Expanding the Roles of Nurses in Primary Health Care

Pan American Health Organization

World Health Organization
REGIONAL OFFICE FOR THE Americas

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Washington, D.C.
2018

Published originally in Spanish:
Ampliación del rol de las enfermeras y enfermeros en la atención primaria de salud
ISBN: 978-92-75-32003-7

Expanding the Roles of Nurses in Primary Health Care
ISBN: 978-92-75-12003-3

Suggested citation. Pan American Health Organization. *Expanding the Roles of Nurses in Primary Health Care*. Washington, D.C.: PAHO; 2018.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://iris.paho.org

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ABBREVIATIONS

APN	Advanced Practice Nurse
ICN	International Council of Nurses
PAHO	Pan American Health Organization
PHC	Primary Health Care
SDGs	Sustainable Development Goals
WHO	World Health Organization

ACKNOWLEDGEMENTS

This publication was coordinated by Silvia Cassiani, PAHO/WHO Regional Advisor on Nursing and Allied Health Personnel.

The Human Resources for Health unit of the Pan American Health Organization/World Health Organization (PAHO/WHO) would like to thank the following people for technical review of this publication: María Consuelo Cerón Mackay (Dean, School of Nursing and Obstetrics, Universidad de los Andes, Chile), Augusto Ferreira Umpiérrez (School of Nursing and Allied Health Professions/UCUDAL), Zoraida Fort (Universidad Católica del Uruguay), Esther Gallegos Cabriales (School of Nursing, Universidad Autónoma de Nuevo León), Elena Gonzalo-Jiménez (Escuela Andaluza de Salud Pública), Claudia Leija Hernández (Director of Nursing, Instituto Nacional de Cardiología Ignacio Chávez de México), Laura Morán Peña (Chairperson, ALADEFE), Marina Peduzzi (Universidade de São Paulo), Mercedes Pérez Díez del Corral (School of Nursing, Universidad de la República), Paz Soto (Chairperson, Chilean Association of Nursing Education), Lucia Vergara (Primary Care Division, Ministry of Health, Chile), and Rosa Zárate Grajales (School of Nursing and Obstetrics, UNAM).

We are also grateful for the collaboration of the 2016-2017 PAHO/WHO interns Francisca Aguirre Marques, Maynara Fernanda Carvalho Barreto, and María Cristina Hoyos.

PROLOGUE

For more than forty years Primary Health Care (PHC) has been recognized as the cornerstone of an effective and responsive health system.

The Alma-Ata Declaration of 1978 reaffirmed the right to the highest attainable level of health, with equity, solidarity and the right to health as its core values. It stressed the need for comprehensive health services, not only curative but services that addressed needs in terms of health promotion, prevention, rehabilitation and treatment of common conditions. A strong resolutive first level of care is the basis for health system development.

Countries begun the implementation of the PHC approach in the 1980 but several factors, including the economic crisis, and structural adjustment policies led to the diminishing of the Alma-Ata vision. The slogan of Alma-Ata, "Health for All by the Year 2000" was the rallying call for the movement, which stressed the need for community participation and intersectoral coordination in PHC.

The World Health Report (WHR), in 2008, entitled "Now More than Ever" reestablished at the global level the need for the PHC approach providing concrete evidence that PHC was affordable and had greater impact in the provision of health care where people live.

In 2014, the Member States of Pan American Health Organization adopted the Strategy for Universal Access to Health and Universal Health Coverage that reiterates the right to health, solidarity and equity, and promotes the development of health systems based on PHC.

Human Resources for health are essential to meet the evolving health needs of the population and achieve the Sustainable Development Goals. However, there is the need to address the gaps that exist between competency profiles of health professionals and needs in PHC.

The Pan American Health Organization/World Health Organization (PAHO/WHO) has supported the countries in the establishment of interprofessional PHC teams, in the transformation of health education and in building capacity in the strategic planning, and management of human resources for health.

Nursing can play a critical role in advancing PHC. New profiles such as the advanced practice nurses, as discussed in this document, can be fundamental in this effort, and in particular, in health promotion, disease prevention and care, especially in rural and underserved areas.

James Fitzgerald

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FOREWORD

Interest in advanced practice nursing has grown in recent years in the Region of the Americas, particularly in Latin American countries. Debate on this topic has led to questions both inside and outside the profession regarding the different roles that nurses perform in primary health care (and the expansion of these roles), and the profile of advanced practice nurses and their role in health systems. Decision-makers, governments, public and private health institutions, health managers, and clinicians need clear guidelines to strengthen and support the advancement of nursing.

There is a clear shortage of physicians and even more so of registered nurses in the Region, and their distribution is also problematic. Urban areas and regions with more economic resources attract the majority of these professionals, while the most vulnerable areas, both in large cities and in remote areas, have not only a limited number of physicians and nurses, but also limited capacity and autonomy to provide the necessary primary health care services.

Nursing can contribute considerably to the development and effective operation of the Region's health systems. However, nursing professionals currently face situations that limit their capacities, and their full potential is often neither recognized nor employed. Registered nurses with a four- to five-year university education can fill a more expanded role with increased autonomy in vulnerable areas within primary health care programs established by Ministries of Health, and can contribute to reducing mortality in remote and underserved areas.

In the near future expanding the role of nurses through appropriate training and regulation may support achievement of universal access to health and universal health coverage, since nursing professionals have advanced-level training and the necessary evidence-based skills and knowledge for health promotion, disease prevention, and proper control of communicable and noncommunicable diseases. Their participation in interprofessional health teams and primary health care services can become a reality in all countries of the Region, not only the most developed ones.

To successfully expand the role of nurses in primary health care, it is necessary to work collaboratively with the various social actors involved in the processes of education and health care: health workers, governments, and associations of health professionals. This document is a contribution to that work and its goal is to recommend that ministries of health establish conditions to achieve universal access to health and universal health coverage with the adequate capacity, numbers, and distribution of human resources for health and nursing.

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1. INTRODUCTION

Universal access to health and universal health coverage are the basis of an equitable health system. Coverage is built on universal, timely, and effective access to services. Lack of universal access and appropriate coverage entails a considerable social cost, with catastrophic effects on the most vulnerable population groups.

In quantitative terms, 30% of the population in the Region of the Americas lacks access to health services for financial reasons and 21% due to geographical barriers (*1*).

The Strategy for Universal Access to Health and Universal Health Coverage, of the Pan American Health Organization/World Health Organization (PAHO/WHO), states that "populations in vulnerable conditions, very young and very old people, women, boys and girls, ethnic minorities, indigenous and Afro-descendant populations, migrants, and patients with chronic or incapacitating diseases are among the groups most affected by lack of access" (*1*).

Populations in vulnerable conditions, very young and very old people, women, boys and girls, ethnic minorities, indigenous and Afro-descendant populations, are among the groups most affected by lack of access.

Population aging requires the services of a growing number of health workers who are increasingly better trained and can meet the needs of the elderly. The increase in patients with chronic diseases such as cancer requires the intervention of a large number of professionals in the three levels of prevention: primary, secondary, and tertiary (*2*). Nevertheless, the current challenge is to achieve adequate density and distribution of professionals working in health promotion and primary health care (PHC) services.

Human resources for health are essential to achieving the Sustainable Development Goals (SDGs) (*3*). The foundation for an efficient and effective workforce able to respond to 21st century priorities requires effectively matching the supply and skills of human resources to people's health care needs, both now and going forward (*4*).

The global deficit in human resources for health is exacerbated by demographic and epidemiological shift that the Region has been undergoing for several decades, as well as the shift in the burden of disability and the poor distribution and migration of health professionals (*4, 5*).

WHO has estimated that by 2035, there will be a worldwide deficit of 12.9 million health workers. Currently this deficit is approximately 7.2 million, of which 4.3 million are physicians and nurses * (6). Although the shortage is worldwide, developing countries are the most affected (2, 7, 8).

With regard to distribution of human resources for health, the majority of professionals are concentrated in urban areas and in tertiary healthcare services, at the expense of primary health care (*2, 7, 8*). Accordingly, a considerable part of the population, primarily those living in remote areas, lacks access to health services and the services of skilled professionals due to the difficulty in retaining professionals in remote areas (*7, 8*).

Developing countries are also dealing with the emigration of their health professionals. High-income countries such as England and the United States have up to 18 times more physicians per capita than the nations of Africa. Despite this disparity, migration persists because it helps to close gaps and meet needs for health workers in the receiving countries. Professionals who agree to work in neglected areas are often offered incentives, which has a negative impact on the countries of origin (*8*).

In the current globalized world, it is difficult to limit migration and keep people from seeking better living conditions and job opportunities. In light of this situation, several strategies have been proposed to train and retain health professionals who remain in their countries of origin

* In this document the term "nurse" or "nurses" refers to registered or graduate nursing professionals.

through national plans that improve wages and working conditions, modernizing educational plans, and enhancing worker profiles (*9*).

Physicians in Latin America and the Caribbean, as in other regions of the world, tend to migrate to the practice of specialized medicine and tertiary care, moving away from PHC services and creating a gap at this level. In the Region of the Americas, the distribution of physicians varies by country. For example, Argentina, Cuba, the Cayman Islands, and Uruguay have the highest ratio (40 to 70 physicians per 10,000 population), while Guyana and Haiti have only seven physicians per 10,000 population (*10*).

In the United States and the United Kingdom, the distribution of physicians and nurses is 12.7 and 12.3 per 1,000 population, respectively. In economically less developed countries the panorama is very different; for example, in sub-Saharan Africa the figure drops to 1.1 physicians and nurses per 1,000 population (*2*) and it has been estimated that the African continent requires at least one million additional workers to provide the basic services needed to attain the SDG targets (*7*).

In 2015, the 68th World Health Assembly recognized that the targets of Universal Health Coverage will be reached only if there is strategic and substantive investment in human resources for health, considering that public health systems are neither training nor recruiting sufficient numbers of health workers (*4, 11*). During the meeting on the policy dialogue on nursing workforce that was held in Geneva on 6 and 7 April 2017, the World Bank proposed doubling the demand for health workers with the creation of 40 million jobs in order to advance toward achievement of the global health goals (*12*). In this sense, an indispensable step contemplated in the Global Strategy for Human Resources for Health: Health Personnel 2030 is to prioritize investment to improve primary-care response capacity (*4*).

In this context, countries in the Region have begun to adopt strategies to increase the density of human resources for health. Thus, for example, in 2013, the Brazilian government created the *Mais Médicos* (More Doctors) program to relieve the shortage of physicians in remote areas and improve primary care and family medicine strategies in areas without access to these professionals (*13, 14*).

Initially, *Mais Médicos* promoted the hiring of Brazilian or foreign physicians to work in the public health network in municipalities in the interior and in the suburbs of large cities. Subsequently, Cuban physicians joined the program, providing their services as part of a package that the Cuban government offered to Brazil's Ministry of Health, brokered by PAHO. Furthermore, Portuguese, Argentine, and Spanish physicians voluntarily joined *Mais Médicos* (*13, 14*). Evaluations have shown that the program has reached 4,058 municipalities and 34 indigenous districts, increasing access to services in areas that are socially vulnerable and geographically

isolated (*15)*. It was concluded that *Mais Médicos* has helped to reduce the physician shortage in PHC in Brazil (*13, 15*).

Other strategies to overcome the shortage of health professionals include reforms in higher education aimed at strengthening skills and abilities in first-level care and promoting changes in roles with clearly assigned responsibilities (*2, 6, 9*).

The evidence indicates that health services are more effective when workforce density increases, even when investing in other components of the health system. For example, greater vaccination coverage has been attained after increasing human resources in vaccination programs and improving their distribution in communities (6).

With regard to human resources for nursing, distribution is heterogeneous both between and within the countries of the Region. The proportion of nurses (registered nurses and technical nursing personnel) per 10,000 population ranges from 3.5 in Haiti to 111.4 in the United States. The median is 10.4 nurses per 10,000 population. In half the countries, the index of nurses per 10,000 population is lower than or equal to 10.4. Nevertheless, there is great variation and it is worth considering that Canada (106.2), the U.S. (111.4), and Cuba (81.3) have the highest proportion of nurses per 10,000 population (*2, 10*).

The ratio of nurses to physicians in the world is also unequal; while in the Region of Africa, there are 8 nurses per physician, in the Region of the Western Pacific, the ratio is 1.5 nurses to 1 physician (*2*). In Canada, United States and some Caribbean islands, there are 4 nurses per physician. In Guyana, Mexico, and Suriname, the ratio is 1.1 to 1.8 nurses to 1 physician, while in Colombia, Chile, El Salvador, Guatemala, Honduras, Peru, the Dominican Republic, and Venezuela, the ratio can be from 1 to less than 1 nurse per physician (*2, 10*); i.e., these countries have more physicians than nurses.

Nursing, which includes registered nurses, technical personnel, and nursing auxiliaries, is the most numerous category of human resources for health in most countries of the Region. At the meeting of the WHO Policy Dialogue Meeting on the Nursing Workforce, held 6-7 April 2017, with the participation of 19 representatives from governmental institutions, academic institutions, and nursing associations, it was stated that nursing is a fundamental element to achieve the objectives of the global strategy, and that advances in the technical qualification of all nurses should be supported, in addition to developing the necessary policy instruments to strengthen their role and increase recognition (*12*).

The global Nursing Now campaign of the U.K., (*16*) which arose from *Triple Impact*, the Report by the All-Party Parliamentary Group on Global Health (APPG), points out the urgent need to raise the profile of nurses and make it possible for them to develop their potential. The APPG recommends that the U.K. government, together with the Commonwealth Secretariat, the European Union, WHO, and other international agencies, work to: raise the profile of nursing and make it central to health policies; support plans to increase the number of nurses being educated and employed globally; develop nurse leaders and nurse leadership; enable nurses to work to their full potential; collect and disseminate evidence of the positive impact of nursing on access, quality, and health care costs, and ensure that this is incorporated into policy and acted upon in order to achieve a triple impact of nursing on health, gender equality, and economies (*16*).

The advanced practice nurse would represent a basic step toward strengthening and expanding the system and access to primary health care. Nurses play a fundamental role in a country's public health system. (Registered nurse, Ecuador)

To accomplish this, it is proposed that organizations and associations channel their efforts into promoting investment in the nursing workforce, with the participation of student associations, academic institutions, the public and private sector, policy planners, and decision-makers for the purpose of fully exploring the potential of nursing practice to transform the health care model.

WHO has defined the necessary steps to meet the challenges facing nursing: *a*) developing and implementing effective strategies to recruit and retain nurses and midwives to achieve a critical professional mass, thereby improving human resource for health deficits; *b*) standardizing entry requirements for pre- and post-graduate education and nursing qualifications to ensure professional mobility; *c*) building a critical mass of competent educators to train the

Nurses tie primary care together, coordinating teams and act as the professionals with the closest relationship to the community. (Registered nurse, Panama)

researchers and leaders of the future; *d*) promoting greater multidisciplinary integration into healthcare delivery teams at all levels of the care continuum; and *e*) developing new and advanced practice roles with clear career pathways from the outset *(17)*.

In this context, it is indispensable to introduce the role of the advanced practice nurse (APN) in primary health care as a response to growing health needs and to fil the gaps in access to trained and well-distributed human resources for health.

2. EXPANDING THE ROLE OF NURSES IN FIRST-LEVEL HEALTH CARE

Nursing is composed of a variety of professionals, including registered nurses, technical personnel, and auxiliaries.* The current situation of nursing requires, above all, increasing the number of registered nurses, improving their qualifications, and revisiting their role in primary health care. Although direct patient care is the genesis of nursing care, the role of nurses today focuses, primarily, on the administrative management of care.

In Mexico, nursing professionals in rural areas lack university studies; however, the country's entire vaccination system depends on them. (Registered nurse, Mexico)

In many countries in the Region, registered nurses are subordinate to physicians in their actions and have limited professional autonomy. Patient care, at all levels, is in the hands of auxiliaries or nursing technical personnel. Registered nurses, despite being the most skilled from an educational standpoint, are few in number and are devoted to managerial activities.

In Canada and the United States, the profession of nurse practitioner or APN was established in the mid-1960s. These are registered nurses who are autonomous in their professional practice. They are employees of health services or work independently, and are widely recognized in the health system and sought by the population (*18, 19*).

For some years, Australia, Canada, Hong Kong, New Zealand, and the United States have employed advanced roles in nursing. Furthermore, the Netherlands, Spain, Switzerland, the

* In this document the term "nurse" or "nurses" refers to registered or graduate nursing professionals, 85% of whom are women. Those known as registered nurses are professionals with four or five years of university training. Nursing technologists have a secondary education and up to three years of vocational training or technical education. Technical nursing personnel have 18 months to 3 years of intermediate-level training, and auxiliaries or basic nursing assistants have a basic education that can be from 1 to 1.5 years of formal training, with 900 to 1,800 hours of coursework.

United Kingdom and the United States are examples of countries whose interest in expanding the role of nurses arose from a shortage of family doctors, changes in health systems, and development of new health care models. Furthermore, changes in legislation, policy, and health system reforms in Australia, China, and Finland provided an opportunity for the incorporation of APNs.

In Finland, the development of advanced roles was promoted by: social and health policy programs adopted by the government, nursing action plans based on the national social and health programs, allocation of state grants for municipal pilot projects, legislation on new professional responsibilities, allowing public health nurses to prescribe treatment, regulated postgraduate education, multiprofessional partnership and multilevel cooperation, and international collaboration (*17*).

APN ROLES: INTERNATIONAL EXPERIENCE

Programs for monitoring chronic patients in health centers. Australia, England, and Sweden.

Management of patients with mild acute diseases in health centers. Australia, Canada, England, Finland, Spain, Sweden, and the United States.

Disease management programs led by nurses to reduce the volume of patients in specialized medical services (people with diabetes, asthma, and/or chronic obstructive pulmonary disease—COPD) for management of processes in hospitalized patients, with the possibility of protocol-guided drug management. Australia, the Netherlands, Spain, and Sweden.

Specialized nursing services for management of cases of people with complex chronic diseases: Australia, Canada, Cyprus, Denmark, England, the Netherlands, Spain, and the United States.

Source: Gonzalo E. Enfermería de Práctica Avanzada: experiencias de Andalucía y España. Webinar held in PAHO/WHO on 24 May 2017.

More-advanced functions or roles of nurses have been implemented for: improving access to care in areas with a shortage of physicians, maximizing access to PHC, and enabling intensive monitoring of patients with chronic disease in primary care (*17, 20, 21*). Iceland implemented an ambulatory nursing service with an expanded role for nurses to meet the needs of diabetes patients (*17*).

Physician's offices should be more flexible and nonmedical professionals should assume new roles, be empowered, and develop new competencies with regard to the problems and needs of the population (Health Service Director, Chile)

Strengthening more advanced nursing functions makes it possible to improve access to and quality of health care, as well as improving the outlook for the profession and retaining professionals in their own countries.

However, the countries of the Region face difficulties in implementing the role of the APN. Latin America, for example, has neither the regulations nor the training necessary for APNs in PHC. In most Central and South American countries, APN is neither implemented nor regulated. In the Caribbean, Jamaica, and the USA territory of Puerto Rico, are the countries that have gone farthest in developing programs that include education, regulation, and the labor market.

Another factor to consider is the definition of the core components of advanced practice, such as drug prescription by nurses, which continues to be prohibited in many countries. In this regard, Mexico has a relatively recent regulation that enables nurses to prescribe drugs in the

absence of a physician in clear emergencies and within the framework of Ministry of Health programs.

Nevertheless, Argentina, Brazil, Chile, Colombia, Mexico, Panama, and Peru have a high degree of access to graduate nursing education, and in the future they could offer the necessary training to APNs and contribute to introduction of these roles.

Brazil is prepared to implement advanced practice nursing and increase primary health care, because it has universities that meet nursing quality standards. (Registered nurse, Brazil)

In 2013, the 52nd Directing Council of PAHO adopted Resolution CD52.R13, *Human Resources for Health: Increasing access to qualified health workers in primary health care-based health systems*, which, among other things, urges Member States to "*promote reforms in health professions education to support PHC-based health systems and increase the number of seats in training programs in the health professions relevant to PHC, including family doctors, advanced practice nurses, and non-physician clinicians, according to priorities and public policies in PHC*" (*22*).

According to the International Council of Nurses (ICN), an APN is "*a registered nurse who has acquired the expert knowledge base, complex decision-making skills, and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice. A master's degree is recommended for entry level.*" (*23*)

PAHO/WHO regards the APN as a professional with an advanced degree who, integrated into the interprofessional team of first-level healthcare services, contributes to management of the care of patients/users with mild acute diseases and diagnosed chronic disorders, under the guidance of clinical protocols or guidelines. Expanded professional practice is differentiated from that performed by the primary care nurse by the degree of autonomy in decision-making, including diagnosis and treatment of the patient's disorders.

The proposed expanded roles for APNs in the countries of Latin America are:

1. Nurse practitioners: nurses with a master's degree, who would care for users diagnosed with mild acute and chronic diseases.
2. Nurse case manager, who would participate in integrated health system networks, acting as an integrated partner in patient care shared among the levels of care.
3. Obstetric advanced practice nurse, who would care for pregnant women.

Nurses work in remote places and also in large cities, making the difference in primary health care practice. (Registered nurse, Brazil)

The role of APNs is based on task shifting and skill mix models. Task shifting is a process of delegation whereby tasks are shifted so as to reorganize the workforce and make more efficient use of human resources. It is applied in the health care context as a response to the shortage of health professionals. Furthermore, it is linked to the objective of promoting a clear and regulated framework that identifies and delimits the care activities and practices of each profession and among different professionals. Task shifting policy is effective and has been successful in several services; nevertheless, it is worth considering the need for conducting long-term studies and evaluating other outcomes over time (*24*).

In the context of task shifting, APNs would perform certain physician tasks in primary health care, in addition to other activities that would include diagnosis and medical treatment, although always using a nursing care model involving prevention, promotion, a holistic approach, and patient-centered care (*24*).

The concept of skill-mix can be classified into substitution and diversification. Substitution refers to replacement of one professional by another to increase efficiency, improve outcomes, and reduce costs. Diversification consists of introducing new professional groups to expand the range of skills that can be provided. Diversification would, in this case, better apply to the concept of APNs in PHC, since the intent is not to replace any professionals (*24*).

Systematic reviews have shown that APNs are effective and have a problem-solving role in primary care (*20, 21*). APN roles have also been evaluated in the context of caring for chronic patients and the results included a reduction in depression, urinary incontinence, pressure

sores, and use of mechanical restraints (*20*). APNs improve access to primary care services, while reducing costs (*25*).

Impact assessments of APNs on health care have shown a high rate of user satisfaction, because nurses tend to spend more time with patients and provide more information and advice. In terms of costs, when the new roles involve task substitution, they tend to reduce or even have no impact on them (*26*).

The EPA improves the accessibility to the services of primary care while allows to reduce the costs.

3. THE ROLE OF THE ADVANCED PRACTICE NURSE IN PRIMARY HEALTH CARE IN LATIN AMERICA AND THE CARIBBEAN

One of the strategies proposed for improving health services delivery is to review the functions of professionals. Countries that have been developing new functions for nurses have improved access and coverage in certain areas experiencing physician shortages (*12, 27, 28*).

A review of the APN role applied to PHC, carried out in Australia, Belgium, Canada, the Czech Republic, Cyprus, Finland, France, Ireland, Japan, Poland, the United Kingdom, and the United States, showed that nurses can help improve access to health services and reduce waiting times for users (*29*). Furthermore, it was found that APNs can provide the same quality of care as physicians and that this is an efficient practice for programs that require routine monitoring (*27, 29*).

The ICN identifies the characteristics of APN and provides the following recommendations (*23*) with respect to training, it advises education in general nursing in educational programs with formal recognition (accreditation or approval), with a formal system of licensure, registration, certification, and credentialing. With regard to the nature of practice, it is expected that the nurse will have the ability to integrate research (evidence-based practice), education, and clinical administration; a high degree of professional autonomy and independent practice; management of a large number of cases at an advanced level; recognized advanced clinical competencies; the ability to provide consultant services to other health providers; skill in program planning, implementation, and evaluation; recognized first point of contact for users/clients; authority to prescribe medication and treatment; authority to refer clients to other professionals and to admit patients to the hospital; officially recognized titles for nurses working in advanced practice roles; and legislation or other forms of specific regulatory mechanisms.

Complementary to the ICN recommendations, Jhpiego (*30*) suggests a model in which professional APN standards would be developed in the scope of professional practice, competencies, policies, and procedures.

The model makes it clear that there is a need to: define categories within the scope of practice; establish competencies and professional standards of practice, and for health services and education; and establish policies and procedures for regulation, practice, services, continuing education, and curriculum development.

The core competencies for APNs (*23*) are: *a) Experience in clinical practice,* which involves the competencies of a consultant, collaborator, and communicator; use of critical thinking; and advanced skills for assessment, intervention, and evaluation; as well as ethical decision-making abilities and use of leadership tools. This is developed through the specialty itself and through knowledge acquisition in areas such as diagnosis and treatment, involving various methods that are not commonly used by nurses—for example, physical examination, ordering and interpreting diagnostic tests, planning and administering complete care episodes, teamwork, delegation, and problem-solving appropriately to optimize health outcomes and resources. *b) Educator:* with the competencies of educator, mentor, and role model. *c*) *Research*: capacity for monitoring and improving quality of care and the effectiveness of their own and others' practice; evaluation and selection of the best evidence in the literature and translation to practice; as well as the ability to conduct their own research and publish in scientific journals. *d) Personal and organizational professional development*: this includes the competencies of change agent and leadership; developing governance systems; implementing evidence-based protocols; optimizing processes, policies, and clinical guidelines, including administration competencies such as the development of policies and implementation; and decision-making, proactively making innovations in practice.

Implementing advanced practice nursing is important for the population. However, to achieve better results in advanced practice training, the change must occur starting with education in universities and in health systems. (Registered nurse, Peru)

It is important to point out that APN training would correspond to a master's or doctoral degree, since acquisition of scientific knowledge is achieved through formal education at these levels (*23)*. For this reason, universities can lead, administer, and certify the process of expanding the role of nurses in Latin America and the Caribbean (*28, 21*).

To obtain APN certification, ICN has suggested that the professional should obtain a master's or doctoral degree, in addition to clinical experience both prior to and during master's or doctoral studies, and acquire hours of clinical supervision in the area of advanced specialization (*23*).

In Latin American countries that incorporate the APN role, it will be necessary to standardize a core curriculum for obtaining a degree in each country, so that results from different places can be obtained and compared with reference to international standards. However, each country should also conduct a needs assessment so that universities can offer specialized training in the public health topics that are identified.

In this perspective, university programs also need to be updated, while recognizing the years of experience and skills learned (expert programs) by nurses currently working in PHC (*23*).

In recent years, there has been an increase in community nursing courses in academic programs in order to enhance and strengthen training in community nursing. (Registered nurse, Colombia)

Considering the need to establish criteria for training APNs, PAHO/WHO is proposing training plans for registered nurses interested in professional master's level courses in PHC, for nurses who have recently graduated from training courses, and for those who are already working in PHC services.

In the first plan (Model 1), registered nurses would be trained as APNs in professional master's degree programs offered by accredited universities, with a PHC approach (Figure 1).

Figure 1. Model 1. Education plan for registered nurses

In the second plan (Model 2), registered nurses with professional experience in PHC units would be trained through specific and complementary advanced practice nursing programs offered by accredited universities. The complementary programs would be integrated into a curriculum for theoretical and clinical upgrading, based on core competencies of APN (Figure 2).

Figure 2. Model 2. Training plan for registered nurses with professional PHC experience

In the third plan (Model 3), recently graduated registered nurses would be trained through PHC residency courses in accredited universities and at the end of two years they could graduate with a master's degree as APNs (Figure 3).

Figure 3. Model 3. APN training plan for recent nursing graduates

APN roles are also determined by national laws and regulations. Professional activities are regulated to protect the population from unsafe practices, ensuring service quality, promoting continuing education, and providing users and the public with the best professional competencies. As a result, to make the changes necessary for implementation of APN, current nursing policies and regulations must be adapted in the different countries.

In the provinces and health centers, the vast majority of nurses perform the role of APNs empirically and without prior training. (Registered nurse, Colombia)

Responsibility for regulating the professional role of health workers may correspond to Ministries of Health, other governmental agencies, professional councils, or other agencies. Regulation of the APN role is different in each country and at the state level within some countries (for example in the United States). Professional and government agencies, as well as professionals themselves, need to agree to the regulatory process (*30, 31*).

Regulations establishing the role of advanced practice nurses need to be made or clarified. (Registered nurse, Mexico)

4. CORE COMPETENCIES IN THE EDUCATION OF ADVANCED PRACTICE NURSES

Training of APNs and implementation of their role requires definition of and consensus on their core competencies, since these competencies can contribute essential information and can guide nursing education, practice, and regulation.

APN core competencies should include clinical experience, leadership, patient care experience (individual, family, group, community, and population-level), patient and family care and education, medical care, research, intra- and inter-professional collaboration, ethical decision-making, political participation and representation, and use of technology. In the following pages a proposal is presented for a model with seven domains and 64 core competencies for APN, based on the work of Cassiani et al. (*32*): (1) Care management: *a)* approach to care, with three competencies; *b)* assessment and diagnosis, with seven competencies; and *c)* provision of care; with 10 competencies; (2) Ethics, with four competencies; (3) Interprofessional collaboration, with six competencies; (4) Health promotion and prevention, with nine competencies; (5) Evidence-based practice with six competencies; (6) Research, with five competencies; (7) Leadership, with 14 competencies.

The role of the advanced practice nurse in primary health care poses a challenge to the profession, to the extent that it develops new competencies and opens other scopes of practice, autonomy, and social and economic recognition. (Registered nurse, Bolivia)

Core competencies for advanced practice nurses

Domain: Care management

a) Approach to care

- Incorporates knowledge of cultural diversity and health determinants into assessment, diagnosis, and therapeutic management of clients and into assessment of outcomes.
- Incorporates knowledge of development and life stages, physiopathology, psychopathology, epidemiology, environmental exposure, infectious diseases, behavioral sciences, demography, and family processes, when making assessments and diagnoses, and in therapeutic management.
- Incorporates knowledge of the clinical manifestations of normal health events, acute diseases/injuries, chronic diseases, comorbidities, and health emergencies, including multiple etiologies in the assessment, diagnosis, and therapeutic management of clients, and in assessment of outcomes.

b) Assessment and diagnosis

- Uses advanced assessment skills to differentiate between normal and abnormal findings, and variations of normal findings.
- Uses technological systems to capture data on variables for client assessment.
- Accurately obtains and documents relevant client history for each stage of life and the family life course, using collateral information, if necessary.
- Properly conducts and documents appropriate or symptom-centered physical examinations of clients of all ages (including developmental and behavioral screening, physical examination, and mental health evaluations).
- Identifies psychosocial and health risk factors of clients of all ages and families in all stages of the family life course.
- Determines differential diagnosis for acute, chronic, and life-threatening conditions.
- Plans screening and diagnostic strategies, making appropriate use of technology and considering costs, risks, and benefits to clients.

c) Provision of care

- Provides consistent care in accordance with clinical guidelines and protocols.
- Provides care that respects and promotes cultural diversity.
- Effectively communicates clinical findings, diagnoses, and therapeutic interventions.
- Determines care options and develops a therapeutic plan in collaboration with clients, considering their expectations and beliefs, the available evidence, and the cost-effectiveness of interventions.
- Integrates principles of quality and patient safety into clinical practice.
- Initiates a therapeutic plan carrying out pharmacological and nonpharmacological interventions, treatments, and therapies.
- Prescribes drugs within the scope of APN activity (in accordance with national regulations and protocols/programs).
- Monitors clients' progress, evaluating and adjusting the therapeutic plan according to their responses.
- Adapts interventions to respond to the needs of people and families in the aging process, in life transitions, and with respect to comorbidities and psychosocial and financial situations.
- Makes appropriate palliative and end-of-life care plans.

Domain: Ethics

- Creates a therapeutic environment that enables clients to freely discuss their health issues.
- Helps families make health decisions.
- Integrates ethical principles into decision-making.
- Recognizes moral and ethical dilemmas, and acts appropriately when necessary.

Domain: Interprofessional collaboration

- Collaborates with the rest of the health team in promoting client-centered interprofessional care.
- Acts as a consultant, accepting referrals from professionals on the health team, community agencies, and other professionals outside the health system.
- Coordinates interprofessional teams in the provision of client care.
- Promotes learning opportunities among members of the health team to optimize client care.
- Establishes a collaborative relationship with healthcare providers and community services.
- Consults with and/or refers clients to other healthcare providers, at any time along the continuum of care, when the condition of the client is not within their scope of activity.

Domain: Health promotion and prevention

- Participates in development and implementation of health promotion programs in their locality.
- Selects, implements, and evaluates evidence-based strategies for health promotion and primary, secondary, and tertiary prevention.
- Empowers individuals, groups, and communities to adopt healthy lifestyles and self-care.
- Interprets technical and scientific health information appropriately for different client needs.
- Assesses client and caregiver educational needs for providing personalized and effective health care.
- Trains clients and/or caregivers to achieve positive behavioral change.
- Carries out personalized training and educational interventions on the benefits, interactions, and importance of adherence to treatment, as well as recommendations for monitoring and self-management.
- Carries out personalized training and educational interventions on personal responses to diseases, disorders, health conditions, injuries, and risk factors, including lifestyle changes and therapeutic interventions.
- Develops educational materials appropriate to the client's language and cultural beliefs.

Domain: Evidence-based practice

- Incorporates research findings and other forms of knowledge to improve practice processes and outcomes.
- Seeks the best evidence to improve health outcomes.
- Analyzes clinical guidelines in order to apply them individually in practice.
- Sets up algorithms, clinical guidelines, and evidence-based action plans.
- Acts as a change agent through implementation of translational knowledge and dissemination of new knowledge, which can include formal presentations, publications, informal discussions, and development of clinical and political best practices.
- Uses effective strategies to change professional and work-team behavior, promoting adoption of evidence-based practices and innovations in health care delivery.

Domain: Research

- Identifies clinical questions that can be answered through research.
- Selects both qualitative and quantitative research strategies appropriate to the nature of the study problem.
- Designs research projects that respond to criteria established by funding agencies.
- Conducts research individually or in partnership with others.
- Disseminates research evidence to various audiences in appropriate forms.

Domain: Leadership

- Establishes a scope of practice distinct from other health professionals on the team.
- Acts autonomously and independently, managing diagnosed or not-yet-diagnosed patients.
- Documents all aspects of care delivered to patients in accordance with the existing legal framework.
- Implements strategies to integrate and optimize patient care processes in the system's health. teams.

- Advocates for creating organizational environments that support patient safety, collaborative practice, and professional growth.
- Promotes the formulation of policies and standards that contribute to the development of APN practice.
- Demonstrates critical thinking ability when facing complex clinical situations.
- Demonstrates capacity to use critical and reflexive thinking in an influential manner and to defend decisions in a structured and well-founded way.
- Evaluates how access, cost, quality, and safety are related, and their impact on health care.
- Analyzes organizational structure, functions, and resources to improve delivery of care.
- Identifies needs for improvement in health care delivery.
- Identifies gaps and opportunities and prepares evidence-based recommendations to improve processes and practices.
- Works with communities, identifying needs and advocating for health services that can meet these needs.
- Designs and implements knowledge management strategies to improve health care using appropriate technologies.

5. STEPS TO IMPLEMENT THE ROLE OF ADVANCED PRACTICE NURSES

For the purpose of cooperating with countries interested in implementing the evidence-based APN role, nine steps and related activities are proposed (*28, 33*) based on the scientific evidence and in the lines of the Strategy on Human Resources for Universal Access to Health and Universal Health Coverage (34), which are described in Table 1 and shown schematically in Figure 4.

Table 1. Steps and activities to implement the role of advanced practice nurses

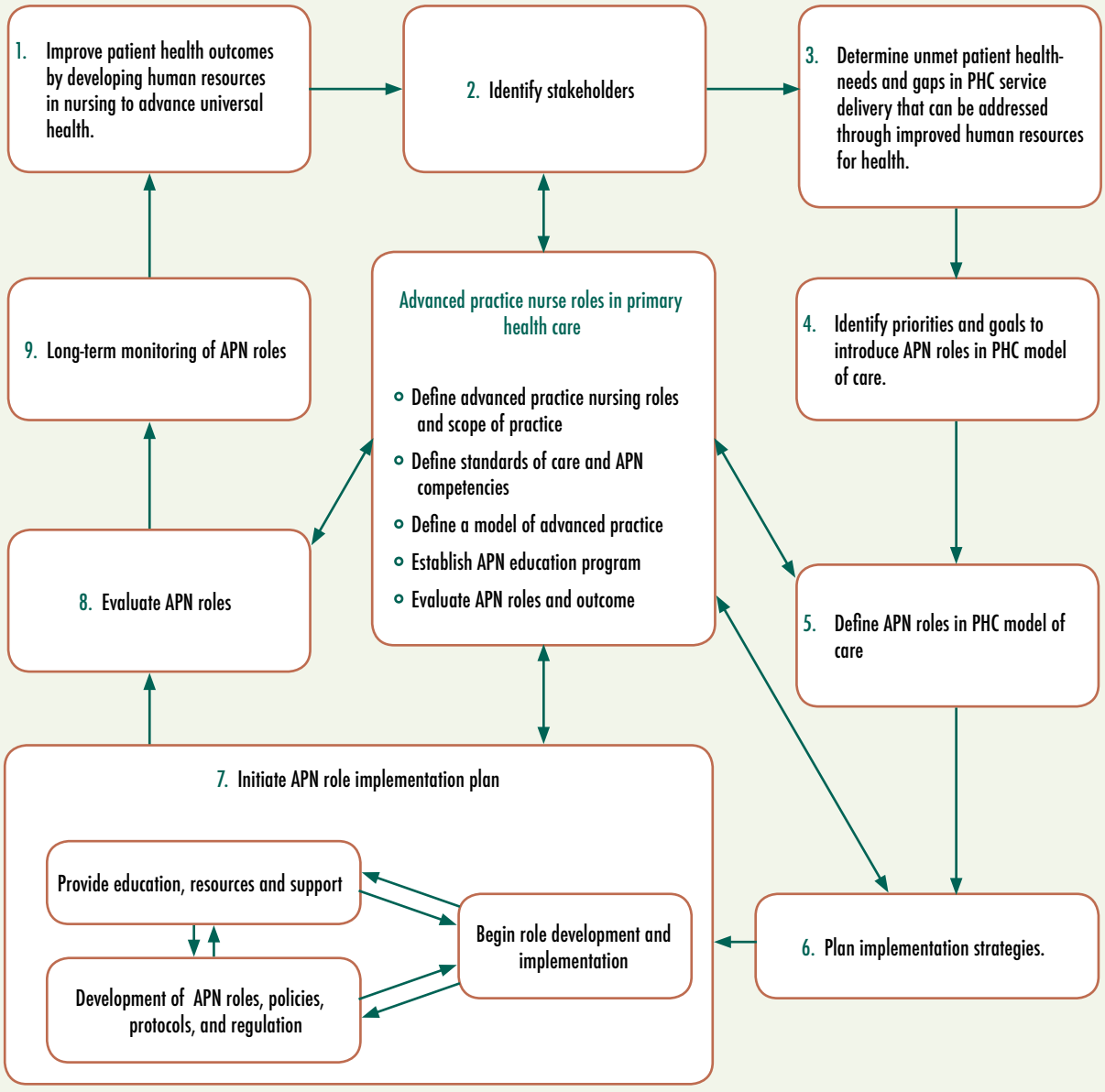
Steps	Activities
1. Develop human resources for nursing –registered nurses– to advance universal health coverage and improve patient health outcomes.	- Identify population and user profiles by region. - Identify users and/or populations requiring PHC as the main focus of activities.

Steps	Activities
2. Identify stakeholders for APN implementation.	- Develop collaborative APN networks. - Outline strategies by country for introduction of APN roles. - Establish interprofessional working groups by strengthening intersectoral actions and community participation. - Propose new roles to decision-makers and healthcare providers, strengthening understanding and implementation through work by physicians and other health professionals, health services administrators, and policymakers.
3. Determine unmet health needs, based on care priorities, to attain universal health coverage.	- Determine health need profiles. - Assess unmet health needs of users and in the general population, in order to define a priority-based approach to the functions of APNs.
4. Identify priorities and objectives to introduce expanded nursing roles in primary health care.	- Set priorities and identify opportunities for new APN roles that are more likely to be successfully implemented. - Establish measurable results to evaluate the effectiveness of APN roles.
5. Define APN roles in primary health care.	- Identify strategies and solutions for the achievement of goals and expected results in each country. - Seek and provide technical cooperation for development of a basic set of core competencies.

Steps	Activities
6. Plan implementation strategies.	- Describe the roles and contributions of nurses in general, and of APNs in particular. - Define four key elements: promotion, commitment, development, and support. - Define a plan to formalize legislation and create regulations. - Refer to the experience of other countries in regulation and implementation of the APN role.
7. Initiate the plan to implement the APN role.	- Review and evaluate collaborative efforts among countries, academic institutions, and stakeholders. - Develop APN roles, policies, protocols, and regulations. - Formulate health policies during the creation of new procedures and directives to facilitate implementation of APN functions. - Provide education, resources, and support.
8. Evaluate APN functions.	- Review and evaluate APN functions and implementation frameworks. - Support scientific research to produce evidence and revise the strategy for future implementation. - Develop and support the use of strategies to report to policy- and decision-makers on the effective use of APN functions. The national level also needs an evaluation of general implementation and of the strategy's impact.

Steps	Activities
9. Conduct long-term monitoring of APN functions in the country.	- Use evaluation to identify how strategies to implement the APN role can be refined to meet additional health needs of the population. - Identify whether health needs are being effectively addressed and evaluate what reforms may still be needed.

Figure 4. Schematic view of the nine steps for implementation of the advanced practice nurse role



Source: Translated and adapted from Oldenburger D, et al. (28), and Bryant-Lukosius D, Dicenso A (33).

6. ACTION STRATEGIES

Three general strategic lines are proposed to expand the role of nurses in PHC. It is suggested that these strategies and actions be used by governments, professional associations, nursing schools or departments, health institutions, and other stakeholders, to discuss, implement, and expand the role of nurses, according to each country's needs and context.

The population has needs that require advanced practice nurses. However, there is no political backing from the health system to recognize their area of specialization; and there are limited incentives, and barriers due to the hegemony of the biomedical model. (Registered nurse, El Salvador)

Strategy 1: Promote incorporation of nurses with advanced competencies into primary care teams in the Region's health systems

Actions

1. Develop conditions and capacities to expand the role of registered nurses in PHC teams.
2. Design a local action plan to incorporate the APN role into the health system, while defining roles and service portfolios.
3. Identify clinical processes and PHC areas that can be optimized by expanding the competencies of nurses.
4. Develop collaborative practice in primary care units.
5. Design evidence-based clinical guidelines or treatment protocols for PHC that include APNs.
6. Assess and inventory success stories and lessons learned in the country.

7. Define a regulated role for registered nurses that is clear and that emphasizes direct patient care.

8. Expand the labor market in PHC for advanced practice nurses.

Strategy 2. Strengthen development of educational programs that help expand nurses' competencies in primary care

Actions

1. Identify universities and nursing schools that can train APNs for PHC at the graduate level.

2. Identify APN core competencies.

3. Define the appropriate degree for APNs, according to the criteria of each country's higher education system, consistent with curricular approaches and graduation requirements.

4. Develop innovative clinical/academic pilot projects for the implementation of APN in health centers and ambulatory care clinics.

5. Create a critical mass of APNs in clinics so they can receive future cohorts of students.

6. Prepare a teacher upgrading plan for APN training.

7. Formalize the title of APN for nurses who already perform that role in PHC through continuing education (graduate courses).

8. Regulate and recognize the APN professional master's degree training level.

9. Prepare a system to evaluate academic programs where APNs are educated, paying special attention to the faculty, infrastructure, coordination with health services and systems, and the performance of graduates.

10. Operate APN training programs in high-quality university systems and guarantee appropriate resources to ensure efficiency and effectiveness.

Strategy 3. Implement or strengthen regulation and governance that foster the expansion of nurses' competencies in PHC

Actions

1. Increase the number of nurses in PHC.

2. Regulate and recognize nursing specialties in PHC and obstetric nursing.

3. Develop and implement regulatory frameworks for APNs in health institutions, defining their scope of practice, authority, and the degree of autonomy (through the corresponding governmental or nongovernmental entity).

4. Continue joint efforts among the Ministry of Health, providers, and other actors to develop a plan for a new primary care profile that improves problem-solving in health services, continuing and long-term care, and the health team-patient relationship, including training and remuneration.

5. Promote the creation of inter-professional health teams in which nurses participate.

6. Develop mechanisms for coordination of nursing care and decision-making in the entire network of services and at the different levels of care, with the incorporation of APN roles.

7. Determine staffing needs and distribution of personnel, using innovative incentive mechanisms, redistribution strategies, and incentives for moving to areas with staffing shortages.

8. Provide ongoing training, strengthening APN action.

9. Design lines of long-term care that involve the greatest possible response capacity by nurses and APNs in PHC.

10. Establish a system to evaluate services that shows the impact of APNs on access and medium- and long-term population health indicators.

11. Establish coordination with the registered nurse training system, with agreements on continuing education of APNs in PHC.

12. Forge partnerships with societies and associations of health professionals that collaborate in health services delivery, ensuring coordination and interprofessional collaboration.

13. Ensure communication and coordination with societies and associations of health professionals for the benefit of APN training and performance.

14. Negotiate recognition of APNs, nationally and institutionally (unions), clearly differentiating them from other levels of training and performance.

15. Promote the creation of jobs and attractive conditions for APNs in PHC in the national plan, anticipating an acceptable cost-benefit ratio.

7. CONCLUSIONS

The purpose of this document is to offer decision-makers, professionals, governments, associations, and other stakeholders in Latin American and Caribbean countries relevant information for a frame of reference to incorporate the role of APNs into PHC.

Expansion of the role of registered nurses in first-level health care does not intend, in any way, to replace any other professional role in health, but rather, to complement such roles, while helping to give the population access to health care and coverage by the most highly skilled nursing professionals.

The scientific evidence cited here demonstrates the impact of APNs on health services in several countries. However, and paradoxically, the most economically developed countries in the world and those that have the highest ratio of physicians per population are those that have incorporated APNs—and not only in PHC.

In Latin America and the Caribbean, there is interest in more in-depth knowledge of the APN role and in renewing and revisiting the care provided by registered nurses. There is currently a shortage of registered nurses, due partly to the fact that the labor market is not favorable to these professionals. In the majority of services, nursing care is provided by auxiliaries and, in smaller numbers, by technical nursing personnel.

The use of APNs to rectify staffing gaps in health systems and services, and the reassignment of tasks and skill sets in the health workforce offers the opportunity to launch a new initiative in some countries within the framework of universal access to health and universal health coverage. For other countries, initiatives to incorporate the role can be based on increased autonomy, recognition, and professional advancement of nurses. Opportunities do exist, although not everywhere in the world and even though the options and strategies are extremely sensitive to each country's context and health setting.

Despite the difficulty of incorporating the APN role, there is an opportunity to align academic training and care delivery with roles that favor professional development and training through scientific evidence and interprofessional work based on trust and the transmission of experience, with a view to solving individual and population health problems.

Political will, appropriate and competent vocational training, and professional cohesion can, in the medium and long term, create an expanded and renewed role for registered nurses. In turn, their collaborative and interprofessional practice with other health providers can impact population health, as is already occurring in several countries in the world.

It is fundamental for governments, regional and national professional associations, universities, and the bodies that regulate the health professions to work proactively to successfully implement the APN role in PHC in the Region of the Americas.

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