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Abstract

Introduction

The purpose of this methodological article is to describe the development, implementation, and analysis of the survey used to determine NAPNAP members' ranking of research priorities, to describe the top priorities ranked by participants, and to determine if priorities differed by area of practice (primary, acute, or specialty care) or participant age.

Method

A cross-sectional descriptive design with an online survey was used. Completed by 324 NAPNAP members, the survey consisted of a demographic section and 90 statements in two domains: Clinical Priorities and Professional Role Priorities.

Results

Survey respondents strongly supported the top priorities with an average overall mean score of 4.0 or above on a 5-point Likert scale. Only three of the top 10 clinical and professional priorities differed by area of practice. No clinical priorities and only three professional priorities differed by age.

Discussion

The survey results were used to develop the NAPNAP Research Agenda. Both the survey results and the agenda can provide guidance for the NAPNAP Board, committees and interests groups as they develop initiatives and programs.

Key Words

Research, Delphi, pediatric nursing, priorities

> Developing NAPNAP's Research Agenda was seen as a critical step in identifying important gaps in evidence for practice and informing the members and others about current and changing priorities.

The National Association of Pediatric Nurse Practitioners (NAPNAP) identified the need to develop a research agenda in its 2005 strategic plan. Facilitating research is a major component of NAPNAP's mission to promote optimal health for all children. Developing NAPNAP's Research Agenda was seen as a critical step in identifying important gaps in evidence for practice and informing the members and others about current and changing priorities.

The Research Agenda was developed using multiple procedures. First, a nine-person leadership panel (Research Agenda Work Group [RAWG]) was appointed. Then, NAPNAP's six Special Interest Groups (SIGs) and the members of the Association of Faculties of Pediatric Nurses Practitioners were invited to nominate the research priorities. Further data were collected from three focus groups made up of NAPNAP members and an online survey from the NAPNAP membership at large. Finally, the most highly rated research priorities were synthesized to create the six clinical and three professional focus areas in the Research Agenda. The overall initiative and the nine focus areas of the Research Agenda were presented previously (Sawin et al., 2008). This article focuses on the methods used to develop, implement, and analyze the online membership survey—a key step in the process of developing the NAPNAP Research Agenda.

Review of the literature

Organizations have used a variety of mechanisms to solicit member input, and one common process is a staged approach. Before developing the online survey, the RAWG members conducted a review of the literature on research priorities in pediatric nursing and processes used by other professional nursing organizations. Based on an evaluation of processes used by other organizations, the NAPNAP Executive Board determined the final plan for developing the research agenda.

Processes Organizations Used to Develop a Research Agenda

A number of nursing specialty organizations, including the Emergency Nurses Association and the American Society of PeriAnesthesia, used the Delphi technique to identify and prioritize research topics judged to be important for practice (Bayley et al., 2004, Cohen et al., 2004, Edwards, 2002, Grundy and Ghazi, 2009 13, Hauck et al., 2007, Lewis et al., 1999, Mamaril et al., 2009). This technique employs sequential rounds of written or online surveys with the same sample to seek consensus opinions and to identify the top five to 10 priorities (Burns & Grove, 2009). The Delphi process most often involves two to four rounds of exploratory surveys, with three rounds being a typical number used. Most groups used a fairly small number of participants (30 to 80). A few organizations used a modified Delphi technique that combined different samples in two stages: a nomination stage using open-ended questions and a quantitative survey stage to determine priorities. In this approach, the open-ended component was used to develop a quantitative survey that was then ranked by a sample of the membership (Gordon, Sawin, & Basta, 1996).

Although many similarities were noted when using the Delphi or modified Delphi techniques, some differences in sampling frameworks, data collection procedures, survey structure, and analysis were noted. For example, for the ENA process (Bayley et al., 2004), 120 Emergency Nurses Association nurse leaders were selected to participate in all three rounds of their Delphi study. Similarly, the American Society of PeriAnesthesia Nurses identified perianesthesia nursing experts in their organization to develop their national research agenda (Mamaril et al., 2009). In the first round of their process, Lewis and colleagues (1999) sought opinions from nurses recognized by the American Nephrology Nurses' Association for their clinical practice or research expertise. In their second and third Delphi rounds, sampling was expanded to include others who had attended their national symposium and members of the American Nephrology Nurses' Association who had at least a master's degree in nursing. In contrast, other nursing groups first sought information about nursing research priority needs from all nursing constituents in their organization and then narrowed their sampling in subsequent rounds of

consensus building (Cohen et al., 2004). For example, the Rehabilitation Nursing Foundation first asked a random sample of members to respond to a qualitative survey nominating priorities and later identified a panel of experts to rank them (Gordon et al., 1996). The American Association of Critical Care Nurses used a group nomination strategy to pose unanswered practice questions and developed a survey that was mailed to a sample of American Association of Critical Care Nurses staff nurse members. As a result, five broad research priorities were identified (Byers, 1999). While all processes used by organizations included experts and the general membership, the order and scope of their involvement and the number of priorities developed varied.

Sampling strategies used in these organizations included the use of convenience, purposive, random, and cross-sectional sampling techniques. Response categories varied from a five-category format to a seven-category format with different response descriptors (Bayley et al., 2004, Gordon et al., 1996). In earlier studies, surveys generally were mailed, but more recently, online surveys have been used. Reported survey response rates were commendable for the majority of the mailed surveys reviewed. In 2004 the Oncology Nursing Society (ONS) surveyed a random sample of the general membership and obtained a lower response rate (15%) for their online survey than they had for their 2000 mailed survey (39%) (Berger et al., 2005, Ropka et al., 2002).

Data analysis of survey questions typically consisted of calculating percent agreement and comparison of item ranking. Qualitative analysis of open-ended questions was also a technique used by nursing organizations to arrive at a list of priority research items for member ranking (Mamaril et al., 2009, Mcilfatrick and Keeney, 2003).

Nursing groups that had previously established a research agenda often used a different survey approach in subsequent revisions of their research agenda. A committee or task force in these organizations created a new survey, retaining or revising previously used priorities and adding new ones. For example, ONS used data from their earlier research priority surveys, added new items, and distributed the surveys to a cross-sectional sample of its general membership and targeted research groups in 2002, 2005, and 2008 (Berger et al., 2005, Doorenbos et al., 2008, Ropka et al., 2002). In the 2005 ONS study, a stratified random sample of the general membership and all ONS members with doctoral degrees comprised the target sample. The 2008 ONS study used this same survey approach and sampling plan with the addition of an over-sampled random sample of advance practice nurses. Similarly in 2005, the Rehabilitation Nursing Association used a committee that evaluated the publication outcomes of grantees and articles in their journal to generate a revision to their 1996 priorities (Jacelon, Pierce, & Buhrer, 2006). Subsequently, their leaders and a stratified random sample of members provided online feedback on the priorities. The committee then synthesized this input and in 2007 revised their 1995 research agenda (Jacelon, Pierce, & Buhrer, 2007).

Research Priorities in Pediatric Nursing
Particularly useful in the current project was a three-stage Delphi survey developed by pediatric nurse researchers (Broome, Woodring, & O'Connore, 1996). Their team mailed a survey to a purposive sample of pediatric nurse experts who represented a variety of clinical settings. The team reported priorities in five categories: prevention and health promotion, acute and chronic illness, nursing interventions, health care delivery, and methodological issues. As noted by Broome and colleagues,

their study was meant to promote dialogue among pediatric nursing researchers and clinicians about a collaborative approach to future research endeavors.

Other professional organizations or groups have identified pediatric research priorities in specific focus areas such as pediatric cancer (Fochtman and Hinds, 2000, Hinds et al., 1994), a single pediatric hospital (Schmidt, Montgomery, Bruene & Kenney, 1997), school health (Edwards, 2002, Gordon and Barry, 2006), or parenting (Hauck et al., 2007). Select pediatric priorities have been included in national priorities such as the National Institute of Nursing Research's strategic plan. However, no recent study has comprehensively addressed pediatric nursing research priorities across ages or settings, nor has a study of NAPNAP members' research priorities been conducted.

Summary

A review of the literature by the RAWG team revealed that groups can effectively develop a variety of mechanism for identifying research priorities of their members. This review and options presented by the RAWG were used by the NAPNAP Executive Board, which chose the process for obtaining member input on the gaps in evidence for practice based on (a) the desire to give the highest number of members the opportunity to have input, (b) the availability of technology for collecting data by online surveys, and (c) cost factors. The main purpose of this article is to describe the methods used to develop the online membership survey, describe its implementation, and delineate the survey findings.

The following questions were addressed in delineating the survey findings:

1. What are the top 10 overall broad clinical research priorities identified by NAPNAP members? Do these top 10 overall broad clinical research priorities differ by area of practice (primary care, acute care, and specialty care) or age of NAPNAP members?
2. What are the top 10 overall professional research priorities identified by NAPNAP members? Do these top 10 professional research priorities differ by area of practice (primary care, acute care, and specialty care) or age of NAPNAP members?
3. What are the top clinical and professional priorities specific to settings (outpatient/community vs. inpatient settings) identified by NAPNAP members?

Methods

A cross-sectional descriptive design using a modified Delphi technique and multiple stages to identify research priorities was used for the membership survey. Prior to the electronic distribution of an online survey, the study was approved by the Committee for the Protection of Human Subjects at the University of Wisconsin–Milwaukee, the home institution of the Chair of the RAWG. All participants indicated their consent to participate prior to beginning the online survey. The survey was anonymous, and responses to the survey could not be connected to any of the respondents' e-mail addresses. At the completion of the survey, participants were offered the option to register for a drawing for one free NAPNAP Annual Conference registration by providing their name and address on a field separate from their survey.

Sample

The sample for the online survey was recruited in two ways. First, an announcement inviting members to participate in the survey was featured in the September/October 2007 NAPNAP *Newsletter. S*econd,

the day the survey was posted online, all 5368 NAPNAP members who had an e-mail address in 2007 (83% of the total membership) were invited to participate in the survey. The survey was posted online for 15 days in late September 2007. Eleven days after the posting, a reminder e-mail message was distributed to volunteer leaders (executive board members, committee members, chapter presidents, and SIG officers).

Instrument

The survey was developed in three stages. The first stage included the development of nominated priorities by asking focus group members, NAPNAP organizational units (e.g., SIGs) and an affiliated organization (Association of Faculties of Pediatric Nurses Practitioners) to identify "questions or priority areas where evidence was needed for practice." In addition, organizational documents were evaluated for potential gaps in evidence for practice. Focus groups were conducted at the 2007 NAPNAP National Conference and targeted three areas of practice: primary, specialty, and acute care (Sawin et al., 2008). These focus groups were conducted by a professional experienced focus group facilitator who provided an extensive written report based on focus group audiotapes and field notes. Over a period of several months, using extensive conference calls and small work groups, the RAWG members conducted a qualitative analysis of the written narrative data from the focus groups, organizational units, and organizational documents that identified proposed gaps in evidence for practice. From this process the RAWG drafted priority statements in a common format and conducted several rounds of input and revisions. Priorities were initially categorized as a clinical or professional focus.

Because the statements reflected a wide range of priorities, the RAWG members thought that NAPNAP members from different settings might wish to respond to some statements and not others. Thus, in the second stage, the RAWG members categorized each of the clinical and professional statements as either broad priorities or setting specific priorities. The setting specific priorities were identified as those typically occurring in (a) outpatient/community and primary care/specialty settings and (b) inpatient settings (acute/critical and specialty care). No effort was made to balance the number of items in each category. The resulting survey consisted of a demographic section and two research priorities domains: Clinical Priorities and Professional Role Priorities. Each domain had three categories: (a) broad issues occurring across settings or practices (28 clinical and 18 professional priorities); (b) issues typically occurring in outpatient/community and primary care/specialty settings (13 clinical and four professional priorities); and (c) issues typically occurring in inpatient clinical settings (acute/critical care and specialty care) (13 clinical and 14 professional priorities). The Clinical Priorities domain contained 54 priority statements, and the Professional Role Priorities domain contained 36 priority statements. Participants taking the survey were asked to rate their level of agreement that each statement was a research priority for pediatric nursing practice using a 5-point Likert scale (1, strongly disagree to 5, strongly agree). Instructions also encouraged participants to respond to statements in categories in which they perceived that they had "expertise and interest."

The final stage of the instrument development included editorial review by NAPNAP professional staff and field testing by a small group of NAPNAP members not involved in the RAWG. Minor wording changes to facilitate flow were made after this stage.

Data Analysis

Descriptive statistics were used to summarize the demographic variables and responses for each nominated priority. In addition, all items were ranked by means, from highest to lowest, for each of the six categories. Two variables, age and area of practice, were used to evaluate differences in participants' responses. Age was collapsed from continuous variable of years of age into two categories (50 years of age and younger or 51 years of age and older). The members who indicated "other" to the area of practice questions were omitted from the analysis of differences by practice setting. Using *t* test and analysis of variance, comparisons in the mean scores of the 10 top overall broad clinical and professional priorities by age of participants and by area of practice were examined. A Tukey post hoc analysis was used to identify the group differences by practice area.

Results

Overall, a total of 324 NAPNAP members consented to participate in the survey, and 296 (91%) provided feedback on the clinical or professional issues sections of the survey. The response rate for all eligible members with an e-mail address was 6% (324/5368). Participants were able to "opt in" or "opt out" of ranking each section of the survey based on their interest and expertise; therefore, there are different response rates for different sections of the survey (Table 1).

Table 1. Number of respondents for each section of the survey

	Clinical issues	Professional issues
Survey category, *n*	Overall, 296	Overall, 270
	Outpatient/community/primary care, 244	Outpatient/community/primary care, 222
	Inpatient, 123	Inpatient, 119

Of those who responded to the survey, slightly more than half were 50 years of age or younger. Area of practice was identified in the demographic section as primary, acute, and specialty, or other. Fifty-one percent of the participants identified their area of practice as primary care (*n* = 168), 25% as specialty care (*n* = 80), 14% as acute care (*n* = 45), and 10% as other (*n* = 31) ("other" included administration/management, faculty members, staff nurses, and researchers). Survey respondent demographic characteristics were compared with NAPNAP membership data to examine how similar the respondents were to the total membership. The characteristics of the sample, with the exception of education, were comparable to those of all NAPNAP members. The survey respondents included a higher percentage of members with a doctorate degree (16%) than those reported in overall membership demographics (7%) (Table 2).

Table 2. Comparison of demographic characteristics by members who responded to the survey and total NAPNAP membership

Characteristic	Participants' characteristics (% of those who responded to the survey)	NAPNAP membership (% of members providing data)*
Certified as APN/PNP/CNS	93	94

Female gender	98	NA[†]
Age (y)		
20-30	10	8
31-40	15	23
41-50	28	23
51-60	40	32
61-70	7	12
Category: 51-70	47	44[‡]
Education§		
Diploma/certificate/other	2	11
Bachelors degree	5	13
Masters degree	75	70
Doctorate	16	7
Professional status		
PNP	93	91
FNP	4	6
NNP/CNS	3	3
Area of practice		
Primary care	51	59
Specialty care	25	21
Acute care	14	13
Other	10	7

APN, advanced practice nurse; CNS, clinical nurse specialist; FNP, family nurse practitioner; NAPNAP, National Association of Pediatric Nurse Practitioners; PNP, pediatric nurse practitioner.

∗Providing demographic data is voluntary. Some members did not provide data for all demographic categories.

†NA = not applicable (NAPNAP database does not have gender data available).

‡Additionally, 2% of NAPNAP members are ages 71-89 years; no respondents in that age category responded to the survey.

§Educational categories are somewhat different in the membership database and in the information collected on the survey, so data may not be totally comparable. Survey directed respondents to indicate "highest" degree, and the membership form directs members to indicate any degree/certificate held.

Overall Clinical Research Priorities

Question 1: What are the top 10 overall broad clinical research priorities identified by NAPNAP members? Do these priorities differ by area of practice (primary care, acute care, and specialty care) and age of NAPNAP member?

In these top overall broad clinical priorities, NAPNAP members identified "Strategies to effectively reduce the risk of childhood injuries and child maltreatment" as the number one research priority. The rankings of the top 10 clinical priorities by total sample and area of practice are found in Table 3.

Table 3. Rank, means, and standard deviations for top 10 overall clinical priorities by total sample and area of practice

Clinical priorities	Rank/mean (*SD*) Total	Areas of practice Acute	Primary	Specialty
Strategies that effectively reduce risk of childhood injuries and child maltreatment	1	2	2	5
	4.33 (.79)	4.42 (.71)	4.32 (.74)	4.27 (.75)
Strategies that enhance self-/family management for children with acute and chronic conditions	2	1	9	2
	4.30 (.86)	4.46 (.78)	4.2 (.76)	4.40 (.72)
Interventions that optimize child and family adherence to health care practices (e.g., medication administration, appointment keeping, therapy)	3	9	3	4
	4.3 (.74)	4.27 (.67)	4.32 (.75)	4.25 (.78)
Strategies that address developmental, cognitive, and psychosocial challenges of infants born at risk (e.g., premature, small for gestational age, drug/alcohol exposed)	4	3	4	3
	4.29 (.71)	4.36 (.66)	4.28 (.71)	4.30 (.77)
Interventions that optimize management of behavioral problems	5	17	1	7
	4.27 (.78)	4.05 (.85)	4.44 (.68)	4.03 (.80)
Strategies to screen for drug/alcohol use and interpersonal violence (e.g., child abuse, dating violence, etc.)	6	11	8	7
	4.21 (.75)	4.15 (.70)	4.23 (.83)	4.14 (.80)
Interventions to eliminate health disparities with particular attention to rural settings, minority status, and underserved populations	7	10	6	12
	4.19 (.81)	4.24 (.83)	4.24 (.82)	4.08 (.79)
Clinical interventions that optimize mental health for at-risk children (e.g., acutely ill, chronically ill, in time of transition)	8	13	10	8

	4.16 (.75)	4.13 (.79)	4.19 (.73)	4.14 (.77)
Strategies to promote optimal health in complicated family situations (e.g., families adapting to foster care, with special needs children, military families dealing with deployment or reintegration, homeless families)	9	16	11	10
	4.15 (.77)	4.07 (.69)	4.15 (.78)	4.11 (.82)
Strategies to facilitate effective transition to adulthood for adolescents with chronic conditions	10	5	16	1
	4.14 (.79)	4.32 (.65)	3.96 (.76)	4.45 (.80)

Areas of practice and top 10 overall clinical research priorities

There were significant differences in rankings by NAPNAP members' areas of practice in three of the top 10 overall clinical research priorities. The overall results for the item "Strategies that enhance self-/family management for children with acute and chronic conditions" demonstrated significant differences by areas of practice (F = 3.099, p = .047); however, none of the paired comparisons showed significant differences using a post hoc test. In analyzing the item "Interventions that optimize management of behavioral problems" (F = 9.428, p = .000), the post hoc test revealed differences between the acute and primary care areas of practice (p = .011) and the primary and specialty areas of practice (p = .000). NAPNAP members who identified their area of practice as primary care rated this item higher than did those in acute and specialty care. "Strategies to facilitate effective transition to adulthood for adolescents with chronic conditions" (F = 11.786, p = .000) demonstrated differences between primary care and both acute care (p = .021) and specialty care (p = .000) for this item. NAPNAP members whose area of practice was primary care rated this item lower than those in acute and specialty care.

Age and top 10 overall clinical research priorities

There were no significant differences between the mean scores for the top 10 overall research priorities based on age group.

Overall Professional Research Priorities

Question 2: What are the top 10 overall professional research priorities identified by NAPNAP members? Do these top 10 priorities differ by areas of practice (primary care, acute care and specialty care) and age of NAPNAP member?

> In the overall professional research priorities, NAPNAP members identified the item "Impact of reimbursement issues on PNP/APN practice" as the number one research priority.

In the overall professional research priorities, NAPNAP members identified the item "Impact of reimbursement issues on PNP/APN practice" as the number one research priority. The rankings of the top 10 professional priorities by total sample and area of practice are found in Table 4.

Table 4. Rank, means, and standard deviations for top 10 broad professional issues by areas of practice (acute, primary, and specialty)

Priority	Rank/mean (*SD*)			
		Areas of practice		
	Total	Acute	Primary	Specialty
Impact of reimbursement issues on PNP/APN practice	1	3	1	1
	4.41 (.76)	4.41 (.73)	4.46 (.76)	4.35 (.77)
Impact of financial issues on pediatric health care delivery	2	7	2	3
	4.23 (.76)	4.11 (.77)	4.27 (.77)	4.22 (.69)
Comparison of practice outcomes between PNP/APN and other health care providers in a variety of settings (e.g., primary, critical care, acute care) and focus areas (e.g., sexual abuse, child maltreatment)	3	1	4	2
	4.18 (.86)	4.5 (.68)	4.06 (.90)	4.25 (.84)
Access issues related to caring for the uninsured, underinsured, and illegal immigrants.	4	10	3	5
	4.17 (.87)	4.03 (.92)	4.24 (.89)	4.09 (.84)
Barriers to implementation of evidence into practice	5	4	6	7
	4.09 (.84)	4.24 (.86)	4.05 (.87)	4.08 (.79)
Impact of PNP/APNs on family quality of life	6	2	7	9
	4.06 (.88)	4.42 (.80)	3.99 (.90)	3.99 (.86)
Access to care issues for chronically ill adolescents transitioning to adulthood	7	5	10	4
	4.06 (.81)	4.42 (.71)	3.99 (.86)	3.99 (.67)
Identification of barriers to the implementation of prevention programs in pediatric clinical practice (e.g., injury prevention education)	8	9	5	14
	4.00 (.78)	4.05 (.85)	4.03 (.78)	3.85 (.72)
Impact of emerging technologies on PNP/APN practice	9	8	8	11
	4.0 (.84)	4.11 (.81)	3.97 (.87)	3.97 (.80)
Electronic medical records that reflect nursing assessment, interventions, and outcomes	10	14	9	12
	3.91 (.98)	3.73 (.99)	2.96 (1.1)	3.92 (.91)

APN, Advanced practice nurse; PNP, pediatric nurse practitioner.

Areas of practice and top 10 overall professional research priorities

Three professional research priorities were significantly different by area of practice. For the item "Comparison of practice outcomes between PNP/APN and other health care providers in a variety of settings (e.g., primary, critical care, acute care) and focus areas (e.g., sexual abuse, child maltreatment" (F = 4.351, p = .014), the post hoc analysis revealed a difference in the acute care practice area and the primary care practice area; the acute care respondents scored this item significantly higher than did the primary care respondents. The acute care respondents rated the "Impact of PNP/APNs on family quality of life" (F = 3.998, p = .020) higher than did the primary care (p = .019) and specialty care (p = .036) respondents. Finally, for the item "Access to care issues for chronically ill adolescents transitioning to adulthood" (F = 5.453, p = .005), there was a significant difference between the primary care and the specialty care respondents' areas of practice (p = .012); the primary care group rated this item lower.

Age and top 10 overall professional research priorities

Two of the top 10 professional priorities were significantly different by the age of the NAPNAP members. The older age group (> 50 years) rated the "Access issues related to caring for the uninsured, underinsured, and illegal immigrants" item higher than the younger group (t = −2.04, p = .042). The 50 years and younger group rated "Impact of PNP/APNs on family quality of life" (t = 2.621, p = .009) higher than the older age group.

Clinical and Professional Priorities Specific to Settings

Question 3: What are the top clinical and professional priorities specific to settings (outpatient/community/primary care vs. inpatient settings) identified by NAPNAP members?

Table 5 lists the top four clinical research priorities and Table 6 lists the top four professional research priorities for NAPNAP members who responded to priorities in outpatient/community and primary care/specialty care settings. For the NAPNAP members who responded to priorities in the inpatient settings (acute/critical care and specialty areas), the top four clinical research priorities and the top six professional research priorities are shown in Table 7, Table 8, respectively. There was agreement in the number one clinical priority typically seen in outpatient/community and primary care/specialty settings, "Interventions to prevent or treat obesity in children" (Table 5). Furthermore, the top-ranked professional priority in these settings, "Exploration of health outcomes in schools with school-based clinics," was ranked the same regardless of members' area of practice (Table 6).

Table 5. Rank, means, and standard deviations by area of practice for clinical priorities typically occurring in outpatient/community and primary care/specialty settings

Priority	Rank/mean (SD)	Areas of practice		
	Total	Acute	Primary	Specialty
Interventions to prevent or treat obesity in children	1	1	1	1
	4.67 (.58)	4.6 (51)	4.77 (.47)	4.48 (.78)
Interventions targeting high-risk behaviors in youth (drug, tobacco, early sexual experimentation)	2	7	2	2
	4.42 (.68)	4.27 (.80)	4.48 (.67)	4.31 (.67)
Relationship of child/adolescent obesity to risk factors such as: chronic health conditions (e.g., asthma, arthritis), child abuse/neglect, mental health issues and other health issues	3	4	3	4
	4.40 (.78)	4.33 (.62)	4.47 (.74)	4.30 (.82)
Interventions to increase health promotion behaviors in children (seat belt use, motor vehicle safety, tobacco use, dental care, healthy eating)	4	2	5	7
	4.35 (.64)	4.40 (.83)	4.42 (.63)	4.10 (.59)

Table 6. Rank, means and standard deviations by area of practice for professional priorities typically occurring in outpatient/community and primary care/specialty settings

Priority	Rank/mean (SD)	Areas of practice		
	Total	Acute	Primary	Specialty
Exploration of health outcomes in schools with school-based clinics (e.g., decreased absenteeism, positive school behavior, obesity prevention/reduction, evidence-based chronic care management)	1	1	1	1
	4.4 (.70)	4.6 (.52)	4.4 (.73)	4.3 (.63)

Exploration of health outcomes in day care and preschools with school-based or school-linked clinics (e.g., enhanced development, improved infection control)	2	2	2	3
	4.3 (.72)	4.6 (.52)	4.3 (9.76)	4.1 (.64)
Use of ICD-9 reimbursement codes by PNPs/APNs for psychosocial conditions, obesity counseling, and exposure to domestic violence	3	4	3	2
	4.24 (.91)	4.33 (.78)	4.24 (.96)	4.20 (.82)
Exploration of health outcomes in retail-based health clinics	4	3	4	4
	4.00 (.97)	4.50 (.67)	3.99 (1.0)	3.93 (.86)

APN, Advanced practice nurse; PNP, pediatric nurse practitioner.

Table 7. Rank, mean, and standard deviations by area of practice for clinical issues typically occurring in inpatient clinical settings (acute/critical care and specialty areas)

	Rank/mean (*SD*)			
		Areas of practice		
Priority	Total	Acute	Primary	Specialty
Prevention of health care acquired infections (e.g., infections a child does not have when admitted to the hospital including blood stream infections)	1	1	5	5
	4.3 (.73)	4.6 (.56)	4.2 (.71)	4.1 (.82)
Strategies that help children cope with painful procedures and hospitalizations, including but not limited to: use of distraction, relaxation and imagery, storytelling, music	2	2	1	1
	4.3 (.79)	4.4 (.68)	4.6 (.70)	4.3 (.84)
Safe and effective sedation management in children (includes relationship between sedation management and outcomes)	3	3	4	3
	4.2 (.78)	4.3 (.75)	4.2 (.74)	4.2 (.85)
Interventions that facilitate child/family coping and adaptation in acute care settings	4	7	7	2
	4.2 (.79)	4.2 (.85)	4.2 (.64)	4.3 (.75)

Table 8. Rank, means, and standard deviations by area of practice for professional issues typically occurring in inpatient clinical settings (acute/critical care and specialty areas)

Priority	Rank/mean (*SD*)	Areas of practice		
	Total	Acute	Primary	Specialty
Billing issues related to acute care PNP/APN practice	1	4	2	3
	4.1 (.89)	4.2 (.73)	4.0 (1.2)	4.1 (.80)
The impact of the CNS and PNP role on job satisfaction and quality of nursing care on an inpatient unit	2	2	5	1
	4.1 (.84)	4.2 (.79)	3.9 (1.0)	4.7 (.81)
Impact of systems or procedures that optimize patient safety for children and families in the acute care setting (e.g., medication reconciliation, computer confirmation systems to check for correct child/drug)	3	7	1	5
	4.1 (.85)	4.0 (.78)	4.0 (1.1)	4.1 (.75)
System strategies to prevent complications and negative outcomes in hospitalized children	4.	5	3	6
	4.0 (.78)	4.2 (.71)	3.9 (.93)	4.0 (.69)
NP role and scope of practice issues in the ICU/acute care area	5	1	6	8
	4.0 (.85)	4.3 (.72)	3.8 (1.0)	4.0 (.85)
Strategies to improve HCP communication patterns that impact patient safety (e.g., hand off communication between providers, units, interdisciplinary communication)	6	3	8	4
	4.0 (.80)	4.2 (.85)	3.7 (.72)	4.1 (.76)

APN, advanced practice nurse; CNS, clinical nurse specialist; ICU, intensive care unit; NP, nurse practitioner; PNP, pediatric nurse practitioner.

Discussion

The respondents to this survey strongly supported the top priorities with an average overall mean score predominantly at 4.0 or above on a 1- to 5-point Likert scale. Although each section of the survey was ranked according to the mean value for the total respondents and the respondents by area of practice, the mean scores for the top ranked items were very similar. However, significant differences existed in a few of the priorities. Not surprisingly, the items that related to the issues most frequently seen in specific settings were different among the groups. For example, the item "Interventions that optimize management of behavioral problems" is a common topic in the primary care setting but was ranked lower by members working in the acute and specialty care setting. Furthermore, for NAPNAP members whose area of practice was acute and specialty care, the item "Strategies to facilitate effective transition to adulthood for adolescents with chronic conditions" was ranked higher than those whose area of practice was primary care. While the number of participants who responded to each of the sections differed, thus influencing the mean scores, it was interesting that the overall mean of the item "Interventions to prevent or treat obesity in children" had the highest overall mean of all priorities in the survey. Even though the prevention and treatment of obesity was listed as a priority occurring in the outpatient setting, respondents from each area of practice endorsed it strongly (4.48 or above) for the discipline.

In this era of health care reform, it is understandable that the top-ranked professional items identified by NAPNAP members focus on reimbursement and financial issues. There is a continual need to address the value of advanced nursing practice for cost savings and value added. Furthermore, as the United States searches for cost-effective solutions to the health care crisis, the value and quality of care provided by advanced practice nurses cannot go unnoticed.

The survey identified members' most important gaps in evidence for practice. These results and the Research Agenda can provide guidance for the NAPNAP Board, committees, and interests groups as they develop initiatives and programs. In addition, these findings may be useful to the NAPNAP Foundation as it considers funding decisions for individual research projects and new foundation initiatives. Individual NAPNAP members may find the results of this study helpful in considering new ideas or obtaining support for initiatives that address the Research Agenda Priorities. The Research Agenda and associated priorities can provide a direction for health policy and communication with other health professionals and with legislators about resource allocation and federal, state, and private funding. The Agenda is a visible reminder to the membership that one of NAPNAP's major goals is to address research priorities and generate evidence for practice.

Other organizations have found that their research priorities and research agenda need to be evaluated and revised every 3 to 10 years (Berger et al., 2005, Doorenbos et al., 2008, Jacelon et al., 2007, Ropka et al., 2002). The NAPNAP survey and the endorsed research priorities were steps in articulating a contemporary research agenda that will provide the organization and its members with a research road map. Although the current NAPNAP Research Agenda spans 2008-2013, planning for the next survey should begin in the next few years in order to provide key data for revision of the Research Agenda in 2013.

Individual NAPNAP members may find the results of this study helpful in considering new ideas or obtaining support for initiatives that address the Research Agenda Priorities.

Limitations

Several limitations need to be considered in this study. First, the response rate for the survey was low. Because of NAPNAP's policy related to solicitation of members for surveys, the request to complete the survey was only sent once to the total membership. The response rate could have been improved with additional solicitations for participation to NAPNAP members. Furthermore, it is unclear if using an online survey instead of a mailed survey decreased the response rate as Berger and colleagues reported (2005). The actual number of participants and proportion of overall members responding was similar to that achieved using a random sample of rehabilitation nurses responding to an online survey (Jacelon et al., 2007). Although the percentage of the NAPNAP membership responding to the survey is not large, the number responding is the largest to provide input to pediatric nursing research priorities and met the NAPNAP Executive Board's goal of giving the highest number of members the opportunity to have input. In the current survey, the similarity of survey respondents' demographics and that of all NAPNAP members is reassuring. However, strategies to increase participation should be developed if the survey is repeated.

Second, the percentage of doctorally prepared nurses in the survey was higher than the percentage of doctorally prepared NAPNAP members. This finding is not surprising, because those with a doctorate have the most advanced education in research and may have had a greater interest than other members in helping to set the research agenda. In other surveys, nurses with doctorates are "oversampled" (Doorenbos et al., 2008, Lewis et al., 1999). NAPNAP is unique as an organization because its members currently are primarily prepared at a graduate level. Future efforts to improve participation of all members could include strategies such as the use of postal and e-mail options and advance notice of an upcoming survey in the NAPNAP newsletter.

Conclusion

This is the first time a survey has been used to identify NAPNAP members' report of gaps in evidence for practice. This methodological article describes the process that was undertaken to develop and implement an online member survey. The results of this survey delineating members' research priorities were used to develop NAPNAP's first research agenda. The online survey was developed from narrative data provided by focus groups and NAPNAP organizational and affiliated units, thus supporting its content validity. Many areas of consensus exist; however, in a few areas priorities varied by area of practice and age of NAPNAP member. The Research Agenda and this survey may contribute to a cultural change occurring in many health care settings where evidence is an important component of everyday practice. These data can be useful to determine, in future surveys of NAPNAP membership, the consistency and changing nature of members' research priorities.

References

Bayley et al., 2004. E.W. Bayley, S.L. MacLean, P. Desy, M. McMahon. **ENA's Delphi study on national research priorities for emergency nurses in the United States.** Journal of Emergency Nursing, 30 (1) (2004), pp. 12-21

Berger et al., 2005. A.M. Berger, D.L. Berry, K.A. Christopher, A.L. Greene, S. Maliski, K.K. Swenson, *et al.*, D.R. Hoyt. **Oncology Nursing Society year 2004 research priorities survey.** Oncology Nursing Forum, 32 (2) (2005), pp. 281-290

Broome et al., 1996. M.E. Broome, B. Woodring, S. O'Connore. **Research priorities for the nursing of children and their families: A Delphi study.** Journal of Pediatric Nursing, 11 (5) (1996), pp. 281-287

Burns and Grove, 2009. N. Burns, S.K. Grove. **he practice of nursing research.** (6th ed.), WB Saunders, Philadelphia (2009)

Byers, 1999. Byers, J. (1999). *AACN research work groups announce research priorities for the new millennium.* Retrieved from http://www.aacn.org/WD/Practice/Content/Research/research-priority.pcms?menu=Practice

Cohen et al., 2004. M.Z. Cohen, M. Harle, A.M. Woll, S. Despa, M.F. Munsell. **Delphi survey of nursing research priorities.** Oncology Nursing Forum, 31 (5) (2004), pp. 1011-1018

Doorenbos et al., 2008. A.Z. Doorenbos, A.M. Berger, C. Brohard-Holbert, L. Eaton, S. Kozachik, G. LoBiondo-Wood, *et al.*, C. Varricchio. **2008 ONS research priorities survey.** Oncology Nursing Forum, 35 (5) (2008), pp. E100-E107

Edwards, 2002. N.L. Edwards. **Research priorities in school nursing: A Delphi process.** Journal of School Nursing, 18 (3) (2002), pp. 157-162

Fochtman and Hinds, 2000. D. Fochtman, P.S. Hinds. **Identifying nursing research priorities in a pediatric clinical trials cooperative group: The Pediatric Oncology Group experience.** Journal of Pediatric Oncology Nursing, 17 (2) (2000), pp. 83-87

Gordon and Barry, 2006. S.C. Gordon, C.D. Barry. **Development of a school nursing research agenda in Florida: A Delphi study.** Journal of School Nursing, 22 (2) (2006), pp. 114-119

Gordon et al., 1996. D. Gordon, K. Sawin, S. Basta. **Developing research priorities for rehabilitation nursing.** Rehabilitation Nursing Research, 5 (2) (1996), pp. 60-66

Grundy and Ghazi, 2009 13. M. Grundy, F. Ghazi. **Research priorities in haemato-oncology nursing: Results of a literature review and Delphi study.** European Journal of Oncology Nursing (2009 April 13) Advance online publication

Hauck et al., 2007. Y. Hauck, R.G. Kelly, J. Fenwick. **Research priorities for parenting and child health: A Delphi study.** Journal of Advanced Nursing, 59 (2) (2007), pp. 129-139

Hinds et al., 1994. P.S. Hinds, A. Quargnenti, M.S. Olson, J. Gross, P. Puckett, E. Randall, *et al.*, D. Wiedenhoffer. **The 1992 APON Delphi study to establish research priorities for pediatric oncology nursing.** Journal of Pediatric Oncology Nursing, 11 (1) (1994), pp. 20-27

Jacelon et al., 2006. C.S. Jacelon, L.L. Pierce, R. Buhrer. **Evaluation of the research agenda for rehabilitation nursing.** Rehabilitation Nursing, 31 (6) (2006), pp. 242-248

Jacelon et al., 2007. C.S. Jacelon, L.L. Pierce, R. Buhrer. **Revision of the rehabilitation nursing research agenda.** Rehabilitation Nursing, 32 (1) (2007), pp. 23-30

Lewis et al., 1999. S.L. Lewis, C.L. Cooper, K.G. Cooper, P.N. Bonner, K. Parker, A. Frauman. **Research priorities for nephrology nursing: American Nephrology Nurses' Association Delphi Study.** ANNA Journal, 26 (2) (1999), pp. 215-225

Mamaril et al., 2009. M. Mamaril, J. Ross, E.L. Poole, J.M. Brady, T. Clifford. **ASPAN's Delphi study on national research: Priorities for perianesthesia nurses in the United States.** Journal of Perianesthesia Nursing, 24 (1) (2009), pp. 4-13

Mcilfatrick and Keeney, 2003. S.J. Mcilfatrick, S. Keeney. **Identifying cancer nursing research priorities using the Delphi technique.** Journal of Advanced Nursing, 42 (6) (2003), pp. 629-636

Ropka et al., 2002. M.E. Ropka, T. Guterbock, L. Krebs, K. Murphy-Ende, K. Stetz, B. Summers, *et al.*, G. Mallory. **Year 2000 Oncology Nursing Society Research Priorities Survey.** Oncology Nursing Forum, 29 (3) (2002), pp. 481-491

Sawin et al., 2008. K. Sawin, A. Butz, M. Brady, A. Gallo, D. Jones, L. Lewin, *et al.*, C. Trent. **The development of the NAPNAP research agenda: Priorities for evidence in pediatric practice 2008-2013.** Journal of Pediatric Health Care, 22 (2008), pp. 208-210

Schmidt et al., 1997. K. Schmidt, L.A. Montgomery, D. Bruene, M. Kenney. **Determining research priorities in pediatric nursing: A Delphi study.** Journal of Pediatric Nursing, 12 (4) (1997), pp. 201-207