Evaluation of Nursing and Midwifery in the Region of the Americas

Analysis of Questionnaires completed by 33 of 35 countries

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Organization and Management of Health Systems and Services (HSO)
Division of Health Systems and Services Development (HSP)

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World Health Organization

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1. EVALUATION OF NURSING AND MIDWIFERY

Nursing is often considered the backbone of health systems in the Americas, and much like a human's spine, you don't notice how much it supports you until it's injured. Currently in the region of the Americas, leaders in health care are beginning to realize that the impending global nursing shortage is hurting health care systems across the board. Although it is estimated that nursing makes up the majority of the health care workforce in the region, it often goes unrecognized and unappreciated for several reasons. Some of these include lack of standardization of nursing and midwifery education, low pay, generally low social status of nurses, lack of political power and existence within the widely prevalent medical-based health care systems approach. As a result, the Pan American Health Organization and the World Health Organization have made efforts to increase recognition of the profession of nursing in the Americas, and developed Resolution 49.1 at the World Health Assembly in 1996. The purpose of this report is to present the evaluation of the implementation of Resolution 49.1 (Strengthening Nursing and Midwifery in the Region of the Americas).

The Pan American Health Organization (PAHO) is a part of the United Nations (UN) and the Inter American Systems. The World Health Organization (WHO) is a health branch of the UN, and there are several regional offices for each main part of the world. PAHO is the regional office for the Americas in WHO. Within the Inter American System, there are several specialized organizations, and PAHO is also one of these. Thus PAHO is related to two main international organizations. PAHO's main purposes are to promote and coordinate the efforts of the Region of the Americas to combat disease, lengthen life, and promote physical and mental health of the people. This is largely done through technical assistance and coordination, and the main mission is to achieve sustainable human development and health for all and by all (PAHO website, 2000).

The region of the Americas includes North, Central and South America, as well as the Caribbean. The Pan American Health Organization (PAHO) is made up of 35 member countries from this region. Participating states in PAHO include France, Netherlands, UK, and Northern Ireland. PAHO also has one associate member (Puerto Rico) and two observer states (Portugal and Spain). The member countries involved in this evaluation are shown in Table 1, where the countries are grouped by level of economic development. The composite index of development used here (Human Development Index, United Nations Development Program, 1995) ranks countries based on life expectancy, GDP, education and literacy. The region contains some of the richest and poorest countries in the world, and its population of 823,255,000 occupies one-third of the world's land (PAHO, 2000).

A general understanding of the contexts in which nursing and midwifery exist within the countries is pertinent to this report, and the socio-cultural, political and economic factors will be discussed here. In the entire region overall, living conditions seem to be improving. The annual population growth rate has decreased from 1.6% (1980-1985) to 1.3% (1995-2000), while population trends show that 76% of people in 2000 are now living in urban areas compared to 68.6% in 1980 (PAHO, 2000). The population in the Americas with access to safe drinking water has increased from 76% in 1980 to 91% in 1998. Literacy

and education have improved as well. In 1998, 92% of the Region's inhabitants were literate, an increase from 88% in 1980. The largest gain in literacy is seen in the sub-region of Central America, where the literate population as increased 13 percentage points to 75% from 1980 to 1998 (PAHO, 2000).

Large increases are visible in vaccination coverage across the region. In infants under one year of age, DPT3 vaccination has jumped from only 45% in 1980 to 90% in 1999. Similar improvements are seen in vaccination for polio (51% to 88%), BCG (54% to 94%) and measles (48% to 91%) between 1980 and 1999 (PAHO, 2000). Correspondingly, the infant mortality rate for the region overall as decreased from 36.9 per 1,000 live births in 1980-85 to 24.8 per 1,000 from 1995-2000 (PAHO, 2000).

During the same time, the number of nurses and physicians per 10,000 inhabitants increased from 23.1 and 13.1 to 55.8 and 22.9, respectively from 1980-1999. Although it is tempting to attribute improvements in health status such as increased immunization coverage and decreased infant mortality to the larger gain in nurses than physicians overall, it is difficult to separate workforce numbers from other mitigating social factors. Factors such as training and numbers of nurses, population density and workforce distribution are just a few examples that influence outcomes.

There has been little published research on the subject of nursing workforce and corresponding decreases in morbidity and mortality, but some studies have shown that professional nurses do in fact improve outcomes. Wheeler (1999) studied the effect of Clinical Nurse Specialists (CNSs) on patient outcomes and found that in an acute care setting, patients with CNSs had better outcomes, shorter lengths of stays and fewer complications than patients without CNSs. A study done by PAHO also showed that higher numbers of nurses in hospitals were associated with better outcomes, and that the number of nurses was more predictive of positive outcomes than numbers of physicians (Paganini, 1993). On the community level as well, nurses have been shown to improve outcomes, especially when nurses manage the programs as well. Svitone, Garfield, Vasconcelos & Craveiro (2000) found that nurses had developed a very effective primary health care program for a state in Brazil that has consistently reduced mortality and morbidity from common diseases.

The political and economic changes in the Americas in recent times are characterized by growing democracies, internal turmoil and war within countries and widespread government corruption. National health expenditures have increased from 1984-1996 from 6.8% to 9.9% (PAHO, 2000), but these growths are tempered by high rates of inflation in some countries and the concentration of distribution of resources to the high-tech health services. Because rising costs for health care have given every country cause to question their distribution of health care resources, the need for cost-effective ways to provide quality care are increasing. Nursing and midwifery are two cost-effective ways to address these needs.

1.1 PURPOSE OF EVALUATION

This report is being done to document the progress made toward the implementation of World Health Assembly (WHA) Resolution 49.1: Strengthening Nursing and Midwifery in the Region of the Americas. The WHO identified the need to strengthen the roles of nurses

and midwives in 1948 and the first World Health Assembly then adopted the first resolution (WHA 1.46) addressing this issue. Since then, several resolutions have been passed unanimously by member countries of WHO to support the value of nursing and midwifery worldwide. The health needs of the region of the Americas continue to be significant today, although much progress has been made. The last resolution on nursing and midwifery before 49.1 was WHA 45.5 "Strengthening nursing and midwifery in support of strategies for health for all", adopted in 1992. Additionally, when WHA 45.5 was developed, a Global Advisory Group on Nursing and Midwifery (GAG) was established to advise the Director-General of WHO on progress made on the implementation of the resolution (O'Brien-Pallas et al., 1997).

This evaluation of Resolution 49.1 will be part of a future WHO document to influence the direction of nursing and midwifery at the next World Health Assembly in 2001. The stakeholders in this evaluation include the WHO, PAHO, the individual member countries, and more broadly, the professions of nursing and midwifery. This evaluation will be a useful tool for the preparation of future documents related to nursing and midwifery within the international community, as well as helpful feedback for member countries on their own individual progress compared to the rest of the region. In addition, it is the hope of the author that this document will help further the recognition of the profession within the World Health Organization, and PAHO itself, as it is currently not listed in PAHO's strategic planning document, *Strategic and Programmatic Orientations (1999-2002).*

1.2 Evaluation Design and Methods

This is a summative evaluation, as the purpose is "to assess the overall quality and impact of a mature program for purposes of accountability and policymaking" as defined by Herman, Morris & Fitz-Gibbon, 1987, p. 26. The program being evaluated is actually the individual implementation of Resolution 49.1 within each country's own political, economic and cultural context. The focus areas of evaluation mirror the recommendations made in Resolution 49.1. Instructions included a statement that representatives from both the private and public health care sectors of each country were to collaborate to provide a country-wide assessment. Quantitative and qualitative data were collected using an 8-page questionnaire, which was developed by WHO in Geneva and translated into each member country's official language. Because of time constraints, this evaluation is primarily focused on quantitative responses (please see Appendixes A and B for copies of Resolution 49.1 and the English language questionnaire). To this evaluator's knowledge, no formal testing of the questionnaire was done to determine its reliability and validity, however, it is directly relevant to the program being evaluated, as the questions directly correlate to the resolution's statements.

There are several limitations to using this questionnaire format for such widespread data collection, however, due to the large numbers of countries being assessed, it was the only feasible way to do so. One limitation was that responders to the questionnaires varied greatly among countries, but this reflects the diversity in the status of nursing across the region. The questionnaires were sent out with the request for the top Nursing leader in the country to fill it out. Accordingly, responders to questionnaires varied from Chief Nursing Officers to other Ministry of Health personnel (including physicians) to heads of major

nursing associations in the countries. One possible way to improve this for future evaluations is to identify and train qualified nursing leaders in each country to fill out questionnaires.

Another limitation of using questionnaires as the primary method of data collection is that responses depended on the data management system of the countries. Several countries do not have accurate methods of reporting health indicators such as cause of death, numbers of reportable diseases and numbers of registered or licensed health personnel. For example, Argentina reported having 80,000 qualified nursing personnel, and expert opinion at PAHO headquarters in Washington, DC disagreed, saying that it must include auxiliary as well as professional (or qualified) nurses. In cases such as this, official PAHO data for 1999 or expert opinion was used. This could be the result of unclear questionnaire questions and/or poor data collection and management by countries.

A third limitation to using questionnaires is one that may not be evident in many other community-focused evaluations, and it is a mixture of the first two limitations. Because this questionnaire was sent out by PAHO/WHO, member countries may have felt an obligation to respond, and this probably heavily influenced the excellent return rate. This may have placed pressure on the countries to look at their progress towards the resolution and caused people who were perhaps not as qualified to complete them to do so, in order to meet the time constraints. For this reason, the names and positions of all respondents from each country are listed in Appendix C for future analysis of reliability and validity of responses by PAHO Nursing leaders. In addition, countries may have felt it was necessary to estimate responses in order to return as complete a questionnaire as possible.

A final limitation of doing a survey of such a large and diverse region is that levels of Nursing and Midwifery differ widely. In some countries, there are no differences between nurses and midwives as all midwives are nurses. In other countries, nurses are educated separately from direct-entry midwives. This variability in the definition of nurses and midwives reduces the validity of the questionnaire, as there is no space for individual countries to list the levels of nurses and midwives and the required education and competencies for each. This could be an area for improvement in future evaluations.

The data were analyzed using Microsoft Excel, with a 1 for “yes” and 0 for “no” omitted questions. Simple summary statistics were obtained and graphs were produced also using Excel. Overall, there was a 94% response rate, and Haiti and Bahamas were only non-responders (N = 33). The questionnaire had 44-items in total, and was titled “Strengthening Nursing and Midwifery in Support of Strategies for Health For All: Monitoring and Reporting on Progress of Implementation of World Health Assembly Resolution WHA 49.1”. The main areas of evaluation are described below, and were analyzed by level of economic development and subregion.

There are five major focus areas of Resolution 49.1. The first is to involve nurses and midwives in health care reform and development of national health policy. The second is to develop national action plans for nursing and midwifery, and improve working conditions, legislation, education, quality assurance, and research opportunities for nurses and midwives. The next focus area is to increase fellowship opportunities in nursing/midwifery. The fourth area is to monitor and evaluate the progress of member states toward the attainment of national health and development targets. This includes the

use of nurses and midwives to ensure equitable access to health services, health protection/promotion, and prevention and control of specific health problems. The final focus area in this report is to strengthen nursing and midwifery education and practice in primary health care.

2. RESULTS

The findings of the questionnaires will be discussed in terms of the five survey headings, which correspond to the main focus areas of Resolution 49.1.

2.1 HEALTH CARE REFORM AND NATIONAL HEALTH POLICY

Ninety-three percent of countries (N = 31) stated that their country had undertaken health care reform initiatives since 1996. Uruguay and Colombia were the only countries to respond that they had not done so since that year. Of the 31 countries to say they had reformed health care since 1996, 90% stated that nurses and midwives were involved in the planning, evaluation, monitoring, etc. of these initiatives, although to varying degrees of involvement. Ecuador and Guatemala stated that nurses did participate, but only minimally. Jamaica also mentioned that nursing and midwifery's involvement was limited, but increasing. The Dominican Republic, Mexico and Paraguay were the only countries to state that nurses and midwives had no involvement at all.

2.2 NATIONAL ACTION PLANS FOR HEALTH, NURSING AND MIDWIFERY

Sixty percent of countries (N = 20) stated that they had a National Action Plan for Nursing and Midwifery in their country. Of those countries, 70% responded that those plans had been approved by the Ministry of Health. 51% of all countries (N = 17) stated that the Nursing/Midwifery National Action Plan was an integral part of the National Health Plan. Please see Table 2 for a summary of countries with National Action Plans which have been approved.

2.3 OPPORTUNITIES FOR NURSES AND MIDWIVES TO RECEIVE FELLOWSHIPS IN NURSING AND HEALTH-RELATED FIELDS

Since 1996, the majority of countries either stated that there had been no change in the number of fellowships available to nurses, or changes were not reported at all. For basic education fellowships, 66% reported no change or did not report, and only 24% (N = 8) said there had been an increase in funding at that level. Similarly, only 33% of countries (N = 11) reported increases at the post-basic level, 27% (N = 9) at the master's level and just 9% (N = 3) at the doctoral level. Of the low income countries, Guyana, Guatemala, El Salvador and Honduras all showed an increase of funding at all levels. The Dominican Republic as a lower-middle income country reported increases at both the post-basic and master's levels. Several upper-middle income countries confirmed increases at various levels (Grenada, St. Kitts/Nevus, Brazil, Belize and St. Vincent/Grenadines), and Brazil at both the master's and doctoral levels. The USA and Canada also reported increases at the doctoral level. (Please see Table 3 for a summary of this data).

Fellowships for midwifery also largely remained the same. The percentage of countries who responded no change or information not available ranged from 76% for post-basic fellowships to 91% at the doctoral level. Table 4 shows that only a handful of countries reported an increase of available funds for study at all levels. Grenada stated increases at both the basic and post-basic levels, and Brazil confirmed increases at all four educational levels. The USA, Costa Rica, and St. Vincent/Grenadines also had increases at the master's level, and at the doctoral level as well for only the USA.

Table 5 summarizes the countries who received an increase or decrease in fellowship funding from PAHO/WHO sources. The majority of countries did not report any change, but several countries did confirm an increase, including Nicaragua, Guyana, Grenada, St. Kitts/Nevus, St. Vincent/Grenadines, El Salvador and Costa Rica. The lower income countries had more increases at the basic and post-basic level, while the upper-middle countries reported more at the master's level. In addition, it is interesting to note that many more PAHO/WHO fellowships were available to nurses than midwives overall.

Perhaps in part as a result of these fellowships, 75% of countries reported having increased access for nurses to attend universities since 1996. Thirty percent of countries stated more midwives in their countries also had access since that time to university education.

2.4 Monitoring and Evaluation of the Progress Toward Attainment of National Health and Development Targets

The global study of nursing and midwifery which assessed Resolution 45.5 from 1993-1995 showed that 66% of member countries in the Americas had completed an assessment of nursing utilization and 40% had done the same for midwifery. At that time, 31% and 20% were planning to do so for nursing and midwifery, respectively (O'Brien-Pallas, 1997). In the current evaluation of Resolution 49.1, 27% (N = 9) of countries responded that since 1996, an assessment of the deployment and utilization of nurses and midwives has been conducted. Those countries are: Barbados, Brazil, Canada, Costa Rica, Grenada, Guyana, Peru, St. Vincent/Grenadines and the USA.

Figures 1 and 2 demonstrate the change in average salaries or benefits for nurses and midwives since 1996. In Figure 1, it is apparent that the most frequent response of countries was no change in salaries (N = 11). 27% of countries (N = 8) stated that there had been less than a 10% increase in salaries, 7% (N = 2) reported a 20% increase, and 13% (N = 4) said there had been an increase of 50%. Uruguay, Suriname, Nicaragua, Jamaica and Guyana reported an increase of more than 50% for nursing salaries since 1996. Colombia actually reported a decrease in nursing salaries since 1996. A note to the validity of these responses should be considered here when interpreting this data. Several countries had high rates of inflation in the past years, which means that the salary changes may not reflect true increases. Suriname, for example, specified that their salaries increased greatly (120%), but that the jump was largely due to the 18.9% inflation in 1998. In future evaluations, inflation rates could be asked side by side with salary changes for a more thorough consideration of salary changes.

Figure 2 similarly shows the changes in salaries for midwives since 1996. The majority of countries (61%) stated that there had been no change (N = 19), and as mentioned before, this may show a true decrease if inflation rose during that time period. Seven countries (23%) reported less than 10% increase, and two countries reported increases of 20% (Mexico and Brazil) and 50% (Jamaica and St. Kitts/Nevus). Suriname was the only country to report a greater than 50% increase again here for midwives. The USA and Panama did not respond to both questions of salary increases for nursing and midwifery.

The next question on the survey questionnaire has to do with workforce issues. The question asked countries to list the total number of qualified nursing and midwifery personnel in their country (who have passed a formal education programme, including nurses, midwives, enrolled nurses, community and public health nurses, and nurse practitioners or other categories of nurses who work as mid-level practitioners), and the number of nursing personnel per 10,000 inhabitants. Several countries had data for professional nurses, but auxiliary and technical nurses were also often included. In these cases, expert opinion and official 1999 PAHO data (PAHO, 2000) was used instead. This is another limitation of the evaluation tool, which could be improved upon by asking countries the levels of nurses and midwives practicing in their countries and the education/training required for it. Table 6 shows nursing and midwifery personnel per 10,000 inhabitants by level of economic development. Overall, the mean numbers of personnel per 10,000 rose as the country's level of development increased.

Table 7 displays nursing and midwifery personnel per 10,000 by subregion. North America has the highest mean of 62.2/10,000 (as well as having the two richest countries in the region- USA and Canada). The Latin Caribbean has a mean of 39/10,000 inhabitants, but this number is misleading as the two countries in this subregion vary greatly from Cuba (75/10,000) to Dominican Republic (3/10,000). If Haiti had responded to the survey, the mean would have decreased further and the trend that Cuba is the outliner would be even more evident. In fact, Cuba is one of few Latin American countries, which does not have a shortage of nurses. Next, the English Speaking Caribbean varies widely as well, with a range of 12 (Jamaica) to 52.2 (Barbados), and a mean of 30.4/10,000. The Central American countries, which are generally poor, reflect that fact in their mean of 7.4 qualified nurses/midwives per 10,000 population. The Southern Cone countries have a mean of 5.7/10,000, and the Andean area is the lowest subregion at 4.9/10,000. Many countries reported total numbers of personnel, which did not correlate with personnel per 10,000 inhabitants, and several countries were asked to re-submit these answers. For future surveys, simply asking numbers of personnel of each type (i.e. auxiliary, technical, and professional) and the year the data is from is enough for the future evaluator to calculate accurate numbers per 10,000 population.

Only 19 of 33 countries answered the question regarding the percentage of nursing and midwifery personnel as a percentage of total number of all health care personnel (including allied health and medical personnel). Percentages ranged from 1.7% in Nicaragua and 4% in Honduras and Dominican Republic to 75% in Guatemala and 81% in Dominica. The mean percentage reported was 36.9%. The next question of what percentages of nurses and midwives worked in the private/public sectors was only answered by 21 of 33 respondents. The mean percentage of nurses and midwives working in the public sector is 76.4% (N = 21), and 23.2% in the private sector (number of respondents = 20). This is a difficult measure to capture completely by a simple statistic, as health care personnel may

work in both sectors simultaneously and reporting may not be accurate. The majority of countries that responded to a similar question on which settings nurses and midwives were employed (N = 22) said that the most frequent is the hospital setting, with a mean percentage of 67%. The mean percentages of nurses and midwives working in a primary health care setting was just 25.7% and almost 6% in other settings. It is difficult to tell if this data corresponds with the trend of moving health care services into primary care settings, as there is no baseline data to compare it with. In addition, it is unclear if primary care settings and other public health workplaces (such as rural health posts) have as sophisticated data management systems as hospitals and if the staff working there is being counted appropriately.

It appears that the nursing shortage has indeed affected the majority of the region. 90.9% of countries responded (N = 33) that there is a nursing shortage in primary health care settings. Only St. Kitts/Nevus, Cuba and Antigua & Barbuda reported that they were not experiencing a shortage currently. St. Kitts was the only country to indicate that they were not experiencing a shortage in hospitals, while the other 96.9% did not have enough nursing personnel. 57.6% of countries (N = 19) confirmed a shortage of personnel in other health care facilities, with examples being health facilities in the lowlands and jungles of Peru and schools and rehabilitation centers in Panama. In addition, 75.8% of countries (N = 25) reported shortages of nursing and midwifery personnel in urban areas, and 84.9% (N = 28) also indicated inadequate numbers of personnel in rural areas.

2.5 Strengthening of Nursing/Midwifery Education and Practice in Primary Health Care

Most countries responded saying that there is legislation/regulation surrounding nursing practice and this is important as clear legislation regarding boundaries of practice help define the roles of nurses and midwives and build accountability. 84% of countries (N = 28) responded that they do have legislation, but 16% (N = 5) did not. These countries are Venezuela, Paraguay, Nicaragua, Mexico and Guatemala. Regarding statutory registration of nursing personnel, 94% of countries (N = 30) said it was required. Nicaragua and Canada responded negatively to that question. No response was received from St. Vincent/Grenadines for either of these questions.

Although legislation surrounding nursing practice was highly prevalent among countries in the region, only about 1/4 of countries (N = 8) reported that it was obligatory to prove nursing competence regularly. Of the high-income countries, only Antigua & Barbuda and Costa Rica required this. In upper-middle income countries, St. Lucia and Belize regularly prove competency, and Jamaica, Peru and Cuba do so for the lower-middle income countries. Nicaragua is the only low-income country to oblige its nurses to prove competency. Furthermore, less than 2/3 of member countries (N = 19) stated that in-service education/staff development training was required for nurses. Countries which do mandate continuing education are summarized in Table 7. This table clearly shows that countries with a higher level of economic development have the resources and political will to require in-service education and staff development, with a few exceptions on either ends of the spectrum.

The final question in the questionnaire asks if quality assurance and nursing standards are part of each country's national health system. Grenada responded that one was currently being developed, and the USA does not have a national health system, so the total number of responses was N = 31. Nearly 74% of respondents (N = 23) stated that standards were part of the system, but about 26% (N = 8) said they were not. Those countries are Canada, Dominican Republic, Ecuador, Guatemala, Guyana, Mexico, Paraguay and Venezuela. This shows that roughly 3/4 of countries recognize the important role that quality of nursing care plays in their health care systems.

3. DISCUSSION

In conclusion, nursing has made significant strides in several areas since Resolution 49.1 was made in 1996. However, there still exists the need for improvement in other areas. Nursing appears to be very involved in health care reform overall, but in many countries their participation is small, and the amount of political power carried in those settings is unknown. This is a future area for growth, therefore, because nursing can only move forward when more nurses and midwives are educated and given negotiation skills to bring the political agenda of the profession into the public eye.

In terms of national action plans, the majority of countries do have approved plans for nursing in place. However, 40% still do not, and until this is improved, nursing cannot move up the social and political agenda in countries and be taken seriously. This is a large area for future concentration on the country level.

Several countries reported having at least one type of fellowship opportunity (whether it was PAHO/WHO funded or not) for nurses and midwives. This is an area that must be evaluated more closely on the individual country level to determine if resources are being distributed wisely. It may be helpful to add another part of the evaluation which asks for follow-up on the women and men who received those scholarships and find out what types of leadership positions they have been able to assume since receiving financial aid. This could be crucial to evaluating the effectiveness of these programs in each country, and whether aid should be continued.

Regarding the monitoring and evaluation of progress toward attainment of national health and development targets, the data collected from these questionnaires may prove to be crucial baseline data for future evaluations. The 1997 study of global midwifery did not provide detailed country data on assessments of nursing and midwifery and salary changes. The 49.1 questionnaire provides a more thorough quantitative representation of this area of the resolution. Again, it is difficult to know for certain if salary increases are reflective of covering for inflation or if they actually represent true growth and thus more implied recognition of the value of nursing and midwifery. It would be interesting to see in future evaluations if other professionals' salaries also increased in the countries, and to perhaps do a small sample survey of the public's perception of nursing and midwifery to assess if this area of the resolution has indeed been improved.

The final area of the resolution is strengthening nursing and midwifery education and practice in primary health care. Because there is no clear baseline data for a standard of comparison, it is difficult to say whether the goals of the resolution have been achieved overall. Impressive numbers do exist currently, however, as the vast majority of countries reported having legislation and statutory registration of nursing personnel. More marked areas for improvement and study in future evaluations include the obligation to prove professional competence regularly and required participation in continuing education.

4. RECOMMENDATIONS

Improvements on future evaluations can begin with improvements in the evaluation tool. The questionnaire should be standardized as much as possible through translations and versions given to countries. In addition, several questions could be re-written to be more easily understood. For example, questions should not ask for "changes" noted in number of women in higher education, but instead should ask for a decrease or increase within a specified time period. More room for qualitative responses could be especially rich here for future data collection.

Another exciting area for improvement in the future is that of relating outcomes to nursing and midwifery personnel. Questions on surveys could include the role of nursing and midwifery in specific programs, and how they affect the quality of care and influence health outcomes. For example, a rural maternal mortality program in a country that is run by nurses compared to another state-run (non-nursing/midwifery) program.

A third area, which appears to need further investigation, is the development of data management infrastructures in several countries. This is an area of technical assistance where PAHO could feasibly make great strides. Questions on future surveys could assess how widespread the use of technology is in countries and what areas of their data systems are most in need of outside consultation.

Finally, the nursing shortage is our opportunity to bring (with this report) the nursing agenda to the forefront of policy issues for WHO. Despite significant areas of progress, nursing and midwifery need the support of WHO for future growth, as they can be invaluable in providing cost-effective and quality health care to the world's populations most in need. This evaluation only highlights the beginnings of a relatively new profession, which has already been a significant positive factor in many lives. The future of the health of the Americas lies in its largest natural resource- nurses and midwives- and PAHO/WHO has the opportunity to embrace and build up its powerful potential. The future is here.

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ANNEXES

ANNEX A

FORTY-NINTH WORLD HEALTH ASSEMBLY

WHA49.1

Agenda item 17

23 May 1996

Strengthening nursing and midwifery

The Forty-ninth World Health Assembly,

Having reviewed the Director-General's report on strengthening nursing and midwifery;[1]

Recalling resolutions WHA42.27, WHA45.5 WHA47.9 and WHA48.8 dealing with the role of nursing and midwifery personnel in the provision of quality health care in the strategy for health for all and education of health care providers;

Seeking to apply the spirit of the International Conference on Population and Development (Cairo, 1994), the World Summit for Social Development (Copenhagen, 1995) and the Fourth World Conference of Women (Beijing, 1995);

Concerned about the problems resulting from the emergence of the new diseases and the re-emergence of old diseases as highlighted in *The world health report 1996*;

Concerned about the necessity of effectively utilizing health care personnel, in view of rising costs, and mindful of the cost-effectiveness of good nursing/midwifery practice;

Recognizing the potential of nursing/midwifery to make a major difference in the quality and effectiveness of health care services in accordance with the Ninth General Programme of Work;

Recognizing the need for a comprehensive approach to nursing/midwifery service development as an integral part of health development to maximize the contribution of nurses and midwives to achievements in the field of health;

Recognizing also that such an approach must be country-specific and be assured of the active involvement of nurses and midwives at all levels of the health care system, together with the recipients of health care, policy-makers, the public and private sectors, representatives of professional associations and educational institutions, and those who have responsibility for social and economic development,

[1] Document A49/4, part II.

THANKS the Director-General for his report and for the increased support to nursing in Member States;

URGES Member States:

(1) to involve nurses and midwives more closely in health care reform and in the development of national health policy;

(2) to develop, where these do not exist, and carry out national action plans for health including nursing/midwifery as an integral part of national health policy, outlining the steps necessary to bring about change in health are delivery, ensuring further development of policy, assessment of needs and utilization of resources, legislation, management, working conditions, basic and continuing education, quality assurance and research;

(3) to increase opportunities for nurses and midwives in the health teams when selecting candidates for fellowships in nursing and health related fields;

(4) to monitor and evaluate the progress toward attainment of national health and development targets and in particular the effective use of nurses and midwives in the priority areas of equitable access to health services, health protection and promotion, an prevention and control of specific health problems;

(5) to strengthen nursing/midwifery education and practice in primary health care;

REQUESTS the Director-General:

(1) to increase support to countries where appropriate in the development, implementation and evaluation of national plans for health development including nursing and midwifery;

(2) to promote coordination between all agencies and collaborating centres and other organizations concerned in countries to support their health plan and make optimal use of available human and material resources;

(3) to provide for the continued work of the Global Advisory Group on Nursing and Midwifery;

(4) to promote and support the training of nursing/midwifery personnel in research methodology in order to facilitate their participation in health research programmes;

(5) to keep the Health Assembly informed of progress made in the implementation of this resolution and to report to the Fifty-fourth World Health Assembly in 2001.

Fifth plenary meeting, 23 May 1996

A49/VR/5

ANNEX B

Attached copy of blank questionnaire: Strengthening Nursing and Midwifery in Support of Strategies for Health for All: Monitoring and Reporting on Progress of Implementation of World Health Assembly Resolution WHA 49.1.

QUESTIONNAIRE [2]

Strengthening Nursing and Midwifery in Support of Strategies for Health for All
Monitoring and Reporting on Progress of Implementation of World Health Assembly Resolution WHA 49.1

This questionnaire is intended to describe the current situation in nursing and midwifery and to support the efforts of Member States to monitor progress in the implementation of World Health Assembly resolution WHA 49.1, "Strengthening nursing and midwifery." The process of monitoring and its results will be useful in assessing the current situation, and in providing input for the necessary policy changes to promote the strengthening of nursing and midwifery services, as essential and integral parts of national health policies and services. The information requested in the questionnaire is a **country-wide assessment** and includes both public and private health care services.

The completed questionnaire should be returned to the attention. of Dr. Daniel López Acuña, Director of Division of Health Systems and Services Development, Pan American Health Organization, 525 23rd Street, NW - Washington, D. C. 20037, no later than **15 June 2000**, as the data will be analyzed in preparation of a progress report on WHA resolution 49.1.

Please convene a group, from the Government and private sectors, including senior Ministerial policy makers and representatives of nursing and midwifery associations to work together in compiling the necessary information. The questionnaire is then completed by the Chief Nursing and/or Midwifery Officer or relevant focal point, in the absence of a Chief Officer.

[2] A copy of the questionnaire in automated format can be provided by the local PAHO office or by contacting Dr. Sandra Land, 525 23rd Street, NW., Washington, DC 20037-USA, Tel (202) 974-3214, Fax (202) 974-3641, email landsand@paho.org
Use additional pages as needed.

Country _____

1 Health Care Reform and National Health Policy **Since 1996, has your country undertaken any health care reform initiatives?** ☐ Yes ☐ No If yes, briefly describe the initiatives undertaken.

If yes, describe to what extent nurses and midwives were involved in these initiatives (in planning, evaluation, monitoring, etc)	
Nurses	**Midwives**
1.4 Since 1996, describe to what extent nurses and midwives have been involved in the development of national health policies.	
Nurses	**Midwives**
National Action Plans for Health, Nursing and Midwifery Is there a national action plan for nursing/midwifery in your country	
☐ Yes ☐ No If yes, please answer questions 2.2 and 2.3. If no, please proceed to question 2.4.	

2.2 Please state the year in which the plan was formulated **Nursing** **Midwifery**	
2.3 Has the plan received approval by the National Ministry of Health? ☐ Yes ☐ No If yes, please state the year the plan was approved _____.	
2.4 Is a nursing/midwifery action plan an integral part of the national health plan? ☐ Yes ☐ No If yes, please explain. If no, please proceed to question 2.7.	
2.5 Please list and describe the priority areas for nursing and midwifery development which are included in the action plan (be specific). **Nursing** **Midwifery**	
Priority area:	Priority area:

Priority area:	Priority area:
Priority area:	Priority area:
Priority area:	Priority area:

2.6 Please describe the extent to which this plan has been implemented, including actions taken in each of the priority areas and mechanisms for monitoring and evaluating the plan.

Priority Area	Actions	Monitoring and Evaluation

Priority Area	Actions	Monitoring and Evaluation
Priority Area	Actions	Monitoring and Evaluation

Priority Area	Actions	Monitoring and Evaluation
Priority Area	Actions	Monitoring and Evaluation

2.7 If there is no national action plan for nursing/midwifery and if a nursing/midwifery action plan is not a part of the national health plan, are there plans to formulate a national action plan for nursing/midwifery?

☐ Yes ☐ No

If yes, please describe the plans.

3A Opportunities for Nurses and Midwives to receive Fellowships in Nursing and Health-Related Fields

3A.1 Since 1996, has there been any change in the number of fellowships supporting basic education and post-graduate education for nurses and midwives?

Nurses

	Increased	Decreased	No Change	Info not Available
Basic education	☐	☐	☐	☐
Post-basic education	☐	☐	☐	☐
Masters	☐	☐	☐	
Doctoral	☐	☐	☐	

Midwives

	Increased	Decreased	No Change	Info not Available
Basic education	☐	☐	☐	☐
Post-basic education	☐	☐	☐	☐
Masters	☐	☐	☐	
Doctoral	☐	☐	☐	

3B Opportunities for Nurses and Midwives to receive PAHO/WHO Fellowships in Nursing and Health-Related Fields

3B.1 Since 1996, has there been any change in the number of fellowships supporting basic education and post-graduate education for nurses and midwives?

Nurses **Midwives**

	Increased	Decreased	No Change	Info not Available
Basic education	☐	☐	☐	☐
Post-basic education	☐	☐	☐	☐
Masters	☐	☐	☐	
Doctoral	☐	☐	☐	

	Increased	Decreased	No Change	Info not Available
Basic education	☐	☐	☐	☐
Post-basic education	☐	☐	☐	☐
Masters	☐	☐	☐	
Doctoral	☐	☐	☐	

3.2 Since 1996, do more nurses and midwives have access to university education?

Nurses	**Midwives**
☐ Yes ☐ No	☐ Yes ☐ No
If yes, please specify	If yes, please specify

4 Monitoring and Evaluation of the Progress Toward Attainment of National Health and Development Targets, in Particular, the Effective Use of Nurses and Midwives in the Priority Areas of Equitable Access to Health Services, Health Protection and Promotion, and Prevention and Control of Specific Health Problems.

Since 1996, has an assessment of the deployment and utilization of nurses and midwives been conducted?

☐ Yes ☐ No

If yes, please specify

4.2 If yes, please list the 3 most important findings, give references if available.	
4.3 Since 1996, has there been any change in the number of continuing education programmes for nurses/midwives?	
Nurses	**Midwives**
☐ Yes ☐ No If yes, please specify:	☐ Yes ☐ No If yes, please specify:
4.4 Since 1996, has there been any change in the expectation of maintaining professional competence?	
Nurses	**Midwives**
☐ Yes ☐ No If yes, please specify how it is achieved: (e.g., credit hours of CE, number of hours attended CE, taking advanced courses; author or publication, etc.):	☐ Yes ☐ No If yes, please specify how it is achieved: (e.g., credit hours of CE, number of hours attended CE, taking advanced courses; author or publication, etc.):

4.5 Since 1996, has there been any change in the number of **budgeted posts** for nurses and midwives:	
Nurses	**Midwives**
☐ Yes ☐ No	☐ Yes ☐ No
4.6 Since 1996, has there been any change in average salaries or benefits for nurses or midwives?	
Nurses	**Midwives**
☐ Yes ☐ No If yes, please specify % of change: 10%, 20%, 50%, > 50%	☐ Yes ☐ No If yes, please specify % of change: 10%, 20%, 50%, > 50%
Since 1996, has there been any change in the degree of autonomy of Nursing and Midwifery?	
Nursing	**Midwifery**
☐ Yes ☐ No If yes, what has contributed to the autonomy of Nursing and Midwifery? If no, what are the reasons? Any recommendations for strategies for change?	☐ Yes ☐ No If yes, what has contributed to the autonomy of Nursing and Midwifery? If no, what are the reasons? Any recommendations for strategies for change?

4.8 Since 1996, has there been any changes in the number of Nurses and Midwives Managers who served in the following positions? Please indicate numbers if available.

Nurses			**Midwives**		
Central government level	☐ Yes	☐ No	Central government level	☐ Yes	☐ No
Provincial/Regional/State/City level	☐ Yes	☐ No	Provincial/Regional/State/City level	☐ Yes	☐ No
Health services administration	☐ Yes	☐ No	Health services administration	☐ Yes	☐ No
Finance administration	☐ Yes	☐ No	Finance administration	☐ Yes	☐ No

Please list the total number of qualified nursing & midwifery personnel in your country (those who have passed a formal education programme, including nurses, midwives, enrolled nurses, community and public health nurses, and nurse practitioners or other categories of nurses who work as mid-level practitioners), and the number of nursing personnel per 10 000 inhabitants.

Total _____ Number/10 000 inhabitants _____

4.10 Please list the total number of qualified medical doctors in your country (including specialists and general or family practitioners and surgeons), and the number of medical personnel per 10 000 inhabitants.

Total _____ Number/10 000 inhabitants _____

4.11 Please list the percentage of nursing & midwifery personnel as a percentage of total number of overall health care personnel (including allied health personnel and medical personnel).

_____ %

4.12 Please list the percentage of nurses & midwives working in:

Public sector _____ % Private sector _____ %

4.13 Please list the percentage of nursing & midwifery personnel working in the following settings: Primary health care settings _____ % Hospitals _____ %

Other health care facilities _____ %

4.14 If nurses work in other health care facilities, please specify which other health care facilities.

4.15 Is there a lack of nursing personnel in:

Primary health care settings ☐ Yes ☐ No

Hospitals ☐ Yes ☐ No

Other health care facilities ☐ Yes ☐ No

If yes is checked under "other health care facilities," please specify which other health care facilities:

4.16 Is there a lack of nursing & midwifery personnel in:

Urban areas ☐ Yes ☐ No

Rural areas ☐ Yes ☐ No

5 Strengthening of Nursing/Midwifery Education and Practice in Primary Health Care

Since 1996, has there been a change in **nursing and midwifery basic and/or post-basic, post-graduate curricula** to reflect strengthening of Primary Health Care (PHC) content?

Nursing ☐ Yes ☐ No Midwifery ☐ Yes ☐ No

5.2 Since 1996, has the quality of nursing/midwifery education been reviewed/upgraded in:

Nursing			**Midwifery**		
Basic education	☐ Yes	☐ No	Basic education	☐ Yes	☐ No
Continuing education ☐ No		☐ Yes	Continuing education No		☐ Yes ☐
Post-basic education	**☐ Yes**	**☐ No**	**Post-basic education**	**☐ Yes**	**☐ No**
Masters	**☐ Yes**	**☐ No**	**Masters**	**☐ Yes**	**☐ No**
Doctoral	**☐ Yes**	**☐ No**	**Doctoral**	**☐ Yes**	**☐ No**

5.3 Since 1996, has there been any change in the number of women in higher education?

☐ Yes ☐ No

If yes, please specify

5.4 Since 1996, has there been any change to the number of Nursing and Midwifery Masters programmes?

☐ Yes ☐ No

If yes, please specify

5.5 Since 1996, has there been any change to the number of Nursing and Midwifery doctoral programmes?

☐ Yes ☐ No

If yes, please specify

5.6 Since 1996, has there been any change in the number of post-basic education?

☐ Yes ☐ No

If yes, please specify

5.7 Since 1996, has there been any changes in the number of health services research involving Nursing and Midwifery?

Nursing	**Midwifery**
Yes ☐ No If yes, please specify:	☐ Yes ☐ No If yes, please specify:

5.8 Has there been implementation of any changed pattern of work since 1996 (such as a focus from hospitals to primary health care and non-institutional services)?

☐ Yes ☐ No

If yes, please give examples:

5.9 Is there regulation or legislation governing the nursing profession? ☐ Yes ☐ No
5.10 Is there statutory registration of nursing personnel? ☐ Yes ☐ No
5.11 Is there an obligation to prove professional nursing competence regularly? ☐ Yes ☐ No If yes, please explain:
5.12 Are nurses required to participate in in-service education or staff development training? ☐ Yes ☐ No
5.13 Are quality assurance and nursing standards a part of the national health service system? ☐ Yes ☐ No
5.14 If yes, please give one or more examples:

Questionnaire completed by:

Name, Title _____

Date _____

Thank you for completing this questionnaire.

Please add any comments or additional information below.

Your effort in completing this questionnaire enables PAHO/WHO to provide important feedback to Member States.

This is a crucial step towards future progress in strengthening nursing and midwifery and national health care systems.

ANNEX C

Names of respondents from member countries responding to questionnaire evaluating Resolution 49.1.

Country	Name(s) of person(s) who filled out survey
A&B	Mrs. Ivy-Jean Benjamin, PNO.
ARG	Manuela M. Sgaramello, Médica.
BAH	no survey received.
BAR	Esther L. Gabriel, Chief Nursing Officer.
BEL	Marjorie E Joseph-Parks, Chief Nursing Officer.
BOL	Lic. Esther Moldes, Jefe Nacional de Enfermería.
BRA	Janine Schirmer, Dra. Enfermería Maternoinfantil, Área Técnica Salud de la Mujer, Ministerio de Salud.
CAN	Judith Shamian, Executive Director, Office of Nursing Policy, Health Canada.
CHL-nsg	Gerardo Herrera, Enfermero, Asesor, Unidad de Control de Gestión, División de Salud de las Personas, Ministerio de Salud Mac Iver 541, 4 piso, Santiago de Chile. Colaboraron enfermeras del Ministerio de Salud, Enfermera encargada de la oficina de Enfermería del Ministerio de Salud, Instituto de Salud Pública y Colegio de Enfermeras Asociación gremial.
CHL-mid	Midwifery: Matrona Myrian Senoret Soto; Asesora Ministerial, encargada de la Matronería en la Oficina de Enfermería y de Matronería. Colaboraron: (todas matronas) Ana Ayala (programa de la mujer), Marta Prieto y Alicia Gaete, (unidad de cancer), Sabina Pineda (División de Atención primaria de salud), Natalia Meta (integrante de la Corporación Nacional del SIDA

(CONASIDA), Monica Ciu (Depto. Epidemiología).

COL Flor Tellez de Lopez, Enfermera Ministerio de Salud, Dirección General de Desarrollo de la Prestación de Servicios de Salud y María Iraidis Soto, Directora Ejecutiva de la Asociación Colombiana de Facultades de Enfermería.

COR Lic. Lidieth Barrantes Murillo, Jefe Sección de Enfermería, Caja Costarricense Seguro Social.

CUB Lic. Belkis Feliu Escalona.

DOM Ophelia Linton, Principal Nursing Officer.

DOR Rigoberto Centeno (with collab. With the Nat'l Nursing Association).

ECU Dr. Alberto López, médico (with collab.- Nat'l Nursing School, Ecuadorian Association of Nursing Schools and OB faculty at the Central University.

ELS Elena Elisabeth Reyes de Guzmán, Jefa de la División de Enfermería del Ministerio de Salud Pública y Asistencia Social.

GRE Ana Francis, Chief Community Health Nurse.

GUA Rutilia Herrera, Enfermeria, Licenciada en Educación para la Salud. Directora del Departamento de Educación de Enfermería de Guatemala.

GUY Joan Barry, Chief Nursing Officer.

HAI no survey received.

HON Lic. Zulema Aguilar y un grupo de enfermeras del país.

JAM Mrs. Thelma Deer-Anderson, Chief Nursing Officer.

MEX	Georgina Velázquez Díaz.
NIC	Lic. Ernestina Figueroa E.
PAN	Lic. Eda Medina de Wong.
PAR-mid	Lic. Dominga Ricuelme.
PAR-nsg	Lic. Raquel Mendez, Lic. Enfermería.
PER	Dra. Cecilia Costa Esparza- Asesora Despacho, Vice-Ministro Salud.
SKN	Henrietta Douglas, PNO.
STL	Susana Jolie, Principal Nursing Officer.
SVG	Aberdine Browne, Chief Nursing Officer.
SUR	NO NAME GIVEN.
T&T	Erica Phillip, Chief Nursing Officer.
URU	Haydee Ballestero, Lic. En Enfermería.
USA	Denise H. Geolot, PhD, RN, FAAN, Director, Bureau of Health Professions, Division of Nursing, DHHS.
VEN	Dirección de Servicios de Salud, Dra. Romilie Rosales de González, Lic. Luis López More, Lic. José Pautoje y Lic. Amilie Acoste de Silve

Table 1. Member countries of PAHO by level of economic development.

Low	Lower-Middle	Upper-Middle	High
Bolivia	Cuba	Belize	Antigua & Barbuda
El Salvador	Dominican Republic	Brazil	Argentina
Guatemala	Ecuador	Colombia	Bahamas*
Guyana	Jamaica	Dominica	Barbados
Haiti*	Paraguay	Grenada	Canada
Honduras	Peru	Mexico	Chile
Nicaragua	Suriname	Panama	Costa Rica
		St. Kitts/Nevus	Trinidad & Tobago
		St. Lucia	USA
		St. Vincent/Grenadines	Uruguay
		Venezuela	

Countries ranked using Human Development Index by the United Nations Development Programme (UNDP), 1995.

*Countries that did not return questionnaires.

Table 2. Summary of National Action Plans for Nursing and Midwifery.

Countries with a National Action Plan for Nursing/Midwifery	Countries with a NAP that has been approved by the Ministry of Health
Antigua & Barbuda	Argentina
Argentina	Barbados
Barbados	Brazil
Bolivia	Canada
Brazil	Chile
Canada	Costa Rica
Chile	Cuba
Costa Rica	Dominican Republic
Cuba	Grenada
Dominican Republic	Nicaragua
El Salvador	Paraguay
Grenada	St. Vincent/Grenadines
Guatemala	Suriname
Nicaragua	Trinidad & Tobago
Panama	
Paraguay	
St. Kitts/Nevus	
St. Vincent/Grenadines	
Suriname	
Trinidad & Tobago	
USA	

Table 3. Countries reporting changes in educational fellowships for nurses since 1996.

	Number (Percent) of Countries Reporting Change (N = 33)			
Education Level	Increase	Decrease	No Change	Not Reported
Basic	8 (24)	4 (12)	10 (30)	11 (33)
Post-Basic	11 (33)	7 (21)	6 (18)	9 (27)
Master's	9 (27)	6 (18)	8 (24)	10 (30)
Doctoral	3 (9)	3 (9)	8 (24)	19 (58)

Table 4. Countries reporting changes in educational fellowships for midwives since 1996.

	Number (Percent) of Countries Reporting Change (N = 33)			
Education Level	Increase	Decrease	No Change	Not Reported
Basic	4 (12)	3 (9)	7 (21)	19 (58)
Post-Basic	5 (15)	3 (9)	7 (21)	18 (55)
Master's	4 (12)	1 (3)	6 (18)	22 (67)
Doctoral	2 (6)	1 (3)	5 (15)	25 (76)

Table 5. Number of Qualified Nursing and Midwifery Personnel per 10,000 Inhabitants, by Subregion.

Subregion	Number per 10,000 Inhabitants
North America	
USA	96.5
Canada	74.6
	(mean = 62.2)
Latin Caribbean	
Cuba	75
Dominican Republic	3
	(mean = 39)
English Speaking Caribbean	
Antigua & Barbuda	32.2*
Barbados	52.2
Dominica	40
Grenada	25
Guyana	8.4*
Jamaica	12
St. Kitts/Nevus	44.5
St. Lucia	19
St. Vincent/ Grenadines	45
Suriname	27.8
Trinidad & Tobago	28.7*
	(mean = 30.4)
Central America	
Belize	15.2
Costa Rica	11.6
El Salvador	4.2*
Guatemala	3
Honduras	2.6
Nicaragua	3.5
Panama	11.6
	(mean = 7.4)
Southern Cone	
Argentina	5.2*
Brazil	4.9
Chile	10*
Paraguay	1.2
Uruguay	7.3
	(mean = 5.7)
Andean Area	
Bolivia	1.6*
Colombia	3.9
Ecuador	4.6*
Peru	6.7*
Venezuela	7.8
	(mean = 4.9)

* Numbers based on 1999 PAHO data (PAHO, 2000) and expert opinion.

Table 6. Number of Qualified Nursing and Midwifery Personnel per 10,000 Inhabitants, by Development.

Level of Economic Development	Number of Personnel per 10,000 Inhabitants
High	
Canada	74.6
USA	96.5
Barbados	52.2
Antigua & Barbuda	32.2*
Chile	10*
Costa Rica	11.6
Argentina	5.2*
Uruguay	7.3
Trinidad & Tobago	28.7*
	(mean = 35.4)
Upper-Middle	
Dominica	40
Panama	11.6
Venezuela	7.8
Mexico	15.4
Grenada	25
St. Kitts/Nevus	44.5
Colombia	3.9
St. Vincent/Grenadines	45
St. Lucia	19
Brazil	4.9
Belize	15.2
	(mean = 21.1)
Lower-Middle	
Suriname	27.8
Ecuador	4.6*
Jamaica	12
Cuba	75
Peru	6.7*
Dominican Republic	3
Paraguay	1.2
	(mean = 18.6)
Low	
Guyana	8.4*
Guatemala	3
El Salvador	4.2*
Bolivia	1.6*
Honduras	2.6
Nicaragua	3.5
	(mean = 3.8)

Numbers based on 1999 PAHO data (PAHO, 2000) and expert opinion.

Table 7. Summary of Member Countries which Require and do not Require In-Service Education or Staff Development Training for Nursing/Midwifery Personnel, by Development.

Level of Economic Development	Required	Not Required
High	USA Barbados Antigua & Barbuda Chile Uruguay Trinidad & Tobago	Canada Costa Rica Argentina
Upper-Middle	Dominica Venezuela Grenada St. Kitts/Nevus St. Vincent/Grenadines St. Lucia Brazil Belize	Panama Mexico Colombia
Lower-Middle	Suriname Jamaica Dominican Republic	Ecuador Cuba Peru Paraguay
Low	Guyana Nicaragua	Guatemala El Salvador Bolivia Honduras

Figure Captions

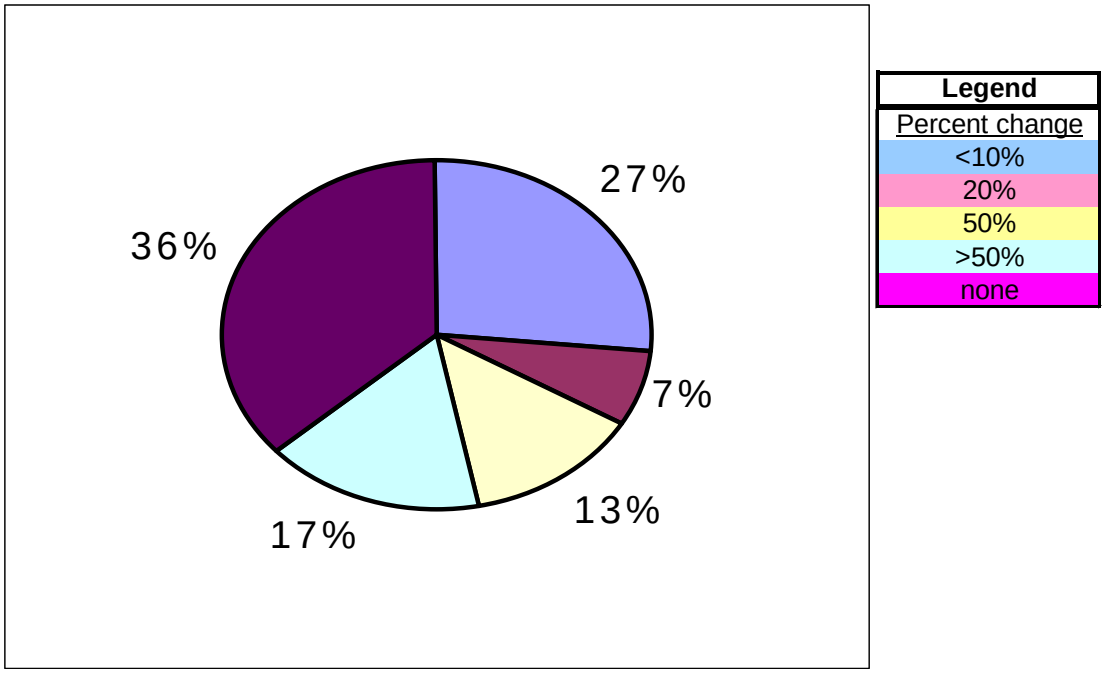

Figure 1. Percent change in average salaries or benefits for nurses since 1996 by country.

Figure 2. Percent change in average salaries or benefits for midwives since 1996 by country.