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Setting the Research Agenda for Nursing Administration and Leadership Science: A Delphi Study

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OBJECTIVE: The aim of this study was to identify and prioritize research topics for nursing administration and leadership science.
BACKGROUND: Nursing administration and leadership research priorities should provide a framework for building the science needed to inform practice.
METHODS: The Association for Leadership Science in Nursing (ALSN) and American Organization for Nursing Leadership (AONL) Foundation (AONL-F) for Nursing Leadership and Education collaborated on a Delphi study. Initial input on research priority items were received from ALSN and AONL members. National experts participated in a 3-round Delphi study.
RESULTS: Top-ranked priorities included: 1) nurses' health, well-being, resiliency, and safety in the workplace; 2) developing and managing a nursing workforce to meet current and future healthcare needs; 3) healthy work/practice environments for direct care nurses; 4) healthy work/ practice environments for nurse leaders; 5) quantification of nursing's value across the healthcare delivery system; and 6) nurse leader development and essential competencies.
CONCLUSIONS: Researchers and funders should use these priorities to guide future studies.

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Study data were collected and managed using REDCap (Research Electronic Data Capture) tools hosted at The Ohio State University (OSU). REDCap is a secure, web-based software platform designed to support data capture for research studies, providing 1) an intuitive interface for validated data capture; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for data integration and interoperability with external sources. REDcap is supported by The OSU Center for Clinical and Translational Science grant support (National Center for Advancing Translational Sciences, grant UL1TR002733).

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The science of nursing administration and leadership provides a foundation for nurse leaders' preparation and professional practice. Nurse leaders at all levels and settings rely on sound science to improve care, advance health, and reduce healthcare costs. Nursing leadership requires a broad range of competencies, including the ability to develop one's self and others, communicate effectively, facilitate action toward shared goals, foster collaborative relationships, understand the healthcare environment, and apply business skills and principles.[1-4]

For several decades, many have worked to establish and update priorities for nursing administration

and leadership science (NALS) research. Their efforts were motivated by a desire to establish a theoretical and scientific foundation for the emerging field,[5] ensure priorities were grounded in the actual experiences of nurse administrators,[6] guide the allocation of research funding,[7] align administrative research with larger health initiatives,[8] and improve the focus and fundability of NALS research.[9,10]

Scott et al[10] outlined common themes in the NALS research literature from the 1970s through 2013, noting differences across the decades. Themes throughout all decades include evaluating, documenting, and improving the value of nursing care by enhancing quality while reducing costs.[10] Subthemes include various strategies for achieving those ends, including education (for staff and administrators), care delivery models (staffing, skill mix), collaboration within and across teams, staff well-being, and using information science to make decisions (informatics).

Knowledge building occurs when a critical mass of investigators with diverse perspectives and expertise engages in sustained, systematic exploration of issues fundamental to the discipline.[11] Those fundamental issues are made visible in the form of research priorities, which can stimulate interest, draw resources, and focus efforts to address them. Aligning researchers and resources with priority issues invites collaboration and scholarly discourse, advancing science as investigators challenge and build upon each other's findings.[7]

Each iteration of the NALS research priorities advances critical knowledge building that drives ongoing improvements in nursing administration practice, ultimately enhancing healthcare's effectiveness, efficiency, and accessibility. The rapid changes in healthcare require that NALS research priorities be reevaluated on an ongoing basis.

Study Aims

This study aims to: 1) identify NALS research topics of importance in the United States; 2) prioritize and reach expert consensus on NALS research priorities; and 3) develop a NALS research agenda for 2021 and beyond.

Methods

The Delphi method is a group facilitation technique that uses a staging process to transform opinion into consensus. It involves an idea-generating phase and then uses an iterative decision-making process to prioritize those concepts.[12] The process works to systematically achieve consensus among expert panels while maintaining anonymity and feedback.[13,14] Using this method, nursing administration experts were invited to participate in a survey to rank NALS research priorities. To achieve consensus, a series of surveys (rounds) were iteratively provided to a panel of national experts until consensus was reached.

The following process was utilized to develop the survey: 1) a literature review of research articles published between 2013 and 2019 in *The Journal of Nursing Administration*, *Nursing Economics*, and *Nursing Administration Quarterly*; 2) a review of the research priorities identified in the 2016 CGEAN (ALSN) survey[11]; and 3) the American Organization for Nursing Leadership Foundation for Nursing Leadership and Education (AONL-F) identified research priorities.[15] Major topic domains and themes were identified, and individual survey items were drafted. Survey items were then pilot tested and refined in 2 phases, before the 3-round Delphi study was conducted with national experts (Figure 1). A REDCap survey[16] was created, and institutional review board approval was received from The Ohio State University and University of Iowa.

Phase 1

The purpose of phase 1 was to pilot test the survey items and functionality. Participants rated 33-items in 7-topic domains using a 4-point Likert scale (1 = not important to 4 = very important). Following each topic, respondents provided additional research items that they felt should be included and identified any items requiring clarification or rewording. Two open-ended questions were included: 1) What areas of NALS have limited evidence to guide your decision-making? 2) What are some of the barriers and challenges associated with conducting NALS research? To finalize, a panel of 13 nurse leaders pilot tested 3 rounds of the survey. Based on feedback, 7 items were modified, 6 items were deleted, and 6 items were added. The revised survey had 7-topics, 33-items, 2-open-ended questions, and a demographic questionnaire.

Phase 2a: ALSN Stakeholder Survey

Input and feedback on NALS research topics were sought from nurse leader stakeholders at the international ALSN conference in November 2019. The revised survey (33 items) was available on the mobile conference application and on recruitment posters with a link and a QR code located throughout the conference hall. Eligibility for participation in the survey included: 1) membership in ALSN and/or American Organization for Nursing Leadership (AONL) and 2) minimum of 5 years of nursing leadership experience, or 2 years in an academic appointment specific to teaching nursing leadership, or 2 years conducting research in nursing leadership or/administrative science. Forty-seven participants responded (Table 1).

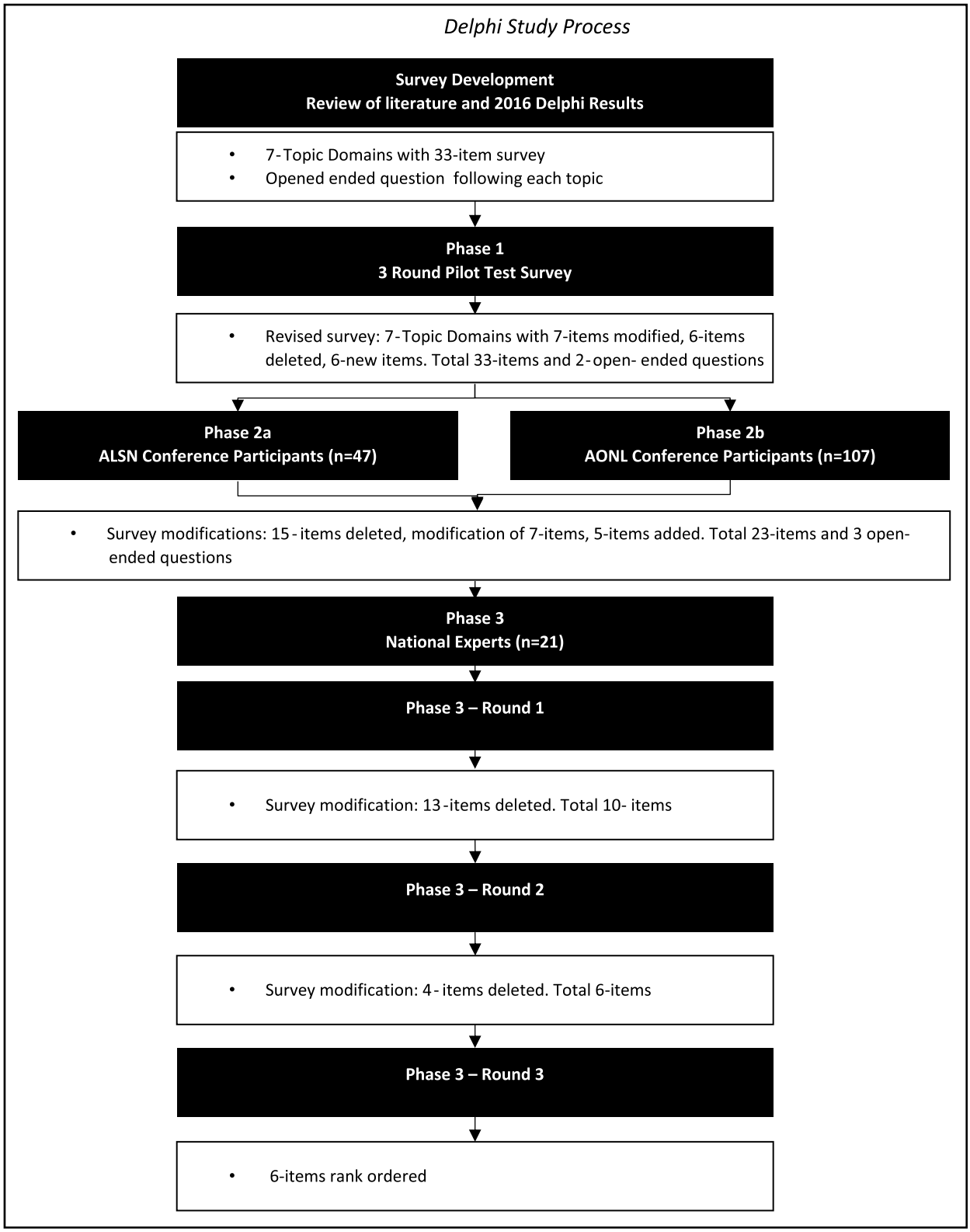

Figure 1. Delphi study process.

Phase 2b: AONL Stakeholder Survey

The research committee planned to seek input and feedback from nurse leader stakeholders at the AONL meeting scheduled in March 2020. Because of the COVID-19 pandemic, the conference was canceled, and an electronic survey was emailed to

Table 1. Demographics

	ALSN (n = 47), n (%)	AONL (n = 107), n (%)	National Experts (n = 21), n (%)
Years of experience in nursing			
<10	2 (4.26)	8 (7.48)	0 (0.00)
11–20	9 (19.60)	14 (13.08)	3 (14.29)
21–29	4 (8.60)	25 (23.36)	5 (23.81)
>30	31 (67.4)	59 (55.14)	13 (61.90)
Years of leadership experience in nursing			
<10	7 (14.89)	23 (21.50)	3 (14.29)
11–20	12 (25.60)	32 (29.91)	3 (14.29)
21–29	14 (29.80)	25 (23.36)	9 (42.86)
>30	14 (29.79)	26 (24.30)	6 (28.57)
Highest level of education			
Bachelor's degree	1 (2.13)	1 (0.93)	0 (0.00)
Master's degree	3 (6.38)	48 (44.86)	2 (9.52)
DNP	7 (14.89)	36 (33.64)	9 (42.86)
EdD	3 (6.38)	3 (2.80)	1 (4.76)
PhD-nursing/DNS-nursing	24 (51.06)	13 (12.15)	9 (42.86)
PhD—other	7 (14.89)	4 (3.74)	0 (0.00)
Other	2 (4.45)	2 (1.87)	0 (0.00)
Organization			
Acute care hospital	13 (27.66)	73 (68.22)	11 (52.23)
Non–acute care hospital	0 (0.00)	2 (1.87)	0 (0.00)
Community setting	1 (2.13)	0 (0.00)	0 (0.00)
College/school of nursing	28 (59.57)	12 (11.21)	3 (14.29)
Private industry/hospital organization/consulting	5 (10.63)	3 (2.80)	7 (33.33)
Role			
Nurse manager/nursing director	10 (21.28)	40 (37.73)	3 (14.29)
Chief nursing officer	2 (4.26)	20 (18.90)	8 (38.10)
System chief nursing executive	1 (2.13)	12 (11.32)	2 (9.52)
College/school faculty	25 (53.19)	9 (8.49)	3 (14.29)
Consultant	1 (2.13)	5 (4.71)	2 (9.52)
Other leadership roles	8 (17.02)	20 (18.86)	3 (14.29)
Geographic region			
Northeast	3 (6.38)	17 (15.89)	6 (28.57)
Midwest	10 (21.28)	28 (26.17)	4 (19.05)
South	20 (42.55)	40 (37.38)	5 (23.81)
West	13 (27.66)	21 (19.63)	5 (23.81)
Alaska/Hawaii	0 (00.00)	0 (0.00)	0 (0.00)
Canada	1 (2.12)	0 (0.00)	0 (0.00)
Outside US	0 (00.00)	1 (0.93)	1 (4.76)

individuals registered to attend the rescheduled AONL conference in August 2020. Eligibility was the same as the ALSN survey. One additional open-ended question was added to the survey to reflect the pandemic: Are there any new areas of research related to nursing leadership and administration that you believe should be explored following the COVID-19 pandemic?

Analysis Phases 2a and 2b

The responses from the ALSN and AONL stakeholders were independently reviewed and then combined to develop the final Delphi survey. Items that had a mean of 3.5 or greater and an endorsement of 65% or greater rated as "very important" were retained for the phase 3 Delphi survey. This resulted in deletion of 15 items and modification of 7 items. Five items were added to the survey based on responses to the COVID-19 question, resulting in a 23-item survey for phase 3.

Phase 3: 3-Round Delphi Study of National Experts

A purposive sample was used to recruit a national panel of experts aiming to achieve diversity in leadership experiences, areas of expertise (e.g., informatics, policy), practice setting (e.g., hospital, academia, industry), and geographical location (Table 1). Thirty-six experts were invited to participate in the 3-round survey; of these, 26 agreed to participate with a final participating sample of 21.

In October 2020, the national experts received an initial email invitation with a hyperlink to round 1 (23-item survey, 3-open ended questions, and a demographic questionnaire). Items from round 1 were retained if the mean was 3.57 or greater and the endorsement of "very important" was 70% or greater; resulting in the retention of 10 items. Round 2 was emailed 14 days later. Participants received their individual response to each item from round 1, as well as

Table 2. Research Survey Items

	ALSN (n = 47)		AONL (n = 107)		National Experts Round 1 (n = 21)		National Experts Round 2 (n = 21)	
	Mean (SD)	% Very Important	Mean (SD)	% Very Important	Mean (SD)	% Very Important	Mean (SD)	% Very Important
Topic 1: Care Delivery Models: Design, Cost of Care, Patient Outcomes	3.59 (0.05)	n/a	3.60 (0.08)	n/a	3.61 (0.09)	n/a	3.75 (0.09)	n/a
Design and evaluate care delivery models across the continuum	3.61 (0.94)	65.96%	3.56 (0.56)	63.55%	3.71 (0.44)	80.00%	3.81 (0.31)	80.95%
Staffing models that support effective patient management during a pandemic/crisis	n/a	n/a	n/a	n/a	3.48 (0.55)	55.00%	n/a	n/a
Optimizing the scope of nursing practice/practicing at the top of nursing license	3.63 (0.91)	70.21%	3.75 (0.41)	81.31%	3.57 (0.61)	75.00%	3.62 (0.58)	76.19%
Coordination and management of care transitions	3.65 (0.91)	68.09%	3.50 (0.55)	54.72%	3.57 (0.49)	60.00%	n/a	n/a
Cost-benefit and value analysis of care delivery models	3.50 (0.94)	57.45%	3.57 (0.55)	63.21%	n/a	n/a	n/a	n/a
Quantification of nursing's value across the healthcare delivery system	3.56 (0.91)	67.39%	3.61 (0.52)	66.67%	3.71 (0.46)	80.00%	3.81 (0.34)	90.48%
Interprofessional models of practice across the continuum	3.37 (0.91)	48.94%	3.23 (0.60)	38.68%	n/a	n/a	n/a	n/a
Topic 2: Healthy Practice Environments: Impact on Nurse and Patient Outcomes	3.51 (0.37)	n/a	3.58 (0.35)	n/a	3.82 (0.06)	n/a	3.87 (0.02)	n/a
Healthy work and practice environments for direct care nurses	3.72 (0.91)	78.72%	3.79 (0.36)	83.18%	3.76 (0.36)	80.00%	3.86 (0.24)	85.71%
Healthy work and practice environments for nurse leaders	3.67 (0.91)	71.74%	3.71 (0.44)	77.14%	3.81 (0.31)	85.00%	3.86 (0.24)	85.71%
Nurses' health, well-being, resiliency, and safety in the workplace	3.78 (0.91)	80.85%	3.84 (0.28)	85.71%	3.90 (0.17)	90.48%	3.90 (0.17)	90.48%
Influence of Pathway to Excellence® and Magnet® on practice environments	2.87 (1.04)	27.66%	2.97 (0.55)	25.23%	n/a	n/a	n/a	n/a
Topic 3: Patient Safety and Quality Outcomes	3.58 (0.35)		3.56 (0.26)	n/a	3.57 (0.05)	n/a	3.67 (0.00)	n/a
Direct care nurses' influence on safety and quality and patient outcomes	3.79 (0.36)	74.47%	3.80 (0.33)	81.90%	3.62 (0.51)	70.00%	3.67 (0.44)	66.67%
Nurse leaders' behaviors and influence on safety, quality, and patient outcomes	3.71 (0.44)	74.47%	3.78 (0.35)	80.19%	3.52 (0.59)	60.00%	n/a	n/a
Development and testing of additional nurse-sensitive indicators	3.84 (0.28)	34.04%	3.17 (0.53)	31.78%	n/a	n/a	n/a	n/a
Adopting innovating technologies to advance patient safety and quality outcomes	2.97 (0.55)	57.45%	3.48 (0.53)	50.47%	n/a	n/a	n/a	n/a
Topic 4: Using Informatics and Information Technology to Transform Care	3.49 (0.10)	n/a	3.45 (0.07)	n/a	3.34 (0.20)	n/a	3.57 (0.00)	n/a
Using informatics to support and improve nurses' decision-making and patient outcomes	3.50 (0.91)	59.57%	3.48 (0.54)	51.40%	3.48 (0.60)	55.00%	n/a	n/a
Optimizing the electronic health record to support big data science	3.33 (0.96)	48.94%	3.33 (0.58)	42.99%	3.10 (0.78)	40.00%	n/a	n/a
Impact of emerging technologies	n/a	n/a	n/a	n/a	3.19 (0.46)	25.00%	n/a	n/a
Using telehealth to support patient care delivery	n/a	n/a	n/a	n/a	3.57 (0.57)	70.00%	3.57 (0.57)	66.67%
Using informatics to improve patient outcomes	3.61 (0.94)	68.09%	3.51 (0.54)	55.14%	n/a	n/a	n/a	n/a
Impact of technology on nursing care delivery	3.52 (0.94)	59.57%	3.48 (0.55)	52.34%	n/a	n/a	n/a	n/a
Topic 5: Workforce and Staffing	3.61 (0.14)	n/a	3.60 (0.15)	n/a	3.69 (0.17)	n/a	3.86 (0.00)	n/a
Evaluating staffing practices and outcomes	3.61 (0.91)	68.09%	3.66 (0.47)	70.09%	3.52 (0.54)	55.00%	n/a	n/a
Developing and managing a nursing workforce to meet current and future healthcare needs	3.78 (0.91)	80.85%	3.74 (0.39)	73.83%	3.86 (0.24)	85.71%	3.86 (0.24)	85.71%
New graduate/new to practice workforce	3.43 (0.91)	53.19%	3.39 (0.58)	47.66%	n/a	n/a	n/a	n/a
Topic 6: Developing Effective Nursing Leaders	3.41 (0.19)	n/a	3.46 (0.11)	n/a	3.43 (0.2)	n/a	3.81 (0.00)	n/a
Nurse leaders' development and essential competencies	3.70 (0.91)	74.47%	3.55 (0.55)	60.38%	3.71 (0.44)	75.00%	3.81 (0.33)	85.71%
Nurse leaders' knowledge and competencies related to emergency preparedness and response	n/a	n/a	n/a	n/a	3.24 (0.58)	40.00%	n/a	n/a
Nurse leaders' education and preparation and impact on organizational outcomes	3.48 (0.91)	61.70%	3.51 (0.57)	58.49%	3.33 (0.70)	55.00%	n/a	n/a

(continues)

Table 2. Research Survey Items, Continued

	ALSN (n = 47)		AONL (n = 107)		National Experts Round 1 (n = 21)		National Experts Round 2 (n = 21)	
	Mean (SD)	% Very Important	Mean (SD)	% Very Important	Mean (SD)	% Very Important	Mean (SD)	% Very Important
Nursing curriculum for leadership and administrative science	3.50 (0.94)	55.32%	3.45 (0.58)	52.34%	n/a	n/a	n/a	n/a
Exploring new nursing leadership roles	3.22 (0.96)	41.30%	3.21 (0.58)	36.79%	n/a	n/a	n/a	n/a
Leadership succession planning	3.39 (0.94)	53.19%	3.49 (0.63)	61.68%	n/a	n/a	n/a	n/a
Shaping governance and decision-making in nursing	3.09 (0.94)	36.17%	3.48 (0.52)	49.50%	n/a	n/a	n/a	n/a
Nurse leaders influence in policy, education, and research	3.52 (0.91)	65.96%	3.52 (0.56)	58.88%	n/a	n/a	n/a	n/a
Topic 7: Innovation	3.51 (0.08)	n/a	3.42 (0.12)	n/a	3.19 (0.10)	n/a	n/a	n/a
Transforming healthcare delivery through innovation	3.54 (0.91)	63.83%	3.57 (0.51)	59.81%	3.29 (0.54)	40.00%	n/a	n/a
Nursing leadership competencies that support innovation	3.61 (0.94)	72.34%	3.40 (0.53)	43.93%	3.14 (0.41)	20.00%	n/a	n/a
Environments that foster innovation	3.48 (0.91)	57.45%	3.52 (0.54)	55.66%	n/a	n/a	n/a	n/a
Innovations in nursing leadership and administration	3.56 (0.93)	58.70%	3.42 (0.56)	48.57%	n/a	n/a	n/a	n/a
The impact of organizational culture on innovation	n/a	n/a	n/a	n/a	3.05 (0.54)	30.00%	n/a	n/a
Optimizing academic-service partnerships to advance nursing science	3.38 (0.93)	47.83%	3.21 (0.55)	34.58%	3.29 (0.68)	45.00%	n/a	n/a

Abbreviation: n/a, not applicable.

the group mean response. Participants were asked in round 2 if they desired to change their responses for each item in round 1 based on their knowledge of the group mean. Frequencies means and SDs of the 10 items were calculated. Items were retained for the round 3 survey if they had a mean of 3.81 or greater and endorsement of 85% or greater ("very important"), resulting in the retention of 6 items. For round 3, participants received a 6-item survey and were asked to rank order each item by priority (1-6). A rank-order mean was calculated.

Analysis

Descriptive statistics were calculated including frequencies, means, and SDs for each item. Means and SDs were used to rank the importance of each item. Frequencies and means were used to analyze the demographics data. Rank-order means were calculated to rank top research priorities in phase 3.

Results

Phases 2a and 2b

Forty-seven ALSN and 107 AONL attendees participated (34.3% and 3.6% response rate, respectively). The majority of ALSN (59.6%) and almost half of the AONL (47.6%) participants had more than 21 years of nursing leadership experience. More than half of ALSN members represented academia (59.6%), whereas most AONL participants were employed in an acute care setting (68.2%). Eighty-seven percent of ALSN participants and 52% of AONL participants were prepared at the doctoral level (Table 1). Consensus of 70% or greater ("very important") was achieved on 9 items among the ALSN group and on 8 items for the AONL group (7 were the same as ALSN) (Table 2).

Phase 3

Twenty-one national experts participated in the 3-round Delphi survey with a 0% attrition rate. Seventy-one percent of the participants had nursing leadership experience of 21 years or more, and 90.5% had a doctoral degree. Fifty-two percent worked in an acute care hospital, and 47.6% were employed in a chief nursing officer/executive role. Other roles included nurse manager/director, college faculty, industry leader, and consultant (Table 1).

Round 1

Ten items had consensus of 70% or greater as "very important" and mean of 3.57 or greater. These items included: 1) nurses' health, well-being, resiliency, and safety in the workplace (90.48%, 3.90); 2) developing and managing a nursing workforce to meet current and future healthcare needs (85.7%, 3.86); 3) healthy work and practice environments for nurse leaders

(85%, 3.81); 4) healthy work and practice environments for direct care nurses (80.0%, 3.76); 5) quantification of nursing' value across the healthcare delivery system (80.0%, 3.71); 6) design and evaluate care delivery models across the continuum (80%, 3.71); 7) nurse leaders' development and essential competencies (75%, 3.71); 8) optimizing the scope of nursing practice/practicing at the top of nursing license (75.0%, 3.57); 9) direct care nurses' influence on safety and quality and patient outcomes (70.0%, 3.62); and 10) using telehealth to support patient care delivery (70.0%, 3.57) (Table 2).

Round 2

Six items had consensus of 85% or greater and mean of 3.81 or greater with decreasing SDs between rounds 1 and 2. These items included: 1) nurses' health, well-being, resiliency, and safety in the workplace (90.5%, 3.90); 2) quantification of nursing's value across the healthcare delivery system (90.5%, 3.81); 3) developing and managing a nursing workforce to meet current and future healthcare needs (85.7%, 3.86); 4) healthy work and practice environments for direct care nurses (85.71%, 3.86); 5) healthy work and practice environments for nurse leaders (85.71%, 3.86); and 6) nurse leaders' development and essential competencies (85.71%, 3.81) (Table 2).

Round 3

Participants ranked the research priorities: 1) nurses' health, well-being, resiliency, and safety in the workplace ($\bar{X}$ = 4.24); 2) developing and managing a nursing workforce to meet current and future healthcare needs ($\bar{X}$ = 3.76); 3) healthy work and practice environments for direct care nurses ($\bar{X}$ = 3.61); 4) healthy work and practice environments for nurse leaders ($\bar{X}$ = 3.42); 5) quantification of nursing's value across the healthcare delivery system ($\bar{X}$ = 3.10); and 6) nurse leaders' development and essential competencies ($\bar{X}$ = 2.85) (Table 3).

Discussion

Our study identified 6 priority areas for NALS research: 1) nurses' health, well-being, resiliency, and safety in the workplace; 2) developing and managing a nursing workforce to meet current and future healthcare needs; 3) healthy work and practice environments for direct care nurses; 4) healthy work and practice environments for nurse leaders; 5) quantification of nursing's value across the healthcare delivery system; and 6) nurse leader development and essential competencies.

It is noteworthy that 3 of the 6 top priorities were in the topic domain of *Healthy Practice Environments: Impact on Nurse and Patient Outcomes*. Nursing administration research has a rich history of focusing on the practice environment of direct care nurses to ensure optimal patient outcomes.[17] Although none of the additional items added to the Delphi survey post–COVID-19 elevated to a top research priority, the COVID-19 pandemic has clearly amplified the importance of ensuring that we maintain a thriving practice environment for our frontline workforce. There is a growing body of descriptive research addressing the impact of COVID-19 on the well-being of nurses and their coping preferences.[18] From this important work rises a call for nurse leaders in research and practice to partner on new interventional research that tests strategies for improving the well-being and practice environment of frontline nurses and nurse leaders. Building evidence around what interventions work well, for whom, and under what conditions is essential for ensuring a healthy frontline nurse and nurse leader workforce adequately prepared to care for diverse patient populations under usual circumstances and during local and global crises.

Workforce development and management were the 2nd highest-ranked priority. Challenges with the supply and demand of nursing labor have been part of the nursing narrative for decades. The COVID-19 pandemic required the rapid uptake of new and innovative workforce strategies (e.g., cross-training). We suggest that these recently developed innovations be formally tested to add to our armamentarium of evidence-based workforce management strategies.

Our study identified quantification of nursing's value across the healthcare delivery system as a top research priority. This has been a consistently identified

Table 3. *Top NALS Research Priorities*

	Research Priority	Rank Order Mean
Priority 1	Nurses' health well-being, resiliency, and safety in the workplace	4.24
Priority 2	Developing and managing a nursing workforce to meet current and future healthcare needs	3.76
Priority 3	Healthy work and practice environments for direct care nurses	3.61
Priority 4	Healthy work and practice environment for nurse leaders	3.42
Priority 5	Quantification of nursing's value across the healthcare delivery system	3.10
Priority 6	Nurse leaders' development and essential competencies	2.85

research priority in previous studies.[19-21] Nurse experts in the areas of big data science, informatics, and economics have gained momentum in understanding methodologies to measure the value of nursing, but the national data networks needed to collaborate across institutions have yet to be actualized.[22] Nurse leaders continue to voice the need for evidence-based practice tools that can be readily translated into daily operations to quantify nursing costs and value. Thus, research focused on the development of those tools is needed to quantify nursing's value across the healthcare delivery system.

Nurse leaders' development and competencies ranked as a top research priority. In the past decade, there has been a rapid growth in the number of nurse leaders prepared with a DNP. This additional education brings a wealth of new skills to the healthcare setting. However, there remains a gap between the knowledge that DNP-prepared nurse leaders bring to the healthcare setting and empirical documentation of their outcomes.[23] We recommend that concerted efforts be directed toward research that focuses on the impact of the additional competencies acquired by the DNP-prepared nurse leader on organizational outcomes.

Future Implications

This study serves to direct the future of nursing administration and leadership research to strengthen the nursing profession's commitment toward these priority areas. The identified priority areas align with the American Nurses Association nursing administration scope and standards of practice.[24]

The final Delphi survey was informed and developed from past nursing research literature, a previous Delphi study, and input from nurse leaders representing ASLN and AONL. Interestingly, the only entirely new topic that emerged from our ALSN and AONL stakeholders was related to issues of the COVID-19 pandemic. The lack of potential new research topics identified by our respondents was surprising and suggests that many of our pressing research questions remain unanswered and continue to remain on the NALS research agenda. Although we did not study the application of research design and methods, our initial literature review documented that the large majority of studies were descriptive in nature. We suggest that our discipline would benefit from moving beyond descriptive survey and correlational studies toward experimental and interventional designs that test strategies for improvement.

Moving our research findings into the practice setting remains a challenge. Given the practice orientation of NALS, the discipline should advocate for nursing leaders to become "consumers of evidence." Moreover, we recommend that nurse leaders and researchers gain increasing knowledge of implementation science. Implementation science and dissemination research are fields that focus on developing a knowledge base around the dissemination, adoption, implementation, and sustainment of evidence-based interventions and practices. They focus on understanding how to change behavior with a philosophical underpinning that organizational context matters; one size does not fit all.[25] We recommend that nurse leaders in practice and research partner to prioritize research that focuses on testing strategies in order to understand what works, for whom, and under what conditions.

Research agenda priority setting for nursing administration and leadership is essential to advancing nursing science and improving patient care, yet funding remains a challenge.[17,26] Advocacy for federal funding and exploration of alternate sources of funding is urgently needed. Only then can we maximize the influence of nursing leadership on the delivery of health services through research, thereby advancing the health goals of the nation.[17]

Limitations

A significant limitation of this study was the occurrence of the COVID-19 pandemic. The pandemic occurred during round 2 between the 2 stakeholder data collection points (ALSN conference and AONL conference). Additional open-ended questions were added to the AONL stakeholder survey to reflect potential issues related to the COVID-19 pandemic. Information provided by AONL stakeholders was reflected in round 3 of the final survey provided to experts. Expert participants responded to the survey in summer of 2020; the historic nature of the COVID-19 public health crisis may have influenced their responses.

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