

Chapter 9

Global Issues in Critical Care Nursing

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LEARNING OUTCOMES: After completing this e-chapter you will be able to:

- **Understand the history and challenges of creating a critical care global community**
- **Identify the major themes and issues challenging the critical care community**
- **Understand the similarities and differences in resources and capabilities of different regions of the world and how this can impact on priorities and choices**
- **Become familiar with the various global and regional critical care federations of the world, their purpose, scope and activities.**
- **Examine the different approaches being used to research and understand global issues in critical care.**
- **Identify the current and proposed global initiatives being lead by various groups to address some of the “big” issues in critical care today.**
- **Examine the issues confronting critical care in your own situation and explore what you and your colleagues can do, ie Think global, act local!**

DEFINITIONS

Critical Care Nurse: Critical care nursing is specialised nursing care of critically ill patients who have manifest or potential disturbances of vital organ functions. Critical care nursing means assisting, supporting and restoring the patient towards health, or easing the patient’s pain and preparing them for a dignified death. The aim of critical care nursing is to establish a therapeutic relationship with patients and their relatives

and to empower the individuals' physical, psychological, sociological and spiritual capabilities by preventive, curative and rehabilitative interventions (WFCCN, 2007).

Critical Care Nursing Organisation (CCNO): A critical care nursing association is an association or society of critical care nurses. Or it is a separate critical care nurses section within a health professional association with its own constitutions, regulations and rules. (WFCCN, 2007).

GDP (purchasing power parity): compares the gross domestic product (GDP) or value of all final goods and services produced within a nation in a given year. A nation's GDP at purchasing power parity (PPP) exchange rates is the sum value of all goods and services produced in the country valued at prices prevailing in the United States. (CIA, 2014)

CHAPTER OVERVIEW

Technological and intellectual sophistication has dramatically changed our world forever. Healthcare advancements in particular have eradicated some diseases and enabled us to save many lives from illness and disease that would once have been futile. Critical care has been a significant player in the healthcare armoury for the last 50 years of human existence and is now consuming a significant proportion of the healthcare cost in many countries. For instance in the USA, the cost of a critical care medicine bed is >\$3500 per day, with an estimated cost of \$81.7 billion per year for ICU costs overall, representing >13% of total annual hospital costs (Halpern & Pastores, 2010). As a specialty field, critical care is an expanding area of healthcare. The first ICUs were established in the late 1950s and many improvements have been made in terms of technological advances and understanding of the pathophysiology and pathogenesis of the disease processes that affect critically ill patients (Vincent, 2013). Critical care medicine has evolved over the years in terms of structure, process, and outcomes. Improved diagnostics, expansion of the service beyond the physical walls of the ICU, and better national and international collaborations with colleagues across the globe are just some of the many changes that have occurred since the first ICUs were developed some 60 years ago (Weil & Tang, 2011; Grenvik & Pinsky, 2009; Ristagno & Weil, 2009; Vincent, 2013). However for critical care nurses who deliver care to the world's most critically ill people, the issues from their perspective has only recently been captured and shared. In this chapter we explore the perspective of critical care nursing leaders and how they define the most important and significant issues for critical care globally. In short the three major themes remain workforce conditions, education and training and accessibility to useable clinical guidelines and protocols relevant to the context of their practice.

Context has also become an important aspect of these discussions. Recent studies have shown that there are differences in perspective that may be generalized between poor and richer nations. For instance, provision of salary and wages, education and training and access to useable technology remains a significantly important need of nursing in developing and poor countries compared to richer countries, while richer countries want to see the advancement of research programs and addressing significant moral issues such as end-of-life decision making. This chapter explores what the past 15 years of worldwide critical care nursing surveys have informed us about these and other issues that have significance to critical care nurses and to the practice of critical care globally.

OVERVIEW

It is self evident that as long as human beings have inhabited this earth, they have been afflicted by critical illnesses, often prematurely impacting their potential life expectancy. However a global view of health care and critical care specifically is a relatively new phenomena. Indeed a truly “global view” has only really been possible in the last 50 years or so. Prior to this, statistics and information were only available in the more developed countries, and even then much of the information was confined to individual countries or well developed regions (Farewell & Johnson, 2010) or groups of countries.

In the early 1950s, the poliomyelitis epidemic inspired the formation of specialist respiratory wards and specialist nurses and doctors to care for the patients afflicted by this condition and later, similar life threatening medical conditions. By the early 1970s as intensive care practices were beginning to specialise, many national critical care medicine societies were being formed. The first World Congress of intensive care medicine occurred in London 1974 and the formation of the World Federation of

Societies of Intensive and Critical Care Medicine (WFSICCM) occurred at the 2nd World Congress in 1977, hence establishing the specialty of intensive/critical care as a globally recognised specialty of medicine. During these formative years, intensive and critical care nursing played a less visible but none-the-less important role in forming the speciality that was eventually charged with the responsibility of caring for the hospital's most critically ill patients in a separate specialised department, Intensive Care.

The development of critical care nursing evolved out of the need for intensive monitoring of critically ill patients. Patients who require critical care treatment are often physiologically unstable, at risk, or in danger of dying. At the same time, intensive care is provided to patients with the expectation for survival. Thus, critical care combines physiological instability with the hope for recovery (Fairman & Lynaugh, 1998). Florence Nightingale was one of the first nurses to advocate for the placement of patient's requiring "intensive" or large amounts of nursing care close to the nurses desk. This concept evolved over time to the care of critically ill patients, who required direct or more frequent nursing observations (Fairman & Lynaugh, 1998). As a result of the nature of critical illness, patients in intensive care unit settings (ICU) require vigilant nursing care, often with 1:1 or 1:2 nursing to patient ratio's.

The role of the critical care nurse is essential to the multidisciplinary team needed to provide specialist knowledge and skill when caring for critically ill patients (WFCCN, 2005a). The critical care nurse enhances delivery of a holistic, patient centred approach in a high tech environment bringing to the patient care team a unique combination of skill, knowledge and caring. In order to fulfil their role, nurses require appropriate

specialised knowledge and skills not typically included in the basic nursing programs of most countries (WFCCN, 2005b).

The first critical care nursing society was the American Association of Critical Care Nurses (AACN) formed in 1969 and has always been a leader and advocate for critical care nurses in the USA (AACN, 2015). However, many other intensive care nurses in other parts of the world would, and still do, join medical societies or only participate in activities of the medical society that were open to broader participants such as conferences or teaching programs.

Trying to capture and therefore understand the needs of critical care nurses from a global perspective has, until recently, been difficult. Lacking financial, political, communication tools and resources has made international networking and collaboration difficult for many critical care nursing leaders especially those who were eager to participate in collaboration beyond their own country and region.

The oral history of the participation of critical care nurses at the World Congress every 4 years from the 4th world congress in Tel Aviv, Israel in 1985 to the 7th world congress in Ottawa, Canada in 1997, informs us that satellite meetings of critical care nursing leaders at these congresses expressed the need and desire to form a global network to improve communication, collaboration and cooperation beyond the congress, but alas such goals were elusive due to the same limitations identified earlier.

In 2001 at the 8th World Congress of Intensive Care, 44 nursing leaders from 15 countries met in a satellite meeting of the congress and 8 national critical care nursing organisations pre-arranged their representative to “sign up” to the formation of the

World Federation of Critical Care Nurses (WFCCN) and so started a movement that would ultimately help to identify and respond to issues concerning critical care nurses globally.

An approach to defining global issues from a critical care nursing perspective

Prior to the formation of the WFCCN, a small team of colleagues who had met at the World Congress in Ottawa in 1997, agreed to conduct a survey that would be sent to all known critical care nursing leaders in the world using a snow-balling method to capture as many participants from as many countries as possible through personal contacts and acquaintances.

The first worldwide survey of critical care nursing organisations and nurses was designed to:

- Identify as many critical care nursing organisations from as many countries as possible and obtain their details.
- Identify the relative importance of 14 issues for critical care nurses in their countries. These issues had been pre-identified by an expert panel of critical care nursing leaders using a modified Delphi technique. The respondents were also asked to expand their comments in free text with respect to the 3 most important issues they identified.
- The third section of the survey asked respondents to identify the services that CCNOs provided to members and to rank the importance of these issues whether provided or not in their country
- The final section explored the feasibility and purpose of an international network of critical care nursing organisations, which was eventually

agreed and formed under the umbrella of WFCCN. (Williams et al., 2001)

Similar surveys asking similar questions have been conducted in 2005 (Williams et al., 2007), 2009 (Williams et al., 2012) and 2013 (Williams, Fulbrook, Kleinpell, Schmollgruber & Alberto, 2015).

RESULTS

Over the last 4 worldwide surveys of critical care nurses, a number of interesting trends and discoveries have occurred.

The total number of countries represented in each survey are summarised in Table 1.

Whilst these results only represent a fraction of all world countries, they generally represent the populous countries of the world and in recent times have represented a far more diverse profile of countries than at the start.

The most important issues over the 4 surveys have been summarised in Table 2. The final two columns of Table 2 represents the overall rank order of the issues over time with the issue having the lowest score being the one that has most consistently ranked most important over the 4 X 4 year surveys conducted thus far. The top 5 issues for critical care nurses over this time have consistently been staffing levels, access to education programs, working conditions, teamwork, provision of formal practice guidelines and competencies.

The results of the 2013 survey were analysed using relative wealth of the countries participating (Williams et al., 2015). Categorization was based on the respondent's national gross domestic product (GDP) and per capita purchasing power parity (CIA, 2014). The low-income group were determined to be those countries whose GDP per capita was ranging from \$US 400 to \$US 5800 (CIA, 2014). Middle-income countries were those with GDP per capita between \$US 5800 and \$US 18600, with high-income countries were between \$US 18600 to \$US 62400. (Table 3)

Table 4 shows the relative importance of issues as determined by respondents from different wealth groups. This particular study in 2013 demonstrated that we could no longer consider global issues as homogenous across the world.... *In fact we should never have made such an assumption in earlier studies!* Previously we had analysed issues by region of the world that showed relatively few, if any, significant differences in issues for critical care nurses. However, when analysing issues for critical care nurses in this latest 2013 study significant differences were noted between relative wealth groups. For instance when analysing the most important issues for critical care nurses high-wealth countries scored less than the overall mean score for all issues discussed, and low-wealth countries ranked all issues higher than the overall mean. In addition using ANOVA with post hoc tests to compare scores between wealth groups, high-wealth countries had statistically significant lower scores compared to middle- and lower-wealth countries regarding access to educational programs, wages, use of technologies, and relationships with doctors. Lower-wealth countries ranked facilities and equipment statistically more important than other groups (Williams et al., 2015).

The authors in the 4th survey noted that “what is important and appropriate to nurses in a wealthy country often does not apply to those in poorer countries and international organizations such as WFCCN need to be mindful that they do not become ‘professional colonials’ by imposing the opinions and values of one group (rich) onto another (poor) (Williams et al., 2015).

Therefore, caution must be used when making sweeping generalisations regarding the importance of issues globally to critical care nurses as subtle differences do occur especially between rich and poor.

DISCUSSION:

The following discussion will focus on the 5 most consistently identified issues for critical care nurses as shown in Table 2 and the points of difference between richer and poor countries as shown in Table 4.

1. Staffing levels,

The findings suggest that there is a consistent global concern related to a health care workforce shortage and this issue is expected to become worse in the coming decade (World Health Organization, 2013). From time to time concern for staffing levels has been overshadowed by a relative nursing over supply commonly seen during economic downturn and recession (Staiger, Auerbach, & Buerhaus., 2012).

However our survey has previously been sensitive to the global nursing workforce issues in 2001 and may well be predicting the commencement of an emerging critical care nursing shortage is again in 2013 (Williams et al., 2015).

There is a clear need for sophisticated workforce planning at the local, national and international level. Mechanisms are needed to help inform policy makers and governments to pre-empt and plan for shortages and to manage over supply carefully to ensue relative equilibrium across the system. At a macro-level international efforts to stabilize nursing generally are being led by many although specific actions for specialties such as critical care are not recognized specifically.

2. Working conditions (including wages)

In the most recent study working conditions were rated first, staffing levels (3rd) and wages (6th) most important ranked issues (Williams et al., 2015). Workforce and working conditions are also areas of strong concern for many nursing leaders around the world (Buchan, O'May, & Dussault, 2013; De Córdova et al., 2013; Staiger, Auerbach, & Buerhaus, 2012) although in our survey wages per se were significantly less important in countries with higher incomes. It would appear that wages are important but other factors like staffing ratios, workloads and family friendly roster schedules are also important factors for critical care nurses.

Again we found wealthy countries had significantly less concern for appropriate wages and technology while poorer countries were significantly more concerned for the standard of facilities and technology in their countries. Intuitively, this is not surprising but as the authors concluded 'one size does not fit all' and this needs to inform the approach of international organizations such as WFCCN and others. High-income countries offer better remuneration, professional advancement and career opportunities, and a safer working environment than low-income economies (Aluttis, Bishaw, & Frank, 2014; de Mesquita, 2005) these matters may also influence the overall perceptions of working conditions.

3. Access to education programs and competency training

The WHO emphasizes that the increasing complexity involved in providing healthcare and the need to ensure more equitable access to health care now mandate the need for global standards for nursing education and practice (World Health Organization, 2009).

Access to education programs has remained an important issue in all countries and one of the most common free text discussion points in all surveys conducted by our

teams. However, as with wages, it was evident that the provision of quality education programs was significantly less important among the high-income countries compared to others. This may be attributed to the improved provision and access to educational programs in the wealthier countries, especially through online/internet access highlighted in earlier surveys (Williams et al., 2012). CCNOs and nursing leaders in countries with low incomes will need to find appropriate and affordable ways to improve access to quality education programs. Developing awareness of this need through the networks of WFCCN and other global organizations may provide an opportunity for the wealthier countries to collaborate and raise support to assist their colleagues in poorer countries. In regards to education, WFCCN and other international nursing and health care organizations may have an instrumental role to assist developing countries to work from similar clinical guidelines that could be taught through education and training programs or made accessible via the internet or through other means.

4. Teamwork

This issue has been difficult to interpret and needs to be examined more deeply. In our surveys, the respondents indicated that their relationship with doctors and with other professions was a low priority compared to other items. The fact that many respondents identified “teamwork” as an issue of high importance has been interpreted that critical care nurses value the collaborative relationships they have with doctors and other health professionals. Occasionally these relationships are strained (Roy & Brunet, 2005; Papathanassoglou et al., 2012) but the survey findings in our studies suggest that valuing these relationships and creating a collegial and supportive work environment will benefit all, including the patients (Cabrini et al., 2015). The importance of strong collaborative teamwork in the

critical care environment has been well described elsewhere (Alves & Mello, 2006; Coombs, 2003; Karanikola et al., 2014; Manley, 2008).

5. Provision of formal practice guidelines and competencies

Provision of formal practice guidelines and competencies has remained an important issue for critical care nurses globally and this was a consistent theme regardless of region or wealth (Table 2). It is reassuring that critical care nursing leaders are highlighting this need at this time as safety, quality and error prevention remain important critical issues in clinical practice throughout the world (Latif, Rawat, Pustavoitau, Pronovost, & Pham, 2013; Valentin, Schiffinger, Steyrer, Huber, & Strunk, 2013). However, our studies found that many CCNOs were not providing guidance in this area. There is a danger that when professional guidance is unavailable nurses may turn to the most accessible source of information, such as the Internet. Although there is a wealth of material available via this medium, much of it is unregulated (Harris et al., 2015). Online education forums, practice standards and consensus papers can be found on many websites if individuals have Internet access and know how to search and find them. In response to the need to identify online educational resources, WFCCN has worked to identify internet based resources for critical care nursing including a topical index of web based resources for critical care nursing education which is available through open access on the WFCCN website, as well as to guide current work to this e-book for critical care nursing practice.

The very active text responses to what WFCCN and other leaders ought to provide in terms of policy and practice guidelines remain strong and relatively consistent over the last 4 surveys. Clinical protocols, workforce and education standards, and clinical practice guidelines for common encountered challenges including but not

limited to: pediatric conditions, tracheostomy management, weaning from ventilation, sepsis management, pain and sedation management, delirium management, and the workplace environment, suggests WFCCN remains a relevant and important vehicle for the continued leadership of critical care nursing practice standards globally. However, it is also clear that huge gaps between what is required and what exists remain and the nursing leadership and policy makers of health systems throughout the world need to find efficient and effective collaborative ways to meet these needs collectively. Awareness of the needs of the profession becomes crucial for global leaders so they are able to better understand and advocate for critical care nurses and services more effectively. This book and many others like it attempt to address this ongoing need.

FUTURE DIRECTIONS

As stated in earlier studies “one size does not fit all”, although we have found global trends and consensus in terms of workforce and education needs as well as provision of guidelines to inform critical care nursing practice, the specific needs and priorities of richer and poor countries need also to be acknowledged and responded to. Greater sophistication of the studies previously conducted by our team need to be developed and repeated more regularly at the regional, national, state/province and hospital level. Ensuring that the issues we are reviewing, responding to and developing standards for are relevant and necessary to the specific audience is critical.

Ideally there could be an online annual survey of a large database of critical care nursing managers and clinicians throughout the world and throughout each country to inform the priorities and issues of the profession. Such a database could then be used to distil the precise audience and questions that need to be answered, reviewed and updated regularly.

May the WFCCN regional structures such as Latin American Federation of Intensive Care Nurses (Williams, Alberto, Gonzales De la Cruz & Domínguez Martínez, 2015), European Federation of Intensive Care Nurses (EfCCNa, 2007) and the Asia Pacific Federation of Critical Care Nurses (Hong Kong Association of Critical Care Nurses, 2003) be the instruments for further provision of guidance, collaboration and local support that will empower nurses to identify and face critical issues more effectively. Critical care practice today demand a practitioner with the ability to think/connect globally and act locally. National critical care organizations and regional structures can help to meet these expectations.

In addition, the broader questions of “what issues *should* critical care nurses be interested in” will be informed by other research studies into patient outcomes AND “what issues would *patients and their families* want critical care nurses to be more interested in” are definitely on the list of future directions for global issues research.

CONCLUSION

As a specialty area of nursing care, critical care nursing continues to expand as intensive care is provided beyond the walls of the traditional ICU setting, based on the changing nature of critical illness, which can occur in all healthcare settings, including the home care setting. Additionally, telemedicine is a growing field for critical care, with significant implications for critical care nurses (Kleinpell et al 2016). Ongoing advances in critical care require continued focus on ensuring that critical care nursing practice evolves to meet current and future needs on an international level. As identified in ongoing international critical care nursing surveys, clear and consistent themes in terms of the global issues in critical care nursing remain relatively unchanged over the last 15 years: Workforce staffing and conditions, access to quality education programs and clinical practice guidelines and competencies are the three most consistently raised themes. Through the use of journals, conferences, text books, collaboration within regional bodies and many other medium there is evidence that many of the informational needs of nurses are now addressed with the latest evidence available online if the nurses is orientated to how best to retrieve and read such information.

Major barriers to such information appear to be wealth status and language. Ensuring easy access of these resources to critical care nurses in poorer countries and to those who only read and understand non-mainstream languages is the next great hurdle for the

critical care nursing profession to overcome. Through the ongoing efforts of WFCCN and related bodies committed to the betterment of critical care practice globally, critical care nursing will continue to evolve to meet the needs of acute and critically ill patients worldwide.

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Questions

Correct answers are in **yellow**

1. What is the average daily cost to run an intensive care bed in the USA?

A. \$1500

B. \$2500

C. **\$3500**

D. \$4500

2. The first ICUs as we know them today can be traced back to when and for what reason?

A. 1930s and the impact of the Great Depression.

B. 1950s and the outbreak of poliomyelitis.

C. 1960s and medical technology advances from the Korea and Vietnam wars.

- D. 1970s and the establishment of AACN and the WFSICCM.
3. The WFSICCM and WFCCN were established in which years respectively?
- A. Both groups have existed in various forms since 1950s.
 - B. WFSICCM in 1977 and WFCCN in 2001.
 - C. WFSICCM in 1969 and WFCCN in 1977.
 - D. WFSICCM and WFCCN were established together in 1977.
4. Who first advocated for the placement of patient's requiring "intensive" or large amounts of nursing care close to the nurses desk?
- A. Queen Victoria of England in the 1840s.
 - B. Florence Nightingale in 1850s during the Crimean war.
 - C. Marianne Cope, founder of first Catholic Hospitals in New York, 1870s.
 - D. Agnes Hunt in 1918 after winning the Red Cross Medal for services during the Great War.
5. The WFCCN Declaration of Madrid (2005) describes:
- A. Is a position statement on the provision of critical care nursing education.
 - B. Is a position statement on the provision of critical care workforce.
 - C. Is a position statement of the critically ill patient.
 - D. Is a position statement on culturally appropriate care provision in the critical care environment.
6. The WFCCN Declaration of Buenos Aires (2005) describes:
- A. Is a position statement on the provision of critical care nursing

education.

B. Is a position statement on the provision of critical care workforce.

C. Is a position statement of the critically ill patient.

D. Is a position statement on culturally appropriate care provision in the critical care environment.

7. Which of the following issues is ranked consistently the most important for critical nurses in the last 15 years?

A. Education and training.

B. Salary and wages.

C. Teamwork.

D. Staffing levels.

8. Critical care nurse respondents from high wealth countries tend to rank which of the following issues significantly less important compared to low and middle-income countries.

A. Access to education programs.

B. Wages.

C. Use of technology.

D. Relationship with doctors.

E. All of the above.

9. Critical care nurse respondents from low-income countries tend to rank which of the following issues significantly more important compared to high and middle-income countries.

A. Access to education programs.

B. Wages.

C. Facilities and equipment.

D. Relationship with doctors.

E. All of the above.

10. Access to formal practice guidelines and competencies is an important issue to many critical care nurses and was ranked X in the 2013 survey by Williams et al, where X =?

A. Second, behind Staffing levels.

B. First.

C. Equal third with education and training provision.

D. Trick question, it is not an important issue.

Table 1: Comparison of number of countries responding to the surveys, by region (Williams et al., 2001, 2007, 2012, 2015)

Region	2001	2005	2009	2013
Europe	13	22	26	15
Americas	3	10	13	13
Asia	8	11	12	11
Africa	0	7	7	14
MiddleEast	0	1	7	6
Total	24	51	65	59

Table 2: Comparison of overall ranking of importance of issues to critical care nurses over time (Williams et al., 2001, 2007, 2012, 2015)

Issue	2001	2005	2009	2013	Total Ranking Score	Overall Ranking
Teamwork	8.3 (7)	8.9 (2)	9.2 (1)	9.30 (5)	15	4
Staffing levels	9.2 (1)	8.9 (1)	9.0 (2)	9.36 (3)	7	1
Access to educational programs	8.8 (3)	8.6 (3)	9.0 (3)	9.34 (4)	13	2
Formal practice guidelines/competencies	8.4 (5)	8.3 (6)	9.0 (4)	9.45 (2)	19	5
Working Conditions	8.9 (2)	8.6 (5)	8.9 (5)	9.46 (1)	13	2
Work activities/roles	8.3 (6)	7.9 (8)	8.7 (6)	9.05 (7)	27	6
Extended/advanced practice	7.9 (8)	7.7 (11)	8.7 (7)	9.04 (8)	34	8
Relationship with doctors	7.8 (9)	7.8 (10)	8.5 (8)	8.79 (12)	39	10
Relationship with other nursing groups	6.9 (13)	7.6 (12)	8.5 (9)	8.71 (13)	47	13
Facilities and equipment	7.2 (12)	8.1 (7)	8.4 (10)	9.02 (9)	38	9
Use of technologies	7.4 (11)	7.9 (9)	8.4 (11)	8.91 (10)	41	11
Formal credentialing process	7.6 (10)	7.6 (13)	8.3 (12)	8.88 (11)	46	12
Wages	8.5 (4)	8.6 (4)	8.0 (13)	9.27 (6)	27	6
Relationship with other health care groups	6.8 (14)	7.5 (14)	7.9 (14)	8.61 (14)	56	14

Table 3: Categorisation by region and relative wealth involved in 4th worldwide survey of critical care nurses (Williams et al., 2015)

		World wealth group			Total
		Top third	Middle third	Lower third	
Region	Europe	12	3	0	15
	Middle East	4	2	0	6
	Africa	0	3	11	14
	Asia	7	1	3	11
	The Americas	4	7	2	13
Total		27	16	16	59

Low income = \$400 - \$5,800 (USD)

Middle Income = \$5,900 – \$18,600 (USD)

High Income = \$18,700 – \$64,000 (USD)

Table 4: Comparison of issues important to critical care nurses by wealth group (Williams et al., 2015) * p<0.05

Descriptive Statistics						
	World Wealth Top third	World Wealth middle third	World Wealth Lower Third	World	Range	Std. Deviation
Working conditions	9.28	9.33	9.88	9.46	7-10	.934
Formal practice guidelines/ competencies	9.16	9.60	9.75	9.45	6-10	.989
Staffing levels	9.13	9.24	9.75	9.36	5-10	1.052
Access to quality educational programs	8.84*	9.60	9.81	9.32	5-10	1.130
Teamwork	9.16	9.25	9.60	9.30	2-10	1.439
Wages	8.76*	9.53	9.81	9.27	6-10	1.087
Extended/advanced practice	8.80	9.20	9.31	9.05	5-10	1.212
Work activities/roles	8.56	9.40	9.50	9.05	6-10	1.285
Facilities and equipment	8.68	9.00	9.69*	9.05	6-10	1.197
Use of technologies	8.44*	9.20	9.50	8.95	5-10	1.257
Relationships with doctors	8.32*	9.06	9.47	8.84	5-10	1.304
Formal credentialing processes	8.24	9.06	9.53	8.84	3-10	1.703
Relationships with other nursing organisations	8.44	9.00	9.07	8.77	4-10	1.584
Relationships with other health care groups	8.40	8.50	9.27	8.66	4-10	1.456
Valid Responses = 56						