Nurse workforce sustainability in small countries: monitoring mobility, managing retention

Policy brief
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ABSTRACT
This brief has been written for policy-makers, managers and nurses. Its objectives are to examine the interrelated issues of monitoring the mobility of nurses and managing nurse retention, which have emerged as issues from the WHO Europe Small Countries Initiative Human Resources for Health Working Group. The brief was prepared in 2020 against a backdrop of the COVID-19 pandemic. It draws on the latest evidence on retention and mobility of nurses to provide a policy framework and suggested monitoring tools, while also reflecting that COVID-19 places unprecedented pressures on the nursing workforce and will have an impact on patterns of retention and mobility. The key messages are that small states face the same complexity of nurse workforce challenges, the same issues of dealing with the COVID-19 pandemic and the same range of potential solutions as other countries, but have to ensure that the bundles of policy interventions they identify, implement and evaluate are relevant to their own unique labour-market situations.

Keywords
NURSING, SMALL COUNTRIES, MOBILITY, RETENTION, POLICY INTERVENTIONS

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Acknowledgements

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Drafts of the brief were reviewed by: Kenneth Grech, Department of Health Services Management, Faculty of Health Sciences, University of Malta; and Gilles Dussault, Institute of Hygiene and Tropical Medicine, Lisbon, Portugal.

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Context and importance of the issue: COVID-19 and the year of the nurse and midwife

COVID-19 and the year of the nurse and midwife

The year 2020 was designated by WHO as the International Year of the Nurse and of the Midwife, in recognition of the central and critical role played by nurses and midwives in the delivery of health care. Early in the year, the importance of nursing was reinforced by the growing impact of the COVID-19 pandemic on health systems across the globe, which put the nursing workforce in each country on the front line of pandemic response.

This brief has been written for policy-makers, managers and nurses. Its objectives are to examine the interrelated issues of monitoring the mobility of nurses and managing nurse retention, which have emerged as issues from the WHO Europe Small Countries Initiative Human Resources for Health Working Group. The brief was prepared in 2020 against a backdrop of the COVID-19 pandemic. It draws on the latest evidence on retention and mobility of nurses to provide a policy framework and suggested monitoring tools, while also reflecting that COVID-19 places unprecedented pressures on the nursing workforce and will have an impact on patterns of retention and mobility.

The focus of the brief is the sustainability of the nursing workforce through the interconnected issues of effective monitoring of nurse mobility and effective retention of nurses. It has been developed as a component of a programme of work that focuses on human resources for health in the small countries of the WHO European Region. It is recognized that small countries have specific and unique characteristics in the context of the nursing workforce and broader human resources for health (HRH), planning and policy-making. These must fully be assessed and integrated into the development of effective policy responses to HRH challenges, such as retention (1–3).

These characteristics in small countries can include:

- resource and capacity constraints on providing the full range of health and care services;
- resource and capacity constraints on providing the full range of necessary training and education to nurses and other health professionals, with
inadequate cover for education leave and no economies of scale in training provision;

- vulnerability to migratory outflow of very small numbers of nurses and other skilled staff (or reliance on internationally recruited health workers);

- vulnerability to unplanned international outflow if nationals are trained in other countries and then do not return on completion of training;

- individual nurses having to cover multiple roles/jobs, with limited scope for career progression and promoted posts;

- the disproportionate impact of the introduction of a new employer to the small country labour market – the establishment of even just one new health clinic may mean a sudden increase in demand for nurses and distort the local nursing labour market; and

- limited HRH managerial, planning and policy-making capacity because of capacity constraints, alongside unbalanced geographic distribution of services, nurses and other staff, notably in multi-island states and/or countries with low population densities and challenging terrains.

These issues are not unique to small countries, and not all small states exhibit the full range of characteristics. They nevertheless are amplified in the small–state context. The background characteristics must be considered when analysing workforce profiles and identifying relevant policy solutions in any focus on specific detail of the sustainability of the nursing workforce in small states.

The State of the world’s nursing 2020 report

A WHO–led global analysis of the nursing workforce was published in April 2020 (the State of the world’s nursing 2020 report (SOWN) (4)), setting out the profile of the workforce in 191 countries and making policy recommendations to optimize the contribution of nurses in delivering care. Individual country profiles also have been made available (5). SOWN uses data from 2018–2019 and provides an immediate pre-COVID-19 picture of the global profile of the nursing workforce.

Key findings of the SOWN report were:

- the global nursing workforce is estimated at 27.9 million nurses; nine out of every 10 nurses worldwide are female;

- the global needs-based shortage of nurses is estimated at 5.9 million, with 89% concentrated in low- and lower-middle-income countries;
• one out of six of the world’s nurses are expected to retire in the next 10 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); and

• one in every eight nurses practises in a country other than the one in which they were born or trained.

The key message from SOWN was that global shortages of nurses were undermining many countries’ abilities to meet the United Nations Sustainable Development Goals and achieve universal health coverage. The SOWN report also highlights that the international mobility of the nursing workforce is increasing. It notes that, “Many high income countries in different regions appear to have an excessive reliance on international nursing mobility due to low numbers of graduate nurses or existing shortages”, and makes a recommendation that, “Countries that are overreliant on migrant nurses should aim towards greater self-sufficiency by investing more in domestic production of nurses” (6). Demographic change in many countries in Europe means there is a shrinking pool of young people entering professional education.
The impact of COVID-19 on the nursing workforce

COVID-19 has had a pronounced impact on the nursing workforce across the world. Nurses are on the front line of the response to the virus, are central to successful progress in suppressing it, and will be the mainstay of post-COVID-19 health systems. This has been widely acknowledged but has not come without cost. Nurses have fallen ill or died, often because of poor provision of personal protective equipment, and many others are experiencing work-related stress and burnout; the International Council of Nurses reported that there have been at least 2262 COVID-19 related deaths of nurses and that 1.6 million health-care workers in 34 countries have been infected (7). Assessing and responding to the impact of COVID-19 on their physical and mental well-being is an urgent concern and will also have long-term consequences; these are critical issues for the retention and sustainability of the nursing workforce. The need for more effective monitoring of infection and mortality rates among nurses was raised at the World Health Assembly in May 2020 (8).

The scale of the impact on nurses fluctuates across countries. The incidence of COVID-19 and its effect on population health has varied in different regions and areas, and at different times, since it first emerged at the beginning of 2020. Some countries in the Region have experienced second and third waves. Countries have responded in different ways according to how their health systems are configured, but the deployment of nurses and other front-line staff has been a common and central feature.

The WHO European Observatory on Health Systems and Policies analysis of country health workforce responses, drawn from the COVID-19 Health System and Response Monitor (9), has categorized six types of nurse (and other health-workforce) policy intervention:

- increasing the contribution of the current workforce (through, for example, additional hours, new shift patterns and redeployment);
- coopting medical and nursing students into the workforce;
- bringing retired health professionals back into the workforce;
- bringing inactive health professionals back into the workforce;
- fast-tracking foreign-trained health professionals into the workforce; and
- supporting volunteers into the workforce.

The WHO Observatory has highlighted that these strategies have necessitated rapid adaptations to the recruitment, planning and integration of new workers in
clinical practice.\(^1\) It also notes that there is little information as yet on their effects, and that it is too early to “evaluate the impact this rapid expansion has had on workforce expansion, workflows, skill-mix and quality of care” (10).

### Nurse mobility and retention in small countries

In recognition of the importance of nurses in all care environments, with the added emphasis of COVID-19, this policy brief focuses on nurse mobility and retention in small countries. The WHO Europe Small Countries Initiative Human Resources for Health Working Group had identified mobility of health professionals as one of its priorities for examination, and the focus on nurses was agreed at the group meeting in December 2019. The publication of the SOWN report and the impact of COVID-19 have now reinforced the global importance of nurse retention.

The SOWN report highlighted that retention of nurses is a near universal challenge. In addition, there is widespread recognition that the COVID-19 pandemic will impact on nurse retention and mobility, increasing the retention challenge because of stress and burnout of nurses, having a disruptive impact on travel and mobility of nurses between locations and countries in the short term and increasing active international recruitment in the longer term, when high-income countries look to counter retention problems (11).

Nurse mobility and retention are inextricably linked, and both impact on the long-term sustainability of the nursing workforce. COVID-19 is an additional current driver but does not change these overall dynamics. The mobility of nurses between jobs, organizations, sectors and countries is a characteristic of all nurse labour markets. The challenge for employers is first to understand the pattern of mobility and its reasons, and secondly to respond by implementing effective approaches to retaining nurses and limiting any negative effects on mobility on nurses and on health systems.

### Tracking nurse mobility

Small countries may lack the training capacity to provide the necessary supply of new nurses, and the relatively small size of their health sector workforce means that even a small numerical outflow of nurses can have a major impact.

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1 The Monitor also has data on small European countries.
Some aspects of nurse mobility are positive. Not all nurses who move are doing so because of negative experiences or so-called push factors at their source location. Some will be moving between jobs, organizations or countries for positive reasons of career development or promotion, or because of non-employment-related factors. Even so, it is critical that policy-makers have a well informed understanding of the trends and patterns of mobility of nurses and reasons for moving so that effective retention polices can be implemented. The policy challenge of nurse mobility and migration can be met by a range of retention initiatives, discussed in this brief.

The need for effective monitoring of nurse mobility has been given added impetus by the WHO Code of Practice on the International Recruitment of Health Personnel (the WHO Code), which requires all Member States to report periodically on trends in international mobility and international recruitment activity (12). The Code recently was reviewed by a WHO expert group that has made recommendations for its maintenance and continued implementation (13).

Monitoring of mobility should in any case be an integral part of the overall approach to workforce policy and planning. Efforts must focus on overall improvement of workforce data, and not just examining nurse mobility in isolation from other aspects of the nurse labour market. This point reinforces the need both to maintain an overview of labour-market dynamics and standardize monitoring data.

Why nurse retention and sustainability is important

Whenever a nurse post is unfilled (vacant) or a nurse leaves a health-care organization and is not immediately replaced, there is an impact on health services, the remaining workforce, the health-care organization and the client population of the organization. The impact of COVID-19 in some labour markets has been to increase the retention challenge as some nurses have, or are at risk of developing, burnout and may leave work or reduce their working hours. This raises the likelihood of organizational costs and the potential for a negative impact on patient care.

This impact can be particularly pronounced in small states where, as noted above, nurse workforce numbers may be small and where even one unfilled post may have a major negative impact on access to health services for local populations. Effective retention of nurses contributes to workforce sustainability: it can be cost-effective, can reduce disruption to service delivery and can counter or mitigate some of the potential negative impacts of mobility.
Nurse retention and sustainability: evidence synthesis

Using a labour-market analysis approach

Every country, irrespective of its size, should develop a sustainable, strategic approach to its nursing workforce. This must have a clear driving vision, be aligned with broader health-system plans and priorities and be informed by evidence and analysis, without being rigid or set in stone – it must be flexible and adaptive (14). One guiding example is the WHO-led Global Strategy on Human Resources for Health: Health Workforce 2030 (15). It uses a labour-market frame of reference that emphasizes the dynamic nature of health workforce mobility (16) and places the issue of retention (and policy solutions for retention) in the broader policy context.

This frame can be adapted for use by policy-makers as they assess analysis of nurse workforce profiles and mobility, and can also enable them to identify any critical evidence gaps. It highlights that while much policy effort must focus on the production of new nurses, there also needs to be a policy emphasis on retention and distribution (Fig. 1), which assists policy-makers to identify potential entry points for different types of policy and the likely interconnection of different policies as they are applied.
The labour-market frame has been integrated as a core element in the regional Framework for Action Towards a Sustainable Health Workforce in the WHO European Region, which was adopted by the WHO Regional Committee for Europe in 2017 (17). The Framework reinforces the need to develop a good overview of nurse labour-market dynamics to support the development of effective policies on flows of nurses (including retention) and optimal distribution of nurses, and to quantify different types of mobility, including flows of new students into nurse education, flows of new nurses from nurse education into employment, and flows between different sectors (public/private), types of employment status and countries.

The key point is to be clear that addressing retention of the nursing workforce should not be undertaken without considering these connected aspects of nursing workforce policy and planning. Policy-makers must have an evidence-informed understanding of the nursing labour-market context that is built on a constant analytical approach.

The evidence base on nurse retention

This section summarizes briefly the evidence base on nurse retention in recent years. There is not yet substantial published research on the nurse labour-market
effects of COVID-19, but early indicators highlight the likelihood of increased risk of absenteeism, reduced working hours and early retirement, as well as disruption to mobility (11).

Several systematic reviews covering aspects of pre-COVID-19 nurse retention published in recent years (see, for example, Buchan et al. (18)) provide an overview of the lessons from the available evidence and serve to highlight major continuing evidence gaps. Key points are summarized below, by review in chronological order.

- A systematic review identifying which factors were successful in recruitment and retention of nurses in care settings for older people (19) identified a range of factors: careful selection of student nurse clinical placements and their ongoing supervision and education, training for skills, leadership and teamwork for new and existing nurses, increased staffing levels, pay parity across different health settings and family-friendly policies.

- A systematic review examining links between nurse retention and nurse management leadership practices (20) reported that managers who focus on the satisfaction, motivation and general well-being of nursing team members and ensure quality workplace environments are more likely to retain their staff.

- A realist review of factors that helped retain nurses and other health workers in rural areas (21) reported three key conclusions: retention in rural practice improves when training includes a rural-focused curriculum and when recruits have a rural background or interest in rural practice; professional and social isolation, which can hinder retention of health workers, is reduced through education, financial incentives and personal and professional support interventions; and financial incentives contribute to improved retention only if they outweigh the opportunities of private practice in urban areas, and if they are offered in combination with nonfinancial incentives.

- A systematic review that focused on retention of nurses in rural areas (22) identified two studies showing that financial-incentive programmes had improved nurse distribution and three others which highlighted that supportive relationships in nursing, support from information and communication technologies and rural health career pathways were factors influencing nurse retention.

- A systematic review examining which interventions improved retention of experienced registered nurses (23) reported that teamwork and individually targeted strategies including mentoring, leadership interest and in-depth orientation increased job satisfaction and produced higher retention results.

- A systematic review examined evidence of the determinants and consequences of turnover in adult nursing (24) and highlighted, “a picture of multiple determinants of turnover in adult nursing, with – at the individual level – nurse stress and dissatisfaction being important factors and – at the organisational level – managerial style and supervisory support factors holding most weight”.

9
• A systematic review to evaluate the characteristics of successful interventions to promote retention and reduce turnover of early career nurses (25) identified 53 eligible studies, reporting that the most promising interventions appear to be either internship/residency programmes or orientation/transition to practice programmes, with teaching and preceptor and mentor components.

The findings of these reviews overlap, but several key points emerge (18). First, there are various approaches to assessing retention. Some studies focus explicitly on retention, but others focus on turnover, some on stability, some on staff engagement (26) and some on other related measures, such as attrition (27), job embeddedness (28) or intent to leave (29). This can limit the generalizability of findings and points to the need for systematic application of standardized measures of retention and mobility.

Secondly, the published research identifies a wide variety of factors related to nurse retention, but most of it focuses on nurses in a small number of high-income countries and much has a specific and narrow focus. These studies may have relevance to small countries, but did not focus explicitly on nurses and small country labour markets.

Thirdly, the factors that contribute to nurse retention, by triggering nurses’ intention to leave or stay in an organization, may be complex and multidimensional, but usually are reported to be influenced both by organizational and individual/demographic factors.

A range of possible policy interventions that may impact on nurse retention and improve longer-term sustainability in small countries can be identified. This includes interventions on: the work environment, working relationships and working conditions; pay and other financial and nonfinancial incentives; family-friendly policies; career opportunities and access to education; productive working relationships with other staff and teams; responsive management, effective supervision and focused mentoring; and job mobility and relative job opportunities in different organizations, sectors, regions and countries.

The challenge for policy-makers who are trying to improve nurse retention and sustainability is to determine how best to use the evidence to select the most effective policies.
Policy options

Policy options for nurse workforce retention and sustainability

Taking the labour-market frame (see Fig. 1) as a reference, Table 1 identifies some of the main areas of potential interventions that can contribute towards improved nurse workforce retention and longer-term sustainability.

Table 1. Policy options to improve nurse retention and sustainability

<table>
<thead>
<tr>
<th>Policies on:</th>
<th>Options may include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>production – training and adapting the nursing workforce</td>
<td>transforming the education of the nursing workforce: continuous professional development; re-skilling; redefining skills in line with population needs; lifelong learning; steering students to shortage specialties and areas; broadening out the recruitment base by targeting underrepresented groups; investing in educational capacity; adapting curricula to demography and disease profiles; harnessing technology(^a)</td>
</tr>
<tr>
<td>better managing mobility and flows of nurses</td>
<td>monitoring flows; bilateral agreements; integration of foreign-trained nurses and international returners(^b)</td>
</tr>
<tr>
<td>improving recruitment and retention of nurses</td>
<td>creating supportive and safe workplaces; flexible working hours; professional autonomy; professional development and career progression; expansion of roles; remuneration; return to practice; retraining/additional training</td>
</tr>
<tr>
<td>addressing inefficiencies and maldistribution of nurses</td>
<td>financial and non-financial incentives; education; regulation; professional and personal support; harnessing technology; performance management; skill-mix changes and new roles(^c)</td>
</tr>
</tbody>
</table>

\(^{a}\) As noted earlier, small countries may have education capacity constraints that limit these options.
\(^{b}\) See, for instance, WHO (13).
\(^{c}\) Geographic maldistribution will not always be a factor for small states, notably city states. Sources: Buchan & Perfilieva (30); Glinos et al. (31).

Some policies potentially can have impacts across different objectives. For example, role expansion by creating advanced practice opportunities for nurses can improve retention, performance and motivation, and the use of new technology can support effective training and education, performance and productivity, and can also enable more effective distribution of skills. It is important to give consideration to the optimal sequencing and bundling of policy interventions – there is rarely one single long-term solution to nurse staffing and workforce challenges.
Policies to improve nurse retention

The COVID-19 pandemic has highlighted the need to give informed consideration of what factors are causing nurses to leave, and therefore identify which factors may be most effective in improving retention. These include the following:

- **supportive and safe workplaces** contribute to retention of nurses; for example, “Positive practice environments”, which reflect supportive leadership and safe working practices, have become particularly important in the context of COVID-19 [32];

- **flexible working hours**, where nurses have some choice over working hours and shift patterns, can support retention by allowing nurses to achieve a better balance between work and other commitments;

- **professional autonomy**, where the governance and management structures encourage and facilitate nurses to be autonomous in practice, has been shown to increase motivation and contribute to improved retention;

- **professional development and career progression**: opportunities for professional development through in-service training and continuous professional development are motivators for nurses to continue in employment; scope for career progression and promotion will also be incentives for nurses to continue to work;

- **expansion of roles**: if nurses have facilitated and structured opportunities to move into advance practice roles such as clinical nurse specialist and nurse practitioner, this can provide a retention benefit;

- **remuneration**: fair levels of pay can support retention – pay and conditions of employment must reflect the contribution nurses make, their skills, qualifications and experience, and there should be no gender-based discrimination in determining pay levels;

- **return to practice**: all nurse labour markets include a number of individuals who trained as nurses but no longer practise in the profession – offers of refresher training may enable some to return to practice; and

- **retraining/additional training of staff**: some nurses may have skills that are no longer in demand, while others may wish to move into another area of practice – providing support for retraining can be a retention mechanism.

These policies may all be relevant, but each organization will have to decide the optimum mix or bundle of policies that best fits their own context and priorities.
Policies to better manage mobility and flows of nurses

Four main sets of policy options to monitor, manage or steer mobility can be identified (13,30,31):

- **ethical recruitment practices**, which can include the introduction and implementation of guidelines and codes at national or international levels, such as the WHO Code, to encourage employers to recruit and employ foreign-trained nurses ethically;

- **bilateral agreements and other forms of country-to-country collaboration**, which can include bilateral agreements between destination and source countries to share training costs, provide additional training prior to return (33), define the type and number of health professionals to be recruited, for what time period and with what specified pay and conditions, and for international recruitment related to health professionals being located in specific areas in the destination country;

- **integration of foreign-trained or foreign-born nurses**, including induction and language courses, mentoring, practical help to settle down in the destination country, legal frameworks to facilitate recognition and authorization to practise processes, prevention of discrimination and integration of refugee health workers; and

- **facilitated returns and circular migration** – a form of migration that allows migrants some degree of mobility back and forth between two countries – is advocated as a potential solution that brings benefits to source and destination countries and migrant workers, but there is limited evidence of its use in the health sector (34).

Framing the options for small states

To identify which interventions may be effective in addressing nurse mobility and retention issues, policy-makers must have access to data and information that help diagnose the extent of the problem and establish if it is variable across the organization or system, identify the causal factors and determine which policy interventions may be most appropriate. The aim should be to provide a structure to identify systematically the options for intervention that appear to meet the identified nurse mobility and retention challenges appropriate to context and can therefore be considered for implementation.
Policy-makers in small states will be aware of the additional challenges and limitations created by their situation, particularly resource and capacity constraints on providing the full range of health and care services and training, vulnerability to migratory outflow of very small numbers of nurses, the disproportionate labour-market impact of introduction of even just one employer of nurses, and limited HRH managerial, planning and policy-making capacity. Table 2 sets out the key nurse mobility and retention problems faced by policy-makers and what should be the main policy considerations.

Table 2. How to achieve sustained impact on nurse mobility and retention

<table>
<thead>
<tr>
<th>Key nurse mobility and retention problems</th>
<th>Main policy considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Critical issues of nurse mobility and retention</strong></td>
<td>Diagnose and analyse by:</td>
</tr>
<tr>
<td>Policy-makers must have access to data and information that help diagnose the extent of the problem and establish if it is variable across the organization or system, identify the causal factors and determine which policy interventions may be most appropriate (for some small countries, the organization will be the national level)</td>
<td>• using standard definitions of retention or turnover (see Annex 1) to assess trends and benchmark variation;</td>
</tr>
<tr>
<td></td>
<td>• using staff surveys, focus groups and exit interviews to identify causal factors and highlight variations;</td>
</tr>
<tr>
<td></td>
<td>• identifying the impact on nurses of the work environment (by, for instance, using the Practice Environment Scale of the Nursing Work Index (35)); and</td>
</tr>
<tr>
<td></td>
<td>• analysing patient satisfaction, quality and outcome data, and turnover cost data (see Annex 2) to highlight organizational and patient-care impacts.</td>
</tr>
<tr>
<td><strong>Nurse retention in context</strong></td>
<td>Understand the labour market and strategic context by:</td>
</tr>
<tr>
<td>Develop a sustainable, strategic approach to the nursing workforce</td>
<td>• ensuring there are accurate and complete data on the nursing workforce, ideally using a computerized information system and a standard minimum data set (see Annex 1);</td>
</tr>
<tr>
<td></td>
<td>• using the WHO-developed labour market analytical approach (36); and</td>
</tr>
<tr>
<td></td>
<td>• linking analysis to estimates and scenarios of future supply and demand.</td>
</tr>
<tr>
<td><strong>Framing policy interventions</strong></td>
<td>Develop a policy frame for interventions by:</td>
</tr>
<tr>
<td>Develop and apply a framework that draws from the evidence base but focuses on the practical implementation of policies aimed at addressing nurse retention</td>
<td>• developing a framework that categorizes potential policy interventions and gives a structure to identify specific policy interventions; and</td>
</tr>
<tr>
<td></td>
<td>• considering use of the WHO 2021 framework (37).</td>
</tr>
</tbody>
</table>
Key nurse mobility and retention problems

Policy bundles
There are many possible policy options, the interventions of which need to be aligned or coordinated for maximum impact

Main policy considerations
Align policy implementation interventions:
- sustained success in improving nurse retention is related to planned, sequenced, multipolicy interventions – so-called bundles of linked policies (in some countries, these policies will apply across a broader range of workers than just one profession);
- the most effective balance of policies to improve retention of nurses will be driven by a clear understanding of the work experiences and motivations of nurses; and
- evaluation of the impact of interventions should also be an integral part of the approach.

As emphasized in Table 2, sustained success is likely to be related to planned, sequenced, multipolicy interventions – so-called bundles of linked policies – to sustain the nursing workforce, rather than single interventions. Identifying the most effective balance of policies to improve nurse workforce sustainability is in part about developing the evidence base on the work experiences and motivations of nurses through surveys, exit interviews, focus-group feedback and consistent analysis of labour-market indicators to help prioritize interventions. Evaluation of the impact of interventions aimed at improving retention should also be an integral part of any policy framework.

The relatively small size of the nurse workforce in small states means that these countries have to be innovative in looking at flexible training and deployment of their nursing staff to maximize their skills base. They may also have to examine the use of multiskilled health professionals.

There is also scope for collaboration between countries. Some small states, notably city states, share labour markets with other countries. Together they can develop harmonized standards for education, training, accreditation and regulation of health workers (see, for example, Kroezen et al. (38)). This can act as a mechanism to support efficient sharing and regional retention of nurses. Another possibility is bilateral collaboration with other countries that share similar training standards to gain access to a broader range of training opportunities for nursing staff.

Small states that are physically remote from major or specialist training locations need to be innovative in using technology to support distance learning and remote medicine. This aspect of care delivery has become more prominent because of the impact of the COVID-19 pandemic, which has helped accelerate implementation. Where national resources and nurse staffing are not sufficient to provide a full range of vital health services, there may be a need to look at regional collaboration to enable shared specialist services and/or short-term visits of external specialists.
Conclusions

The period since early 2020 has been unprecedented both for the scale of analysis of the global nursing workforce (through the SOWN report) and for the prominence of the contribution of the nursing workforce in population health and health services (related to the COVID-19 pandemic). This brief has set out the main policy issues and potential policy solutions related to improved assessment of nurse retention and mobility; it has taken a small-state lens in doing so. The key messages are that small states face the same complexity of nurse workforce challenges, the same issues of dealing with the COVID-19 pandemic and the same range of potential solutions as other countries, but have to ensure that the bundles of policy interventions they identify, implement and evaluate are relevant to their own unique labour-market situations.
References


All references were accessed 31 May 2021.


## Annex 1. Data sources for monitoring the nursing workforce

The main data sources that can be considered when building up monitoring capacity are listed in Table A1.1. The utility, strengths and limitations of these different data types are also highlighted.

### Table A1.1. Data sources for monitoring international mobility/migration of nurses

<table>
<thead>
<tr>
<th>Data source</th>
<th>Can be used for</th>
<th>Strengths/limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population censuses</td>
<td>Stock measure Numbers/nationalities recorded in census</td>
<td>May have some limited information on occupation, but may not identify those who are active in the labour force. In most countries, censuses are infrequent.</td>
</tr>
<tr>
<td>Administrative/population registers</td>
<td>Stock/flow measures (depending on type of measure) Numbers of nationals: registered/new registered nationals</td>
<td>Can give recent picture of stock of migrants, but may not record occupation or employment status. Often general measures rather than occupation-specific. Often incomplete due to noncompliance, so can underestimate.</td>
</tr>
<tr>
<td>Employer surveys/censuses</td>
<td>Stock measure Number of employees from other countries/other nationals</td>
<td>Can give data on composition of the workforce, and number/profile of foreign nationals by source country. These data are not always collected by employers. May not be available in countries with many employers.</td>
</tr>
<tr>
<td>Labour-force surveys</td>
<td>Stock measure Survey of employment</td>
<td>Labour-force surveys focus on workforce and may be more frequent than population censuses but are likely to be sample-survey based and may not focus on nationality/country of training (in small countries, whole population coverage may be feasible).</td>
</tr>
</tbody>
</table>
### Table A1.1 contd

<table>
<thead>
<tr>
<th>Data source</th>
<th>Can be used for</th>
<th>Strengths/limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration visas</td>
<td>Flow measure Number of new visas issued to applicants from specific countries</td>
<td>Can give an indication of trend in inflow, by source country Visa data sometimes are collated at occupation level – this can help differentiate between migration for work and migration for education Visa requirements, types and designations vary country by country, so it may not be easy to make cross-country comparisons</td>
</tr>
<tr>
<td>Work permits</td>
<td>Flow measure Number of new permits issued to applicants from specific countries</td>
<td>Can give an indication of trends in inflow by source country and by occupation, but these data will not easily capture migration information where there is job change, such as a nurse moving and working as a care assistant</td>
</tr>
<tr>
<td>Professional registers</td>
<td>Stock and/or flow measure, depending on type of registration process Number on the register, by country of nationality or country of training Entries to the register</td>
<td>Likely to be relevant only for professional occupations Register data can be used to assess inflow or outflow (also titled verifications or certificates of good standing) but often show intent to leave (or enter) the country, not the actual move There may be delays between approval and moving Some moves may be related to short-term/temporary education rather than employment Register data can be used to assess stock of migrant workers if these data are recorded, but are useful only if the register is live and is updated periodically Not all countries have mandatory registration; some registers are not well maintained</td>
</tr>
<tr>
<td>Professional licensure/examination data</td>
<td>Flow measure Annual number of applicants/successful candidates sitting entry exam/license exam</td>
<td>Likely to be relevant only for some occupations Can give two measures – overall applications and successful applications, by source country May only show applications and successes – does not necessarily mean the applicant will actually move if successful May be delays between success and actually moving</td>
</tr>
</tbody>
</table>

Source: adapted/developed from Buchan et al. (1) and Dal Poz et al. (2).
References


Annex 2. Mobility and retention indicators

Several human resources for health (HRH) indicators, such as turnover, attrition, job stability rates and vacancy rates, can be used to assess nurse retention and mobility. To enable timely analysis, these data ideally should be collected on a regular basis in a human resource information system (HRIS).

The National Health Workforce Accounts (NHWA) developed by WHO include detailed modules that can provide indicators relevant to assessing retention of nurses, notably Module 1 (Active health workforce stock) and Module 5 (Health labour market flows). Specific modules provide indicators to assess inflow of foreign-born staff (1-07), foreign-trained staff (1-08), the entry rate of foreign workers (5-03) and the approach to reporting on implementation of the WHO Code of Practice on the International Recruitment of Health Personnel (10-02).

Several workforce indicators can be used to make some assessment of nurse retention, ideally collected on a regular basis in some type of HRIS (see the WHO Handbook on monitoring and evaluation of human resources for health with special applications for low- and middle-income countries (1) and a recent review of health workforce attrition (2) for more details on analytical approaches and their limitations).
Table A2.1 sets out the commonly used indicators that can relate to nurse retention and mobility, how these indicators are calculated, and the main strengths and limitations of each indicator as applied to an assessment of nurse retention.

**Table A2.1. Typology of commonly used nurse retention and mobility indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Common form of calculation</th>
<th>Strengths/limitations</th>
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</thead>
<tbody>
<tr>
<td>Turnover</td>
<td>The number of leavers divided by the average number of staff in post in the year concerned. Other measures can include: survival probabilities (3); median survival (years); survival analysis; and attrition in first years after graduation. Turnover, and the alternate terms of attrition (4) or wastage (5), is usually expressed in terms of the percentage of nurse staff of a particular workplace or system who have left the organization (or have moved jobs) within the last 12 months: this is sometimes called the crude annual turnover rate.</td>
<td>The nurse turnover rate, however measured, is the most common measure of retention (or lack of it). Voluntary and involuntary turnover must be differentiated. Internal and external destinations of voluntary leavers must be differentiated.</td>
</tr>
<tr>
<td>Stability</td>
<td>Stability index 1 – the percentage of staff who were in substantive posts at the beginning of Year 1 and who were still in substantive posts in that organization a year later. Examining nurse workforce stability focuses on the same underlying issue of retention of nurses, but takes the perspective of concentrating on those who stay rather than those who leave. High levels of staff stability, or retention, are the opposite of high turnover, and may be positively associated with the level and quality of health care available (6).</td>
<td>The choice to stay, when there is an option to leave, may indicate that the work environment is meeting nurse workforce needs. Stability may be a helpful indicator of positive retention, but assumes that there is a choice being made by the nurse to stay or leave.</td>
</tr>
<tr>
<td>Absence</td>
<td>Crude absence rate: time lost due to, or ascribed to, absence as a percentage of contracted working time in a defined period. Measures of absence frequency: measures of absence duration, most commonly the average duration per spell of absence, and the average duration of absence per person. Nurse workforce absenteeism is often reported as a barrier to improvement of health outcomes in low- and middle-income countries (7,8).</td>
<td>Absence rates can be simple to calculate: absence rates by different staff groups, department or function can help to identify particular problem areas. Limitations: the comparison of absence rates can give rise to false conclusions if basic indices, such as number of absences and duration, are not also provided.</td>
</tr>
<tr>
<td>Indicator</td>
<td>Common form of calculation</td>
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<tr>
<td>Absence contd</td>
<td>Reasons for absence from work can include remoteness and difficult access to health centres, poor infrastructure and transport and poor working conditions. In some cases, absence from the main place of work can be related to the need to generate income from other sources to achieve a living wage by participating in dual practice; it is important to be able to differentiate these reasons, which may also be legitimate (for training or secondment, for example (9,10))</td>
<td></td>
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<tr>
<td>Applicants</td>
<td>Number of suitably qualified applicants for designated nurse jobs/posts</td>
<td>This indicator of attractiveness of posts can be used to assess fill rate – the percentage of posts that are filled by suitably qualified nurse personnel. The percentage rate may be compared with other parts of the health system to assess the relative problem of recruitment in specific areas (such as rural/remote settings).</td>
</tr>
<tr>
<td>Vacancies</td>
<td>The number of funded posts that are unfilled expressed as a percentage of total posts – for example, a percentage vacancy rate. If funded nursing jobs/posts are left unfilled, this may reflect that the post is not attractive to nurses because of, for instance, working conditions or geographic location. The rate of vacant posts may be an indicator of relative attractiveness and unattractiveness of different jobs, locations and organizations, and as such the vacancy rate has scope to be used as an indicator.</td>
<td>Some organizations deliberately leave nurse jobs/posts vacant to save on recruitment costs; if vacant posts cannot be filled, they may be de-listed, thereby hiding the problem.</td>
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<tr>
<td>Share of foreign-born/foreign-trained</td>
<td>Usually assessed as a stock measure – reports on the number and percentage of the total workforce that is either foreign-born or foreign-trained. Gives some indication of the level of reliance on international staff.</td>
<td>A stock measure that does not give any indication of when the international staff arrived in the country. Foreign-born will include people who moved when young, before training.</td>
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</table>
These commonly used indicators of nurse retention are at best of partial utility in assessing nursing workforce retention and have to be used and interpreted with caution. All require some frequency of use if they are to be employed to track trends, which are much more useful than single point-in-time measures. Many have optional methods of calculation that can constrain comparison if different measures are used in different countries or at different times.

These methodological limitations can also be compounded by constraints in interpreting the data as clear-cut indicators of nurse workforce behaviour. For example, low nurse turnover may reflect an absence of alternative employment for nurses rather than high job satisfaction, and high nurse absence may reflect high levels of sickness rather than a lack of motivation.

### Minimum data sets and NHWA

Policy-makers, analysers and planners must consider how best to support analysis through the establishment of regular HRH data collection, ideally using a system-
wide standard HRIS that is based on an agreed national minimum human resource data set. There are current WHO recommendations for a NHWA (12) and minimum data set for a health workforce registry (13) which contain various elements that are relevant to this area of policy support action.

Year-on-year measures of outflow of health workers from a small state can give policy-makers in countries a clearer picture of the extent to which the outflow is growing or reducing. Comparison of the size of the annual outflow with the size of stock in the source country gives a measure of the significance of the outflow. Monitoring of outflow can also help identify the main destination countries, which can enable policy-makers to identify which countries they should engage in policy dialogue over migration of health workers.

References


3 All references were accessed 31 May 2021.


The WHO Regional Office for Europe
The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

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