – particularly in health promotion, disease prevention, health literacy and early detection
- Ensuring that sufficient infrastructure and technology is in place to support nurses in their expanded responsibilities (see '[Role re-design and technology](#)' in [Section 4](#), and [Case studies 6](#) and [7](#) for examples).

3. Enact supportive legislation and regulation. To enable nurses to take on additional and expanded roles in healthcare delivery, it is essential that governments, nursing associations and other regulators explicitly support these actions. Suggested steps include:

- Enabling legislation – with provision for advanced and specialty practice, task-sharing and nurse prescribing
- Regulation – professional bodies defining scopes of practice for basic, advanced and specialty roles.

4. Raise the profile and status of nursing and midwifery. As nurses and midwives continue to expand the scope of their practice, it is imperative that providers, health systems and governments promote the role of these professionals. Suggested actions include:

- Engaging nurses and midwives fully in leadership, policymaking and planning – to bring their perspective and experience to bear within the full range of government departments and within the most senior decision-making bodies
- Actively promoting nursing as a fulfilling career for women and men
- Empowering nurses and midwives to play a leading role in primary care, enabling them to support community health workers, co-ordinate care and mobilize community resources.

APPENDICES

Appendix 1: Polling of public attitudes towards nursing

www.nursingnow.org/wp-content/uploads/2018/01/WISH-Report-2018-Annex-1.pdf

Appendix 2: Research evidence

www.nursingnow.org/wp-content/uploads/2018/01/WISH-Report-2018-Annex-2.pdf

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REFERENCES

01. Ghebreyesus TA. All roads lead to universal health coverage. *The Lancet Global Health*, 2017; 5(9): e839–e840. Available at: [www.thelancet.com/journals/langlo/article/PIIS2214-109X\(17\)30295-4/fulltext](http://www.thelancet.com/journals/langlo/article/PIIS2214-109X(17)30295-4/fulltext) [Accessed 26 June 2018].
02. United Nations (UN). Sustainable development goal 3: Ensure healthy lives and promote well-being for all at all ages. Available at: sustainabledevelopment.un.org/sdg3 [Accessed 26 June 2018].
03. World Health Organization (WHO). Global action plan on antimicrobial resistance. 2015. Available at: www.wpro.who.int/entity/drug_resistance/resources/global_action_plan_eng.pdf [Accessed 27 May 2018].
04. World Health Organization (WHO). Time to deliver: Report of the WHO Independent High-Level Commission on Noncommunicable Diseases (para 38, p.12). June 2018. Available at: www.who.int/ncds/management/time-to-deliver/en [Accessed 26 July 2018].
05. World Health Organization (WHO). Declaration of Alma-Ata. 1978. Available at: www.who.int/publications/almaata_declaration_en.pdf [Accessed 28 April 2018].
06. World Health Organization (WHO). Global Health Observatory (GHO) data: NCD mortality and morbidity. Available at: www.who.int/gho/ncd/mortality_morbidity/en [Accessed 26 July 2018].
07. World Health Organization (WHO). Maternal mortality. 2018. Available at: www.who.int/news-room/fact-sheets/detail/maternal-mortality [Accessed 18 June 2018].
08. World Health Organization (WHO). Health systems financing: The path to universal coverage. The World Health Report. 2010. Available at: apps.who.int/iris/bitstream/10665/44371/1/9789241564021_eng.pdf [Accessed 11 March 2018].
09. Nicholson D et al. Delivering universal health coverage: A guide for policymakers. World Innovation Summit for Health (WISH) UHC forum, 2015. Available at: www.imperial.ac.uk/media/imperial-college/institute-of-global-health-innovation/public/Universal-health-coverage.pdf [Accessed 26 July 2018].
10. The World Bank. Delivering quality health systems: A global imperative for universal health coverage. Available at: www.worldbank.org/en/topic/universalhealthcoverage/publication/delivering-quality-health-services-a-global-imperative-for-universal-health-coverage [Accessed 8 July 2018].
11. Flott K et al. Health care must mean safe care: Enshrining patient safety in global health. *The Lancet*, 2017; 389(10076): P1279–1281. Available at: [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(17\)30868-1/abstract?code=lancet-site](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)30868-1/abstract?code=lancet-site) [Accessed 26 July 2018].
12. World Health Organization (WHO). Global strategy on human resources for health: Workforce 2030. Available at: www.who.int/hrh/resources/global_strategy_workforce_2030_14_print.pdf [Accessed 11 March 2018].
13. International Council of Nurses. Definition of Nursing. Available at: www.icn.ch/who-we-are/icn-definition-of-nursing [Accessed 26 July 2018].

14. All-Party Parliamentary Group on Global Health. The triple impact of nursing. Figure 1.1, p.10. October 2016. Available at: www.who.int/hrh/com-heeg/digital-APPG_triple-impact.pdf [Accessed 26 July 2018].
15. World Health Organization (WHO). Global strategy on human resources for health: Workforce 2030. Available at: www.who.int/hrh/resources/global_strategy_workforce_2030_14_print.pdf [Accessed 11 March 2018].
16. United National Population Fund (UNFPA), World Health Organization (WHO) and International Confederation of Midwives (ICM). The state of the world's midwifery 2014. A universal pathway: A woman's right to health. Available at: www.unfpa.org/sites/default/files/pub-pdf/EN_SoWMy2014_complete.pdf [Accessed 29 May 2018].
17. World Health Organization (WHO). Global Health Observatory data: Density of nursing and midwifery personnel (map). Available at: www.who.int/gho/health_workforce/nursing_midwifery_density/en [Accessed 26 July 2018].
18. World Health Organization (WHO). Global strategy on human resources for health: Workforce 2030. Tables A1.1 (p.41) and A1.3 (p.44). Available at: www.who.int/hrh/resources/global_strategy_workforce2030_14_print.pdf [Accessed 26 July 2018].
19. World Health Organization (WHO). Time to deliver: Report of the WHO Independent High-Level Commission on Noncommunicable Diseases. Recommendation 3, p.21. Available at: www.who.int/ncds/management/time-to-deliver/en [Accessed 8 July 2018].
20. Nursing Now. A program of the Burdett Trust for Nursing that works in collaboration with the World Health Organization and International Council of Nurses. Available at: www.nursingnow.org [Accessed 17 June 2018].
21. International Council of Nurses (ICN). Nurses: A voice to lead – health is a human right. 2018. Available at: www.icn.ch/publications/2018-nurses-a-voice-to-lead-health-is-a-human-right [Accessed 26 July 2018].
22. Lolordo A. Jhpiego: An international, non-profit health organization affiliated with The Johns Hopkins University. Unpublished case study.
23. Nursing Now. Case study: Sao Paulo – Reaching out to improve men's health. A program of the Burdett Trust for Nursing, Brazil. 2018. Available at: www.nursingnow.org/case-studies-brazil [Accessed 26 June 2018].
24. NHS Fife. Quit for life. Available at: www.nhsfife.org/nhs/index.cfm?fuseaction=nhs.pagedisplay&p2sid=B811EE34-A28E-E625-07EDD953EC3A8857&themeid=E44C37C3-5056-8C6F-C003CD63C15D8FF0 [Accessed 1 July 2018].
25. International Council of Nurses (ICN). Nurses: A voice to lead – health is a human right. 2018. Available at: www.icn.ch/publications/2018-nurses-a-voice-to-lead-health-is-a-human-right [Accessed 26 July 2018].
26. International Council of Nurses (ICN). Nurses: A voice to lead – health is a human right. 2018. Available at: www.icn.ch/publications/2018-nurses-a-voice-to-lead-health-is-a-human-right [Accessed 26 July 2018].
27. Nursing Now. Case study: Tackling violence against women and children in Jamaica. A program of the Burdett Trust for Nursing, Jamaica. 2018. Available at: www.nursingnow.org/case-studies-jamaica [Accessed 26 June 2018].

28. Narayana Health. Unpublished case study.
29. Maier C et al. Nurses in advanced roles in primary care: Policy levers for implementation. OECD Health Working Papers. Organisation for Economic Co-operation and Development (OECD), 2017. Available at: www.oecd-ilibrary.org/social-issues-migration-health/nurses-in-advanced-roles-in-primary-care_a8756593-en [Accessed 26 July 2018].
30. Crowley T and Mayers P. Trends in task shifting in HIV treatment in Africa: Effectiveness, challenges and acceptability to the health professions. *African Journal of Primary Health Care & Family Medicine*, 2015; 7(1): 807. Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC4564830 [Accessed 26 July 2018].
31. Fulton BD et al. Health workforce skill mix and task shifting in low income countries: A review of recent evidence. *Human Resources for Health*, 2011; 9: 1. Available at: human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-9-1 [Accessed 26 July 2018].
32. Vinayak S and Brownie S. Collaborative task-sharing to enhance the point-of-care ultrasound (POCUS) access among expectant women in Kenya: The role of the midwife sonographers. *Journal of Interprofessional Care*. May 2018. Available at: www.tandfonline.com/doi/full/10.1080/13561820.2018.1470499 [Accessed 1 July 2018].
33. All-Party Parliamentary Group on Global Health. All the talents. July 2012. Available at: www.appg-globalhealth.org.uk/reports/4556656050 [Accessed 26 July 2018].
34. Narayana Health. Unpublished case study.
35. BMJ Publishing Group Ltd. Practical approach to care kit (PACK). *British Medical Journal*. Available at: pack.bmj.com [Accessed 26 June 2018].
36. All-Party Parliamentary Group on Global Health. The triple impact of nursing. October 2016. Available at: www.who.int/hrh/com-heeg/digital-APPG_triple-impact.pdf [Accessed 26 July 2018].
37. World Health Organization (WHO). Nursing Now campaign. Unpublished survey undertaken by nurses as part of Nursing Now campaign in Tanzania. www.who.int/hrh/news/2018/nursing_now_campaign/en [Accessed 26 July 2018].
38. McKenna L et al. An investigation of barriers and enablers to advanced nursing roles in Australian general practice. *Collegian*, 2015; 22: 183–189. June 2015. Available at: [www.collegianjournal.com/article/S1322-7696\(15\)00011-6/fulltext](http://www.collegianjournal.com/article/S1322-7696(15)00011-6/fulltext) [Accessed 26 July 2018].
39. Organisation for Economic Co-operation and Development (OECD). Health workforce policies in OECD countries: Right jobs, right skills, right places. 2016. Available at: www.oecd.org/publications/health-workforce-policies-in-oecd-countries-9789264239517-en.htm [Accessed 26 July 2018].
40. Aiken LH et al. Nurse staffing and education and hospital mortality in nine European countries: A retrospective observational study. *The Lancet*, 2014; 383(9931): 1824–1830. Available at: www.ncbi.nlm.nih.gov/pubmed/24581683 [Accessed 26 July 2018].
41. Dubois C-A and Singh D. From staff-mix to skill-mix and beyond: Towards a systemic approach to health workforce management. *Human Resources for Health*, 2009; 7: 87. Available at: human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-7-87 [Accessed 26 July 2018].

42. Seidman G and Atun R. Does task shifting yield cost savings and improve efficiency for health systems? A systematic review of evidence from low-income and middle-income countries. *Human Resources for Health*, 2017; 15: 29. Available at: human-resources-health.biomedcentral.com/articles/10.1186/s12960-017-0200-9 [Accessed 26 July 2018].
43. Buchan J, Dhillon IS and Campbell J (eds). Health employment and economic growth. An evidence base. p. 241. World Health Organization (WHO). Available at: www.who.int/hrh/resources/WHO-HLC-Report_web.pdf [Accessed 2 June 2018].
44. Seamus W and Aiken L. RN4CAST: Nurse forecasting in Europe. Available at: www.rn4cast.eu [Accessed 30 April 2018].
45. Aiken LH et al. Nurse staffing and education and hospital mortality in nine European countries: A retrospective observational study. *The Lancet*, 2014; 383(9931): 1824-1830. Available at: www.ncbi.nlm.nih.gov/pubmed/24581683 [Accessed 26 July 2018].

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