Canadian Journal of Nursing Research, 1999, Vol. 31, No. 3, 51–67

An Evaluation of WHA Resolution 45.5: Health Human Resource Implications

Linda O'Brien-Pallas, Miriam Hirschfeld, Andrea Baumann, Judith Shamian, Orvill Adams, Irmajean Bajnok, Evelyn Isaacs, Sandra Land, Jane Salvage, Sally Ann Bisch, Theresa Miller, Anwar Islam, and Marcia Luba

---

Linda O'Brien-Pallas, R.N., Ph.D., is Associate Professor, Faculty of Nursing, and Co-Principal Investigator, Nursing Effectiveness, Utilization and Outcomes Research Unit, University of Toronto, Ontario. Miriam Hirschfeld, R.N., D.NSc., is Special Advisor, Social Change and Mental Health (formerly Chief Scientist for Nursing, Division of Development of Human Resources for Health), World Health Organization, Geneva, Switzerland. Andrea Baumann, R.N., Ph.D., is Professor and Associate Dean, Health Sciences, and Co-Principal Investigator, Nursing Effectiveness, Utilization and Outcomes Research Unit, McMaster University, Hamilton, Ontario. Judith Shamian, R.N., Ph.D., is Executive Director, Nursing Policy, Health Canada, and Head, WHO Collaborating Centre for International Nursing Development in Leadership, Administration and Clinical Practice, Mount Sinai Hospital, Toronto. Orvill Adams, M.Sc., is Director, Department of Health Systems, World Health Organization, Geneva. Irmajean Bajnok, R.N., Ph.D., is Director, Business and Professional Development, Victorian Order of Nurses (Toronto Branch), Markham, Ontario. Evelyn Isaacs, Ed.D., M.P.H., R.N., is Nurse, Regional Programme for AIDS, WHO Regional Office for Africa, Brazzaville, Congo (formerly Regional Advisor for Nursing and Midwifery, WHO Regional Office for Africa). Sandra Land, R.N., Ph.D., is Regional Advisor for Local Health Services, WHO Regional Office for the Americas, Washington, DC. Jane Salvage, B.A., R.G.N., M.Sc., Hon. L.L.D., is Editor-in-Chief, Nursing Times, *London, UK (formerly Regional Advisor for Nursing and Midwifery, WHO Regional Office for Europe). Sally Ann Bisch, R.N., D.NSc., is Regional Advisor for Women's Health and Development (formerly Regional Nursing Advisor), WHO Regional Office for South-East Asia, New Delhi, India. Theresa Miller, R.N., M.P.H., is former Regional Advisor in Nursing, WHO Regional Office for the Western Pacific. Anwar Islam, Ph.D., is former Scientist, International Development Research Centre, Ottawa, Ontario. Marcia Luba, B.A., M.Ed., is Research Officer, Nursing Effectiveness, Utilization and Outcomes Research Unit, University of Toronto.*

L'Assemblée mondiale de la santé a approuvé le règlement AMS 45.5 en 1992. L'article qui suit fait état des résultats d'une évaluation de la mise en pratique de ce règlement par le biais d'une technique de sondage. Un total de 150 états membres de l'OMS on répondu, soit un taux de réponse de 79%. Les résultats indiquent que les progrès les plus importants accomplis dans le monde relèvent du domaine de l'éducation. Bien que les données indiquent la réalisation de progrès à l'échelle des pays, des actions doivent être entreprises pour renforcer la pratique infirmière et l'exercice des sages-femmes pour que ces ressources rentables puissent jouer un rôle décisif quant à l'amélioration de l'étendue et de la qualité des services, notamment dans un contexte où ceux-ci s'adressent aux populations les plus démunies.

The World Health Assembly approved resolution WHA45.5 in 1992. This paper reports the findings of an evaluation of the implementation of this resolution using a survey technique. A total of 150 WHO Member States responded, for a 79% response rate. Findings suggest that the greatest strides worldwide have been made in education. While the data show that progress has been made at the country level, far more action is needed to strengthen nursing and midwifery if these cost-effective resources are to play a decisive role in improving the extent and quality of services, especially as delivered to people in the greatest need.

World Health Assembly resolutions are passed by World Health Organization Member States in order to provide direction and shape policy internationally. Resolutions are usually developed by an executive committee of WHO based on needs or issues identified by Member States and/or global advisory groups. Within the WHO structure, Member States belong to one of six geographically contiguous regions: Africa, the Americas, Eastern Mediterranean, Europe, South-East Asia, and Western Pacific. In its very first session, in 1948, the WHA passed resolution WHA1.46 pointing out the need to increase the numbers of nurses and establish roles that would result in more appropriate use of nursing care in many countries (World Health Organization [WHO], 1948). Since then, several resolutions directed at strengthening the role of nursing and midwifery have received the unanimous support of Member States. To date there are no reported attempts to evaluate the implementation of resolutions. At the 45th WHA in 1992, Member States once again addressed the issues associated with nursing and midwifery resources. This resolution (WHA45.5) specifically addressed the continuing shortage of nursing and midwifery personnel and the urgent need to recruit, retain, and educate numbers of personnel sufficient to meet present as well as future community health needs.

The research was designed to determine the extent to which WHO Member States implemented elements of resolution WHA45.5 in the 2 years after the resolution was passed. The specific research question, derived directly from the elements of the resolution, was: To what extent, since 1992, have Member States: (1) completed assessment of nursing and midwifery resource needs, utilization, and roles and func-

tions; (2) strengthened nursing and midwifery education; (3) ensured nursing's contribution to health policy; (4) enacted legislation to support nursing and midwifery; (5) implemented strategies to strengthen management and leadership capabilities; (6) improved working conditions; and (7) ensured an adequate number of nursing and midwifery budgeted posts? This paper describes the key findings related to implementation of the resolution.

Background

In almost every country of the world, nursing and midwifery services are the backbone of the health-care system (World Bank, 1993). There are increasing demands for accessible and affordable quality health care throughout the world. At the same time, the incidence of disease and disability worldwide is staggering (WHO, 1995). Many national health systems are stretched to the limit, and substantial increases in the resources allocated to health are unlikely to be forthcoming (World Bank). Nurses and midwives have the potential to provide cost-effective care and thus to make a major contribution to the easing of many of these health problems. Indeed, *World Development Report 1993* (World Bank) notes that the most cost-effective way to provide essential care is through a combination of public health strategies and a package of essential primary care services, most of which can be delivered by nurses and midwives.

Health human resources (HHR) play a critical role in the protection, promotion, and restoration of the physical and mental well-being of populations. Use of these resources in ways that make the greatest contribution to improved health depends on the "effective deployment and utilization of human resources" (Ozcan, Taranto, & Hornby, 1995, p. 306). Given the efficacy of nursing to meet health needs, surprisingly little is known about how scarce nursing resources are managed in various countries throughout the world.

Methods

Study Design

The study used a cross-sectional survey design for the collection of quantitative and qualitative data. The study was conducted between November 1993 and August 1997.

Instrument development. A 37-item survey questionnaire was developed to identify efforts to implement resolution WHA45.5. A set

of questions structured around the seven key elements of the resolution was developed; country representatives were asked whether changes had been made in these seven areas since 1992, when resolution WHA45.5 was passed. Most questions asked respondents to indicate on a nominal scale whether a specific activity had been initiated (e.g., "Since 1992, have you conducted an assessment of the needs for nursing services?"). When an affirmative response was made, respondents were asked for qualitative descriptions of the findings with respect to each activity. Respondents who indicated that nothing had been done with respect to the item were asked to indicate whether an activity was planned, and to describe it. Questions related to availability of financial resources for basic education and fellowships were measured on an ordinal scale (1 = increased; 2 = decreased; 3 = no change). While nominal scaling techniques have their limitations (Streiner & Norman, 1989), simple nominal and ordinal response scales and requests for qualitative descriptions were used to enhance the reliability of the measure in the face of varying levels of experience, among Member States, in completing research surveys. There were two sources of potential bias in the survey method used. Streiner and Norman raise concerns about social desirability bias, and Babbie (1998) raises issues about recall bias. Both sources of bias are considered below, under **Discussion.**

The final set of survey questions examined progress related to: (1) conducting assessments for nursing and midwifery services (needs, utilization, and roles and functions); (2) strengthening education (change in nursing and midwifery curricula to reinforce primary-care content; review/upgrade of quality of basic, continuing, and post-graduate education; change in financial resources available to support basic, continuing, and post-graduate education; change in number of fellowships supporting basic and post-graduate education; and increase in number of nurses and midwives with access to university education); (3) health policies (change in contribution of senior nurses and midwives to health-policy development, major policy change in order to strengthen nursing and midwifery, and presence of a written/documented national action plan for nursing and midwifery development); (4) enacting legislation (reviewed or enacted legislation or regulations to ensure quality nursing and midwifery services and education); (5) strengthening managerial and leadership capabilities (increase in numbers of senior nursing and midwifery positions at central [ministry] and operational [region, province, district] levels and increase in number of managerial and leadership trainees); (6) working conditions (increase in salaries or benefits and improvement in career opportuni-

ties); and (7) adequacy of resources (change in the number of budgeted posts).

To ensure face validity, the questionnaire was reviewed by WHO Headquarters staff, regional nurse advisors in the six regions, and members of the WHO Global Advisory Group for nursing. The questionnaire was also submitted to the WHO Focal Group on Questionnaires, which approved its appropriateness and ethical acceptability. The 37-item questionnaire was piloted in the regions in March 1994. No major changes were identified and it was distributed in five languages (French, German, Russian, Spanish, and English) in August 1994.

Sample. The survey was sent to all 190 countries that were WHO Member States in 1994, as the goal of this study was to identify the activities of all Member States.

Data collection. The questionnaire was sent to the six WHO regional offices, which forwarded it to their Member States' national ministry of health (MOH) or the equivalent health authority. Each questionnaire was accompanied by an explanatory letter from the appropriate Regional Director requesting cooperation. Reminders were sent in March and June 1995, consistent with the technique defined by Dillman (1978).

Data Analysis

The data were analyzed using SPSS for Windows 6.0 (SPSS, 1993) for the quantitative data and Ethnograph 4.0 (Seidel, Kjolseth, & Seymour, 1994) for responses to open-ended questions. Data were validated to ensure accuracy of data entry using random verification. Nominal data were coded 1 for a "yes" response, 0 for a "no" response, and missing for a non-response. Percentages of yes responses were determined for each item overall and by region. The number of respondents for each reported percentage is also noted, as not all participating countries answered all questions. These methods differ from those used in the WHO study report, and, as a result, reported percentages differ (O'Brien-Pallas et al., 1997).

The comments made in response to open-ended questions were transcribed verbatim and content analysis was performed. A brief overview of these comments resulted in the emergence of keywords, which were then coded by two raters. The raters independently assigned codes to meaningful segments of data using the same broad categories. Inter-rater reliability was tested at three intervals. During the reliability tests, the assigned codes were discussed and updated on the

master coding sheet. Subsequent changes were made to previously coded data to ensure that the same coding definitions were employed throughout (Sandelowski, 1995). Once coding was completed and satisfactory levels of inter-rater reliability (85% agreement) achieved, Ethnograph 4.0 software was used to produce frequency counts of each code for all responses and for responses by Member State, region, and level of economic development as reported in *World Development Report 1993* (World Bank, 1993). The data were further collapsed into 15 broad themes. Frequency counts for each theme were produced by region. The broad themes were: benefits, salaries, shortages, demand, supply, deployment, roles and functions, financial resources, health policy, regulation and legislation, management of nursing and midwifery services, working conditions, research development, education, and assessments. This paper summarizes the qualitative responses provided for each question.

Results

Response Rate

A total of 150 Member States (79%) responded. By region, the number of Member States returning a completed survey compared to all possible respondents was: Africa 29/46, Americas 32/35, Eastern Mediterranean 12/22, Europe 42/50, South-East Asia 9/10, and Western Pacific 26/27. It should be noted that the response rates for Africa and Eastern Mediterranean were the lowest, at below 70%.

Assessment of Needs, Utilization, and Roles and Functions

The assessment of nursing and midwifery HHR involved the examination of three dimensions: needs, utilization, and roles/functions. Qualitative analysis of the narrative responses to these questions revealed that the responsibility for undertaking HHR assessments varied: In some countries, assessments were made at the central government level; in others, they were made by professional nongovernmental bodies, consultants, and researchers or by nursing and midwifery panels. The methods employed to examine needs, utilization, and roles/functions also varied in method used and degree of sophistication, ranging from informal evaluations to carefully designed studies. Reported approaches included review of standards of nursing and midwifery practice and related job evaluations, review of job descriptions, and work measurement studies to analyze components of tasks and functions.

Of the Member States responding to this item, 71% (n = 148) indicated that they had completed an assessment of nursing service needs since 1992, and 70% (n = 146) had completed an assessment of nursing service utilization. In comparison, fewer Member States reported assessments of midwifery service needs (60%, n = 126) and utilization (59%, n = 114). Overall, 61% (n = 142) of Member States had assessed the roles and functions of nursing personnel since 1992.

Of the 150 respondents, 129 provided narrative comments on the findings of their needs assessments; 114 countries commented on utilization assessments and 81 countries reported on roles and functions. The comments related to education, shortages, surpluses, regulations, and concerns about roles and functions. Countries that had completed assessments reported increasing demands for services, personnel shortages, and often inappropriate deployment of personnel.

Education

Ninety percent of participating Member States (n = 139) had reviewed/improved the quality of basic nursing and midwifery education since 1992; 83% (n = 132) had reviewed/improved continuing education and 75% (n = 122) had strengthened post-graduate education. A change in curricula to reflect greater primary health care (PHC) content had been made by 81% (n = 143) of Member States for nursing education and 73% (n = 124) for midwifery education (Table 1). A number of countries had made completion of secondary education a requirement for admission to nursing school or had begun to provide basic nursing education at the university level, and 63% (n = 141) indicated that university education had been made more accessible to nurses and midwives. However, only 40% (n = 117) reported increased resources for fellowships for post-basic education. Only 4% of WHO fellowships have been awarded to nurses and midwives.

Respondents' comments indicated that many strategies had been employed or were planned to enhance PHC content and improve the overall quality of nursing and midwifery programs. Strategies ranged from simple content reviews to integration of assessments of quality and PHC relevance. Some countries reported that they had no programs to review — their personnel were enrolled in foreign training programs.

Program changes and strategies to improve the quality of education included raising entry requirements; some countries considered it necessary to move basic education into the university, to improve the

Table 1 *Strengthening of PHC Content in Curricula and Review / Upgrade of Nursing and Midwifery Education, by Region*

Region (*N* responding / *N* in region)	Change in Curricula to Strengthen PHC Content				Review/Upgrade of Quality of Nursing and Midwifery Education					
	Nursing		Midwifery		Basic		Continuing		Post-Graduate	
	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*
Africa (29/46)	82.1	28	85.2	27	81.5	27	65.4	26	56.0	25
Americas (32/35)	89.7	29	59.1	22	100.0	29	92.6	27	73.1	26
Eastern Mediterranean (12/22)	90.9	11	90.0	10	100.0	11	100.0	11	87.5	8
Europe (42/50)	69.0	42	69.4	36	83.3	42	83.8	37	80.0	40
South-East Asia (9/10)	66.7	9	77.8	9	88.9	9	75.0	8	60.0	5
Western Pacific (26/27)	91.7	24	70.0	20	95.2	21	87.0	23	88.9	18
Total (150/190)	**81.1**	**143**	**73.4**	**124**	**89.9**	**139**	**83.3**	**132**	**74.6**	**122**

ability to fill changing and expanding roles. Some Member States reported strategies to increase the number of nurses and midwives with baccalaureate and graduate degrees; others reported development of education standards and evaluation of programs based on those standards, with regional examinations to monitor knowledge of PHC. However, there were comments to the effect that while basic education had been improved, improvements in practice were just beginning to be made. Some countries reported that continuing education programs were focused on such skills as breastfeeding and family planning, and some reported that education in PHC for nurses and midwives was part of multidisciplinary programs.

Some Member States commented that while the MOH might report increased efforts to improve education and increase PHC content in curricula, there was disagreement between the government and the profession about the extent to which changes had actually occurred. Many respondents reported that the government had a poor understanding of PHC, and that while there was discussion about enhancing the quality of nursing and midwifery education, political and personal conflicts blocked substantive improvements in programs. For example, some Member States reported that curriculum models suggested by MOHs were not consistent with the professional goal of making a university degree a requirement for entry to practice. Other Member States reported that advanced education and continuing education were considered irrelevant by key policy-makers in their health ministries.

Policy Involvement

Various efforts to include nurses and midwives in policy development were among the most frequently reported strategies for strengthening services at the bedside, and 73% of countries (n = 142) indicated that their contributions to policy development had changed. Fewer countries (57% of n = 142) reported major policy changes in support of nursing and midwifery (Table 2). Only half (51% of n = 141) had developed a written national action plan for nursing, 39% (n = 121) for midwifery. Further, only 42% (n = 117) had a nursing unit in the MOH, though 70% (n = 130) had a chief nursing officer at the ministry level, and some countries indicated that a designated individual or group within government was responsible for matters related to nursing and midwifery.

Participating Member States reported a variety of mechanisms and structures to facilitate contributions to policy development. The reported mechanisms through which nurses and midwives influenced

Table 2 *Contribution of Nurses and Midwives to Policy Development, Policy Changes, and Written National Action Plan, by Region*

Region (*N* responding / *N* in region)	Changes in Contributions of Senior-Level Nurses and Midwives to Health Policy Development		Major Policy Changes in Nursing and Midwifery		Written National Action Plan			
					Nursing		Midwifery	
	%	*n*	%	*n*	%	*n*	%	*n*
Africa (29/46)	89.3	28	46.4	28	46.4	28	44.0	25
Americas (32/35)	62.1	29	41.4	29	58.6	29	30.4	23
Eastern Mediterranean (12/22)	80.0	10	80.0	10	50.0	10	37.5	8
Europe (42/50)	63.4	41	63.4	41	42.5	40	26.5	34
South-East Asia (9/10)	66.7	9	55.6	9	55.6	9	55.6	9
Western Pacific (26/27)	80.0	25	68.0	25	60.0	25	54.5	22
Total (150/190)	**72.5**	**142**	**57.0**	**142**	**51.1**	**141**	**38.8**	**121**

policy varied according to how the word "contribution" was defined, the level at which the contribution was made, and the ways in which contributions could be made.

At one end of the continuum, about half the respondents reported that nurses and midwives had a major influence on policy development at the national level, through positions held in government or through an advisory/consultative process established with nursing and midwifery associations. Key policy initiatives included development of a nursing division within the MOH, improvements in education standards and access, development of legislation, and improvements in the numbers and deployment of HHR. A third of the Member States reported that policy contributions were made at regional levels and in individual work settings. At the other end of the continuum, approximately one fifth of the countries reported that nurses and midwives had a very limited role or none at all in the development of health policy.

Legislation

While two thirds (66%) of participating Member States (n = 143) indicated that legislation and/or regulations aimed at ensuring quality nursing services and education had been enacted or reviewed since 1992, half (49%, n = 100) indicated that such reviews had been completed for midwifery. Legislation was enacted or reviewed most often by Member States in Western Pacific region for nursing and in Africa region for midwifery. Legislation was enacted least often in South-East Asia region. The participating Members States that most frequently reported plans to enact or review legislation in the future were those in Americas region (nursing) and Eastern Mediterranean region and South-East Asia region (midwifery).

A total of 116 countries commented on issues associated with regulations and legislation; 31 reported that legislation had been drafted, and seven indicated that legislation was in the review process. Member States at low and lower-middle levels of economic development were determining what laws should be in place for services, attempting to develop nursing and midwifery boards, revising nursing regulations, and developing standards following the direction provided by the International Council of Nurses. Some reported that legislation related to nursing and midwifery had been drafted and submitted but was stalled at the MOH level. Four countries reported that no specific legislation existed.

Management and Leadership Skills

Forty-one percent of responding Member States (n = 146) indicated they had increased the number of senior nursing and midwifery positions at the central (ministry) level since 1992, while 59% (n = 142) reported increased numbers of nursing positions at operational levels. The majority of Member States (87% of n = 141) reported increases in numbers receiving training to strengthen leadership and management skills (Table 3). Comments by respondents suggested that despite the existence of management and leadership positions, these could not be filled because of lack of finances or lack of individuals with the requisite skills.

Appropriate Working Conditions and Adequate Resources

Sixty-two percent of participating Member States (n = 133; note that countries in Europe region did not respond to this question) reported improved career opportunities since passage of resolution WHA45.5. Sixty percent (n = 140) of Member States in all six regions reported increases in the number of budgeted posts. Respondents described using a variety of strategies to determine which resources should be increased. However, in many parts of the world severe shortages of nurses and midwives, coupled with the transition period inevitably associated with initiating new education programs, resulted in a limited ability to fill posts. At the same time, poor salaries and limited career opportunities alongside shortages of personnel were reported. While 72% (n = 106; excluding Europe region) reported increases in salaries and benefits since 1992, several countries reported that because of financial crises nurses were not paid at all for months on end. Others reported that stagnating salary levels or actual decreases in salaries resulted in decreased purchasing power due to inflation or devalued currency at the country level.

Discussion

This study provides a "snapshot" in time and describes key activities of WHO Member States in relation to implementation of elements of resolution WHA45.5 to strengthen nursing and midwifery resources. Readers are cautioned that in some regions the response rate was low and that some questions were not answered by all respondents. Even with an almost 80% overall response rate, there is still potential for bias, as the 150 respondents may not be representative of all 190 Member States across the six WHO regions. The differential response rates for

Table 3 *Increases in Nursing and Midwifery Positions and Training Opportunities, by Region*

Region (*N* responding / *N* in region)	Central (Ministry) Level Increase in Senior Positions		Operational Level (e.g., region, province district) Increase in Senior Positions		Increase in Number Receiving Training to Strengthen Managerial and Leadership Skills	
	%	*n*	%	*n*	%	*n*
Africa (29/46)	37.0	27	55.6	27	85.2	27
Americas (32/35)	34.4	32	60.0	30	90.0	30
Eastern Mediterranean (12/22)	50.0	10	75.0	12	90.9	11
Europe 42/50)	42.9	42	47.5	40	82.5	40
South-East Asia (9/10)	33.3	9	88.9	9	100	8
Western Pacific (26/27)	50.0	26	58.3	24	84.0	25
Total (150/190)	**41.1**	**146**	**58.5**	**142**	**86.5**	**141**

the different regions may mean that for regions such as Africa and Eastern Mediterranean the estimates are not representative of the entire region. Also, the overall summary across regions may not adequately reflect values that would have been obtained had all Member States responded. Preliminary investigation of this issue indicates that the overall summary percentages are close to estimates weighted to ensure regional representation. However, it should be noted that any bias may possibly be an over-representation for some items and results must be viewed with all limitations in mind. Qualitative responses are reported verbatim, and the authors make no judgements about the efficacy of health policy reforms made on behalf of nurses and midwives by various countries throughout the world. As Borissov and Rathwell (1996) aptly caution, "even in the unlikely event that health care systems were identical, the political systems and the manner in which they function would most certainly be different" (p. 1505). Furthermore, social desirability bias is deemed to be minimal; given the candid and often blunt nature of the qualitative responses, we have faith in the respondents' honesty. Given the detail of the qualitative responses, recall bias is also deemed to be minimal. However, we have no way of knowing if either of these sources of bias influenced the decisions of the 40 Member States who did not submit a completed questionnaire.

Nevertheless, for the 150 responding WHO Member States this study provides a baseline understanding of the state of nursing and midwifery HHR in relation to a set of criteria established by resolution WHA45.5. In some developing countries the resolution may have been a motivating force for the initiation of new activities, while in others the activities might have been in place for some time and were being refined. If we accept the proposition put forth by the World Bank (1993) that the most cost-effective means of providing essential health care is a combination of public health strategies and a package of essential primary care services, most of which can be provided by nurses and midwives, then these findings can be used to pinpoint the areas requiring further work. The study data show progress at the country level, yet they also highlight the need for far more action.

By virtue of numbers, skills, and work location, nurses and midwives are positioned to ensure equitable access to health services, promote and protect health, and control or prevent specific health problems (World Bank, 1993). Accurate information on the numbers and use of personnel for planning purposes is central to improving the health of populations (Hall, 1988). Yet HHR planning is often limited by the lack of valid data sufficient to permit analysis. Countries that have a clear picture of the status of their nursing and midwifery resources and how

these resources are utilized and deployed are better positioned to ensure that other aspects of WHA45.5 are acted upon. Knowledge of human resources is the first step in strengthening them, yet approximately one third of Member States responding to these questions have not yet completed these reviews.

The study data suggest that Member States perceive that the greatest strides made worldwide have been in quality, content, and access to educational programs. In recent years a number of North American studies have identified the relationship between improved nursing education and better client outcomes (Aiken, Smith, & Lake, 1994; Blegen, Goode, & Reed, 1998; Blegen & Vaughn, 1998; Kovner & Gergen, 1998). Lack of access to the fellowships and awards necessary to pursue these studies was a deterrent in many countries. This study highlights the need for ongoing work to accurately define PHC content, congruent with the views of the professions and of those who fund educational programs designed to produce future providers.

While the professions of both nursing and midwifery are reported to have contributed to policy development since passage of resolution WHA45.5 in 1992, narrative comments suggest that numerous financial, social, and cultural barriers must be addressed before they can fully contribute in this area. Strategies must be taken at the country level to ensure that nurses and midwives directly influence decision-making related to health policy and legislation. Management and leadership skills are essential. If there is an inadequate supply of appropriately prepared individuals, senior budgeted positions will not be filled. If positions are filled by inadequately prepared individuals, the contribution to policy may not be substantial and the status quo will be maintained.

Nursing and midwifery services are at varying stages of development around the world. Although there are many common problems, the solutions have to be tailored to suit each country's unique needs and sociocultural practices. Solutions must be sought with the active participation of practitioners, educators, and managers who are representative of the communities in which nurses and midwives work. Data from this study support the conclusions of a WHO expert committee:

> The responsibility for coordination in health matters cannot lie solely with the nursing profession. Commitment to improving health status, through better health systems and effective use of human and fiscal resources, is the business of politicians, policy-makers, communities, individuals, and all health care workers. Support for the developments in nursing practice is a key element in improving health care systems; it too is everyone's business. (WHO, 1996, p. 22)

This study suggests that in some countries a great deal of collaborative work remains to be done before nursing and midwifery services can make a full impact on health.

Conclusion

This report was the first attempt ever to evaluate the outcomes of a World Health Organization resolution. It provides a baseline description of Member States' perceptions of the status of nursing and midwifery HHR in relation to the elements of the resolution. Findings suggest that there is a critical need to understand and support nurses and midwives in influencing policy and legislation, as well as improving their working conditions. The results suggest that while some progress has been made in understanding needs, utilization, and roles with regard to education, the other aspects of the resolution require immediate attention in order to prevent further erosion of the nursing and midwifery workforce. The findings can be used as a means of understanding the realities experienced by Member States when planning in-depth analyses with a view to reaching country-specific and region-specific solutions. Specifically, we need to understand the difficulties encountered in: database development and estimating numbers and types of human resources required; the influence of cultural, social, and contextual variables on role definition and implementation; and influencing decision-making, policy, labour relations, and working conditions.

References

Aiken, L., Smith, H., & Lake, E. (1994). Lower Medicare mortality among a set of hospitals known for good nursing care. *Medical Care, 32,* 771–787.

Babbie, E. (1998). *The practice of social research (8th ed.).* Belmont, CA: Wadsworth.

Blegen, M.A., Goode, C.J., & Reed, L. (1998). Nurse staffing and patient outcomes. *Nursing Research, 47,* 43–49.

Blegen, M.A., & Vaughn, T. (1998). A multisite study of nurse staffing and patient occurrences. *Nursing Economics, 16,* 196–203.

Borissov, V., & Rathwell, T. (1996). Health care reforms in Bulgaria: An initial appraisal. *Social Science & Medicine, 42,* 1501–1510.

Dillman, D.A. (1978). *Mail and telephone surveys: The total design method.* New York: Wiley.

Hall, T.L. (1988). Guidelines for health workforce planners. *World Health Forum, 9*(3), 409–413.

Kovner, C., & Gergen, P.J. (1998). The relationship between nurse staffing level and adverse events following surgery in acute care hospitals. *Image: Journal of Nursing Scholarship, 30,* 315–321.

O'Brien-Pallas, L.L., Hirschfeld, M., Baumann, A., Shamian, J., Bajnok, I., Adams, O., Isaacs, E., Land, S., Salvage, J., Bisch, S.A., Miller, T., Islam, A., & Luba, M. (1997). *Strengthening nursing and midwifery: A global study* (WHO/HDP/NUR-MID/97.2). Geneva: World Health Organization.

Ozcan, S., Taranto, Y., & Hornby, P. (1995). Shaping the health future in Turkey: A new role for human resource planning. *International Journal of Health Planning and Management, 10,* 305–319.

Sandelowski, M. (1995). Qualitative analysis: What it is and how to begin. *Research in Nursing and Health, 18,* 371–375.

Seidel, J.V., Kjolseth, R., & Seymour, E. (1994). The Ethnograph (Version 4.0) [Computer software]. Corvallis, OR: Qualis Research Associates.

SPSS for Windows (Release 6.0) [Computer software]. (1993). Chicago: SPSS Inc.

Streiner, D.L., & Norman, G.R. (1989). *Health measurement scales: A practical guide to their development and use.* New York: Oxford University Press.

World Bank. (1993). *World development report 1993. Investing in health: World development indicators.* New York: Oxford University Press.

World Health Organization. (1948). *Report of the first World Health Assembly* (unpublished document available on request from Documents Service, World Health Organization, 1211 Geneva 27, Switzerland). Geneva: Author.

World Health Organization. (1995). *Monitoring of progress in implementation of strategies for health for all by the year 2000, Third Report* (unpublished document A48/4 of the Forty-eighth World Health Assembly, available on request from Documents Service, World Health Organization, 1211 Geneva 27, Switzerland). Geneva: Author.

World Health Organization. (1996). *Nursing practice: Report of a WHO expert committee* (WHO Technical Report #860). Geneva: Author.

Author Note

The contributions of all individuals involved in this study are greatly appreciated, particularly the statistical advice of Gerarda Darlington.

The study was funded by the International Development Research Council, Canada.