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Doctoral Advancement in Nursing: A Roadmap for Facilitating Entry into Doctoral Education

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CORRESPONDENCE:

NCIN
One Dupont Circle, NW, Suite 530,
Washington, D.C. 20036-1120

www.newcareersinnursing.org

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Introduction

Faculty shortages at nursing schools across the country are limiting student capacity at a time when the need for nurses continues to grow. Budget constraints, an aging faculty, and increasing job competition from clinical sites have contributed to this emerging crisis. The decline in the number of doctorally prepared nursing faculty is hampering efforts to adequately address the nation's overall shortage of nurses. The 2011 Institute of Medicine Report*, The Future of Nursing: Leading Change, Advancing Health* recommended that nurses achieve higher levels of education to respond more effectively to the demands of an evolving health care system and the changing needs of patients. Specifically, this report recommended doubling the number of nurses with a doctoral degree by 2020 "to add to the cadre of nurse faculty and researchers, with attention to increasing diversity" (p. 13). As stewards of the profession, more doctorally prepared nurses are needed to serve as role models, mentors, teachers, and leaders responsible for shaping how nurses are educated and how they practice.

Background

The first research-focused doctoral degree for nurses was the EdD offered by Teachers College, Columbia University in 1924. In the 1950s, Boston University began conferring the Doctor of Nursing Science degree (DNSc), and by the 1960s, the PhD in nursing had become the "gold standard" and most widely recognized terminal degree in the discipline (Robb, 2005). The purposes of the research-focused doctoral degree are to prepare for a lifetime of intellectual inquiry, creative scholarship, and research; provide preparation that leads to careers in government, business, and industry as well as academia; and result in extension of knowledge (CGS, 1977).

Though the DNSc was initially conceived to be clinically focused, the first fully realized practice-focused doctorate—offered without a strong research emphasis—was the Doctor of Nursing degree (ND) that was first established by Case Western Reserve University in 1979. Over time, the practice doctorate converted into the Doctor of Nursing Practice (DNP) degree, and in 2004, nursing schools affiliated with American Association of Colleges of Nursing (AACN) voted to move the level of education necessary for advanced nursing practice from the master's degree to the doctorate by the target year of 2015. This move called for doctoral preparation for the four Advanced Practice Registered Nursing (APRN) roles—Nurse Practitioners, Clinical Nurse Specialists, Nurse Anesthetists, and Nurse-Midwives—as well as other nurses engaged in advanced specialty practice. Today the number of DNP programs has increased to 217 with thousands of DNP graduates now in the workforce serving as leaders in the health system and working collaboratively with nurse researchers to implement new nursing science and practice innovations.

The two types of doctorates—research-focused and practice-focused—often co-exist within the same nursing education unit. Today, the majority of research-focused programs in nursing offer the academic doctorate, the PhD degree. In the university setting, the PhD is required for success as a scientist in the multiple disciplines represented within educational institutions. In the scientific arena within and beyond the Academy, the PhD is recognized as the beginning preparation for the development of independent scientific pursuit.

Statement of Need

Despite slow growth in doctoral nursing programs in the 1980s and 1990s, the number of programs and graduates has accelerated substantially since AACN's position statement on the practice doctorate was endorsed in 2004. In that year, 412 students graduated from 92 research-focused programs, and 65 students graduated from 7 practice-focused programs. By 2012, 531 students graduated from 131 PhD programs, and 1,715 students graduated from 217 DNP programs (See Table 1). Though these increases are welcome news, including the 50 percent increase in the number of PhD graduates, the rate at which we are producing doctorally prepared nurses is not sufficient to meet the nation's growing demand for nurse scientists, faculty, and specialists.

TABLE 1. **Doctoral enrollment and graduations 2004–2012**

	PhD			DNP		
Reporting Years	Schools Reporting	Enrollment	Graduation	Schools Reporting	Enrollment	Graduation
2004 - 2005	92	3,439	412	3	170	7
2005 - 2006	98	3,718	431	11	392	44
2006 - 2007	103	3,927	437	20	862	74
2007 - 2008	113	3,508	431	53	1,770	114
2008 - 2009	116	3,488	470	92	3,039	346
2009 - 2010	120	3,645	481	119	4,833	582
2010 - 2011	124	4,013	456	153	6,583	1,188
2011 - 2012	129	4,012	515	190	8,347	1,483
2012 - 2013	131	4,452	531	217	10,545	1,715

@American Association of Colleges of Nursing, Institutional Data Service. 2005–2013

Currently, fewer than 30,000 registered nurses hold the doctorate degree in nursing or a related field, which represents less than 1 percent of the nursing workforce (HRSA, 2010). Most nurses spend almost 16 years in clinical practice or administration before they go back to school for a doctorate, compared to 8.5 years for other disciplines. Often when nurses return to school, they engage in part-time study, which prolongs the time to completion and may increase their student debt burden. The end result of this extended time to completion is fewer years available to contribute to scientific advances in nursing and health, fewer years to educate the next generation of nurses, and fewer years in a senior leadership position. This shorter career span at the doctoral level is manifested in the profession as follows:

Faculty shortages in nursing schools preparing professional nurses continue to exist and present a high barrier to efforts focused on expanding the registered nurse workforce. To address the pervasive shortage of nurse educators, AACN is leveraging its resources to secure federal funding for faculty development programs, collect data on faculty vacancy rates, identify strategies to address the shortage, and focus media attention on this important issue. According to a *Special Survey on Vacant Faculty Positions* released by AACN in October 2012, a total of 1,181 faculty vacancies were identified in a survey of 662 nursing schools with baccalaureate and/or doctoral programs across the country. Besides these vacancies, schools cited the need to create an additional 103 faculty positions to accommodate student demand. The data show a national nurse faculty vacancy rate of 7.6 percent. Most of the vacancies (88.3 percent) were faculty positions requiring or preferring a doctoral degree. One of the top reasons schools cited for having difficulty finding faculty was a limited pool of doctorally prepared faculty (32.9 percent).

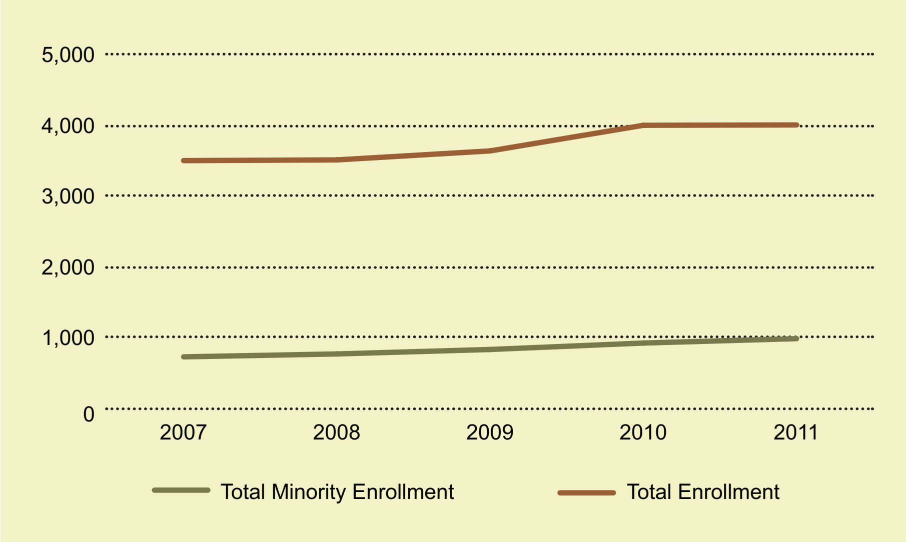
Compounding the problems associated with the faculty shortage is the fact that the overall percentage of nurse faculty with doctoral degrees has been decreasing over the past decade. From 1980 to 2003, the percentage of doctorally prepared faculty teaching in baccalaureate and higher degree nursing programs increased steadily from 16.1 percent in 1980 to 51.3 percent in 2003. Over the past 10 years, this proportion has dipped to below 50 percent as the competition for nurses with doctoral degrees has grown (AACN, 2013a).

Nurse scientists with research-focused doctoral degrees are needed to advance the discipline and keep pace with the burgeoning knowledge of basic and applied sciences in health care. The growth in knowledge, the spread of new and reemerging infectious diseases, growth of racial and ethnic populations, demands of chronic illness care, changes in health care delivery, and increasing globalization underscore the need for nurses with a strong scientific foundation to identify care innovations and translate the latest science into practice. Additionally, nurses today are called to engage in team science and interdisciplinary research in order to build the knowledge base required to address the complex health care issues of today and tomorrow. Those pursuing careers as nurse scientists will find increasing opportunities to study phenomena relevant to nursing that require knowledge and skills in interdisciplinary and translational research (AACN, 2010).

Specialized advanced nursing practice graduates with practice doctorates (DNPs) are in great demand along with nursing faculty and nurse scientists. These experts focus heavily on practice that is innovative and evidence-based, reflecting the application of credible research findings. In a series of galvanizing reports, the Institute of Medicine (2000, 2001, 2003) focused attention on the state of health care delivery, patient safety issues, health professions education, and leadership for nursing practice. These reports highlight the human errors and financial burden caused by fragmentation and system failures in health care. Among the recommendations resulting from these reports are that all stakeholders in academia and practice must promote health care that is safe, effective, client-centered, timely, efficient, and equitable; that health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement, and informatics; and that the best prepared senior level nurses should be in key leadership positions and participating in executive decisions (AACN, 2006). Academic nursing took a decisive step forward in meeting these mandates by moving to prepare all nurses engaged in advanced nursing practice in DNP programs.

Enhancing diversity among graduates of research- and practice-focused doctoral degrees is widely recognized as a top priority for the discipline. It is important that the variety of experiences and perspectives which arise from differences in race, culture, gender, religion, mental or physical abilities, age, sexual orientation, and other characteristics are reflected in graduates of doctoral programs in nursing (AACN, 2010). Though the percentage of minority students enrolled in doctoral nursing programs has steadily increased over the last 10 years, efforts to continue this growth must be sustained to ensure a robust supply of minority nursing faculty, scientists, specialists, and leaders to help shape the future of the profession (see Figure 1). For example, minority representation among nurse faculty has been slow to increase, growing incrementally from 9.1 percent in 2003 to 12.3 percent in 2013 (AACN, 2013a). With the nation's minority population now nearing 34 percent, much more must be done to recruit more students from diverse backgrounds into teaching roles if we are to achieve a faculty population that closely mirrors the population we serve.

FIGURE 1. **Minority Enrollment in Doctoral Nursing Programs (AACN, 2013b)**



Creating Solutions

To address the dearth of registered nurses who hold practice- or research-focused doctoral degrees, New Careers in Nursing (NCIN) created the Doctoral Advancement in Nursing (DAN) Committee. That committee was charged with designing and planning a program of academic progression strategies to efficiently move students from the baccalaureate or entry-level master's degree to the terminal degree in nursing.

Program Goals

The committee, composed of experts in the field of nursing education and related disciplines, focused on the following goals:

1. Developing an academic advancement program to guide and facilitate student application and subsequent enrollment into doctoral programs.
2. Investigating mentoring approaches to facilitate enrollment into a doctoral program.
3. Developing processes to identify individuals who are interested and willing to commit to completing a doctoral nursing degree.

4. Identifying multiple sources of support to assist in the transition to doctoral study.
5. Evaluating the impact of the program on the increase in the number of students who complete the application process and enroll in doctoral study.

The target population for this pilot implementation includes early career nurses who have completed accelerated degree nursing programs and have received NCIN scholarship awards. This pilot group will be highly diverse, and include individuals from groups underrepresented in nursing.

Planning Process and Committee Procedures

The committee considered a variety of factors that impact nursing education and students' decisions to pursue careers in research, academia, or advanced practice. Additionally, the committee examined the essential characteristics of the faculty, students, and resources of those nursing programs that had been awarded NCIN grants from 2008–2012 and graduated a minimum of at least 10 doctoral students each year from 2008–2012 (see Appendix A, Table 1).

To gain a broader perspective on doctoral education, trends, and national recommendations, the committee conducted a review of the literature and other key resources. The committee reviewed models of existing successful programs and current innovative strategies in nursing education. A summary listing of these programs can be found in Appendix B. During committee proceedings, nurse educators and other program leaders currently engaged in innovative curriculum design and research shared their findings and contributed to the DAN planning process.

The committee conducted four focus groups to gather more information about the lived experiences of doctoral faculty and students. Group 1 consisted of students currently enrolled in a research-focused doctoral program; Group 2 consisted of currently enrolled or recently graduated accelerated degree students who expressed a desire to earn a higher degree; Group 3 consisted of faculty of seven research-focused doctoral programs who were attending AACN's 2013 Doctoral Education Conference in San Diego, California; and Group 4 consisted of faculty of DNP programs who were attending the same AACN conference. These focus groups were recorded, transcribed, and analyzed to determine themes emerging from the discussions. A list of themes is in Appendix C.

Strategic Planning Process

The committee conducted three face-to-face meetings and five conference calls to engage in planning and discussion. The second face-to-face meeting was held during AACN's Doctoral Conference where committee members participated in dialogue with doctoral nursing faculty and conference sessions to broaden their knowledge and understanding of PhD and DNP education. The committee agreed to a program development process that follows these steps:

1. concept development;
2. development of the technical blueprint;
3. program deployment; and
4. evaluation.

After extensive discussions, the committee determined that the DAN Project would require a two-phase approach for full and successful implementation. Phase One involves developing key components necessary to ensure the DAN Project's success.

Phase One

The committee identified the key project components or deliverables to be developed during Phase One of the DAN Project. They focus on facilitating students' application to and subsequent enrollment in doctoral nursing programs. Phase One also includes developing processes to help identify individuals interested in pursuing doctoral study and to assist in the transition to doctoral study.

PHASE ONE DELIVERABLES

The key deliverables for this phase of the DAN Project include:

1. **Student Self-Assessment Survey**. This online survey will allow students to determine their readiness for doctoral study.
2. **Faculty Toolkit.** This online resource will assist faculty in advising and guiding students through the decision-making process about doctoral study. The materials can be used to assist students with the application and enrollment processes. This Toolkit will serve as the framework for DAN Project faculty webinars.
3. **Student Toolkit**. This online resource is designed to assist students with the information gathering process and planning for doctoral study.
4. **Mentoring**. Mentoring plays a large part in a doctoral student's success. Relationships develop, and both the mentor and mentee experience professional growth. Many students who have been mentored through their doctoral programs have shown interest in becoming a mentor themselves.

Of the four key deliverables, the committee identified mentoring as the key operational component and used it to guide Project design and operations. An explanation of how mentorship is to be used during this Project is provided in the Call to Action: Phase Two section.

PHASE ONE OUTCOMES

The committee established five main goals for Phase One of the DAN Project, and identified outcomes for each of those goals.

Goal I was to develop a program to guide and facilitate student application and enrollment in doctoral programs. There were two major outcomes that related to this goal. The **first outcome is a Faculty Toolkit** for nurse faculty who are advising undergraduate nursing students about potential future enrollment in a doctoral program. The **second major outcome is a Student Toolkit** to guide nurses or nursing students who are considering applying and enrolling in either a DNP or PhD in nursing program. Other key deliverables will address communicating the DAN Project to all AACN schools and offering webinars for faculty and students to acquaint them with the DAN Project.

Goal II was to develop a mentoring program that would help students to complete application to doctoral programs. **Major outcomes included a review of literature on mentoring strategies and identifying universities with successful mentoring programs for doctoral students.** The committee developed strategies for identifying mentors and establishing the number of mentors that would be needed, and determined that Phase Two of the Project would focus on this important strategy.

Goal III was to develop a process for identifying individuals interested in pursuing doctoral study. The key deliverable and **major outcome was the Student Self-Assessment Survey**. The survey will help students determine whether they are ready to pursue doctoral education, and which type of doctoral program they might find most appealing and appropriate (DNP or PhD). It will be featured in one of the webinars identified as a key deliverable for Goal I.

Goal IV was to identify multiple resources to assist students in transitioning to doctoral study. The outcomes related to this broad goal were described earlier: the **Faculty Toolkit, Student Toolkit, and Student Self-Assessment Survey.** The Faculty and Student Toolkits include a wealth of information related to personal and academic resources. Literature reviews on characteristics of successful doctoral students and doctoral programs are highlighted in these Toolkits.

Goal V is to increase the number of minority students who apply to and enroll in doctoral nursing programs. The committee identified the need for a database of individuals who might be interested in pursuing doctoral nursing education. **The Project will use the NCIN database of minority and underrepresented students and/or graduates who have a potential interest in doctoral study** and track the number of applicants and eventual enrollments from this pool of students

Call to Action: Proposed Phase Two

Phase Two of the DAN Project will involve implementing an intensive mentoring program. Mentors will guide students through applying to and enrolling in doctoral nursing programs.

MENTORING

Mentoring is the process by which a novice learns the customs, traditions, and practices of a given profession from the sage (Brown, Davis, & McClendon, 1999). This definition can be expanded upon to include a nurturing relationship in which a faculty member serves as a model, teacher, sponsor, encourager, coach, and friend to a student to promote that student's professional and personal development. This structured relationship between the student and the faculty member is considered an effective way to improve degree attainment or graduation rates for students from minority or underrepresented backgrounds (Brown et al, 1999).

According to the Council of Graduate Schools' landmark PhD Completion Project, only 57 percent of doctoral students complete their degree programs within 10-years (GGS, 2008). Moreover, the rate of degree completion for minority students is lower than that of white students, ranging from 47 to 51 percent. For many doctoral students, having a mentor contributes to a number of positive outcomes, such as social and academic interactions with faculty, producing research on their own or with others during their doctoral program, and completing their degree (Nettles & Millet, 2006). Other studies confirm that the likelihood of degree completion is affected by the quality of the relationship and interactions between the faculty member and the student, and the extent to which the student is integrated into the academic and social community of the institution (Tinto, 1993; Earl-Novell, 2006). Creighton (2007) found 11 universities with minority graduation rates of 70 percent, rivaling the graduation rates of white students. These 11 universities offered structured programs with increased faculty/student interaction, advising, mentorship, opportunities for participation in student organizations, and had programs that fostered the student's sense of self-efficacy. Researchers from the University of Illinois at Chicago (Kim et al., 2009) found that graduation rates improved when new doctoral students were matched with mentors, had ample opportunities for socialization, were given ongoing support and mentoring, and participated in activities that required a high level of faculty/student engagement.

Since evidence suggests a positive relationship between degree attainment and the mentor/mentee relationship, it is important to clearly distinguish between the terms "mentor" and "advisor." Although the terms have been used interchangeably, Creighton and colleagues (2010) describe an advisor as one who assists the student in understanding and following the planned program of study for degree attainment. Academic advising involves helping students enroll in the required courses, understand the sequencing of courses and select appropriate elective courses, and providing general guidance related to coursework for degree completion. In doctoral education the mentor is often a faculty member with a related research interest who is assigned to work closely with the student as he or she learns the research process.

The mentoring relationship should be reciprocal and mutually beneficial even if the mentor is selected based on similar research interests (Creighton et al, 2010). In most cases, the mentor serves as a valuable resource and connects the student with other resources and opportunities within and external to the academic institution. Brown and colleagues (1999) proposed that effective mentors demonstrate a willingness to engage with the student inside or outside of the classroom, co-learn with the student, and develop a strong collegiate relationship. Areas of co-learning and discovery include working with the mentee to submit research proposals for external funding and/or developing joint presentations, manuscripts, book chapters, or textbooks.

PROGRAM IMPLEMENTATION

The program will identify students who have expressed commitment to doctoral study and are interested in establishing a 12-month mentoring relationship that will guide them through the process of applying to a doctoral nursing program. Individuals may self-refer or may be recommended by a faculty member. A total of 50 individuals will be selected to participate in this 12-month pilot program and will be matched with mentors. A group of 25 faculty members who hold the terminal degree (doctorate) will be selected to serve as mentors. There will be a 1:2 ratio of mentor to mentees. The mentors will receive instruction on the mentoring process and the expectations of the program. The program will follow these steps:

Eligibility Requirements

Potential students who wish to participate in this guided mentoring program must meet four criteria: a) be a graduate of an accredited school of nursing; b) hold current licensure to practice or pass the licensure examination within three months of entering the program; c) indicate willingness to commit to 12–18 month process of preparing to apply to doctoral nursing programs; and d) agree to engage in mentoring dialogue as determined with a mentor. There are two methods for gaining access to the program, self-referral or faculty recommendation.

A. Self- Referral

1. Completes self-assessment online.
2. Completes online application.
3. Describes past work experiences.
4. Provides evidence of current nursing licensure.
5. Includes personal bio-sketch.
6. Completes contact information.
7. Completes personal doctoral milestone chart.
8. Reviews and agrees to engage in mentoring dialogue as agreed upon with mentor.

B. Faculty Recommended
   1. Submits letter of recommendation that includes the following:
      a. Description of the applicant's previous work experiences/academic performance.
      b. Bio sketch of the applicant.
      c. Complete contact information for the applicant and the nominator.
   2. The applicant is contacted and instructed to complete the steps as listed for self-referral.
   3. Completes self-assessment online.
   4. Completes online application.
   5. Describes past work experiences.
   6. Provides evidence of current nursing licensure.
   7. Includes personal bio-sketch.
   8. Completes contact information.
   9. Completes personal doctoral milestone chart.
   10. Reviews and agrees to engage in mentoring dialogue with mentor.

Assignment to Mentor

The first cohort of DAN Project scholars will include 40 (80 percent) individuals who indicate interest in pursuing the PhD degree and 10 (20 percent) who indicate an interest in pursuing the DNP degree. The following chart outlines the process for the Mentoring Relationship:

TABLE 2: **Milestones for Mentoring Relationship**

Time Frame	Mentor Responsibilities	Mentee Responsibilities
Pre-Program	■ Completes Mentor Application online ■ Reviews and accepts Program Agreement ■ Reads training materials on the web site	■ Completes Mentee Application online ■ Reviews and accepts Program Agreement ■ Reads training materials on the web site ■ Completes self-assessment and develops work plan online
Weeks 1–2	■ Contacts Mentee ■ Exchanges contact information with mentee ■ Discusses mentee's goals ■ Establishes a schedule for meeting ■ Reviews Guidelines for Interacting with Mentee provided on NCIN site	■ Replies to mentor ■ Receives clarification of the mentoring program ■ Exchanges contact information with mentor ■ Reviews Guidelines for Interacting with Mentor provided on NCIN site
Week 3	■ Begins regular correspondence with mentee (at least twice per month)	■ Begins regular correspondence with mentor (at least twice per month)
Three Months	■ Completes the Assessment of the Relationship with the Mentee ■ Completes the Mentor N3 Program Satisfaction Survey	■ Prepares for GRE testing ■ Begins writing personal essay ■ Identifies who will be asked to write letters of recommendation ■ Decides where to apply
Six Months	■ Completes the Assessment of the Relationship with the Mentee ■ Completes the Mentor Program Satisfaction Survey	■ Completes the GRE test ■ Finalizes personal essay ■ Obtains information for requesting transcripts ■ Develops list of questions for Interview ■ Requests information on financial aid ■ Completes Mentee Program Satisfaction Survey
12 Months	■ Completes Assessment of Work Plan Implementation	■ Makes application to at least 2–3 programs ■ Requests letters of recommendation ■ Requests transcripts are submitted

PHASE TWO: PROGRAM EVALUATION

The second phase of the program will include five major evaluation activities (see Figure 2):

1. monitoring the usage of the Student and Faculty Toolkits by tracking downloads from the DAN web site;
2. tracking student and faculty participation in the webinars;
3. tracking and analyzing the information from prospective doctoral students who complete the Student Self-assessment Survey;
4. monitoring student and faculty participation in the Mentoring program; and
5. tracking student application, acceptance, and enrollment in doctoral programs.

While the grant period will most likely not provide adequate time to track medium-term and long-term outcomes, systems will be put in place to prepare for this work.

DAN Model of Impact

Inputs

Deliverables

- Student Toolkit
- Faculty Toolkit
- Self-Assessment Survey
- Mentoring Program
- YouTube Videos
- Webinars
- Outreach Activities

Participants

- RWJF Program
- AACN Staff
- DAN Committee
- Schools of Nursing Faculty
- Mentors
- Students/Nurses

Outputs

- RWJF Resources
- AACN Resources
- DAN Committee Resources
- Schools of Nursing Resources
- Mentor Resources
- Mentoring Software
- PR Solutions

Outcomes/Impacts

Short-Term

- Student Toolkit Downloads
- Faculty Toolkit Downloads
- Students taking the Self-Assessment
- Faculty signing up to be Mentors
- Students requesting a Mentor
- Students participating in activities by certain benchmarks
- Students applying to graduate school

Medium-Term

- Students applying to doctoral programs
- Students enrolling in doctoral programs
- Mentors returning for a second mentoring session

Long-Term

- Students viewing YouTube video for Information
- Students retained in the first year

Conclusion

The DAN Project addresses the recommendation of the national landmark report, *The Future of Nursing: Leading Change, Advancing Health*, to double the number of nurses with doctorates by 2020 (IOM, 2011). Historically, few registered nurses have advanced their education to obtain a terminal nursing degree (PhD or DNP). Of the nearly three million registered nurses in the U.S. less than one percent have earned a doctoral degree (HRSA, 2010). The proportion is even lower for nurses from underrepresented groups. As the U.S. population becomes increasingly diverse, it is imperative that the nursing population evolves to reflect those changing demographics. An increase in the number of nurses with doctoral degrees who are from populations underrepresented in nursing will help diversify the community of nurse faculty, scientists, and leaders. Developing more doctorally prepared nursing leaders from minority backgrounds is one strategy to decrease persistent health disparities and improve health outcomes among racial, ethnic, and socially and economically disadvantaged populations.

The committee's work thus far has been aimed at increasing the number of underrepresented students or nurses pursuing doctoral education. The committee developed the following tools and strategies to recruit and prepare prospective doctoral students:

- **Student Self-Assessment Survey**: This self-assessment will help nurses determine their readiness for doctoral study and identify which type of degree (PhD or DNP) best suits their career interests.
- **Student Toolkit**: This resource will help guide nurses through the application and admissions processes for doctoral nursing programs
- **Faculty Toolkit**: This resource will guide nursing faculty who advise students about enrolling in doctoral education programs.
- **Structured Mentoring Program**: This program is the proposed second phase of the DAN Project. The structured mentoring program will provide students with further guidance and support during the application and enrollment process. The literature presents clear and compelling evidence that students from ethnically diverse and underrepresented backgrounds perceive a lack of faculty involvement/mentoring and feelings of isolation as barriers to academic persistence and degree completion. Mentoring is one of the few verifiable techniques for facilitating success in improving racial and ethnic diversity in doctoral education (Woodrow Wilson National Fellowship Foundation, 2005).

Based on research and feedback from multiple sources (focus groups, surveys, and a review of the literature) the DAN Project committee has developed tools and resources to help nurses successfully apply to and enroll in doctoral nursing programs.

Call to Action: Proposed Phase II

Phase Two of this Project will focus on establishing the pilot mentoring program as outlined in this document. Studies have shown that structured mentoring increases student retention and degree completion. Mentoring fosters students' feelings of belonging, acknowledges respect for students as sources of ideas and insights, models values, and bolsters the retention and graduation rates of students from underrepresented backgrounds. Students from underrepresented groups are often the first in their families to pursue doctoral education. As a result, many do not have a point of reference or someone to "show them the way," which can lead them to suffer academically. Mentoring enhances the mentees' aspirational goals and can facilitate degree completion (Mingo, 2008).

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Appendices

Appendix A

TABLE 1. **NCIN Grantee Schools with 10 or more PhD Graduates by Degree, 2008–2012**

School	Total PhD Graduates	Total DNP Graduates	Total Doctoral Graduates 2008–2012
Azusa Pacific University	13	0	13
Boston College	26	0	26
Columbia University	22	61	83
Duquesne University	35	50	85
Florida Atlantic University	14	14	28
George Mason University	33	8	41
Georgia State University	24	0	24
Hampton University	27	0	27
Johns Hopkins University	14	83	97
Kent State University	12	0	12
Louisiana State University Health Sciences Ctr	15	0	15
Loyola University Chicago	24	3	27
Marquette University	15	22	37
Medical University of South Carolina	20	30	50
Michigan State University	11	0	11
New Mexico State University	10	0	10
New York University	21	16	37
Oregon Health and Science University	24	30	54
Rush University Medical Center	16	161	177
Saint Louis University	15	19	34
Simmons College	15	11	26
The Catholic University of America	23	5	28
The Ohio State University	19	15	34
University at Buffalo	15	0	15
University of Alabama at Birmingham	28	184	212
University of California-Los Angeles	26	0	26
University of California-San Francisco	76	0	76
University of Central Florida	17	17	34
University of Hawaii at Manoa	17	0	17
University of Illinois at Chicago	52	28	80
University of Iowa	36	60	96
University of Maryland	40	70	110

TABLE 1. **NCIN Grantee Schools with 10 or more PhD Graduates by Degree, 2008–2012 (continued)**

School	Total PhD Graduates	Total DNP Graduates	Total Doctoral Graduates 2008–2012
University of Massachusetts-Amherst	14	74	88
University of Miami	11	69	80
University of Michigan	33	0	33
University of Minnesota	33	160	193
University of Missouri-Columbia	17	0	17
University of Missouri-Saint Louis	15	0	15
University of Nebraska Medical Center	13	0	13
University of New Mexico	10	0	10
University of Pennsylvania	43	0	43
University of Pittsburgh	29	25	54
University of Rochester	22	9	31
University of San Diego	56	41	97
University of South Florida	30	50	80
University of Tennessee - Knoxville	16	3	19
University of Tennessee Health Science Center	29	234	263
University of Texas Health Science Center - Houston	21	38	59
University of Texas-Austin	25	0	25
University of Virginia	24	39	63
University of Washington	55	102	157
Villanova University	23	0	23
Wayne State University	16	4	20
West Virginia University	17	25	42
Yale University	16	0	16
Total	2195	2984	5179

TABLE 2. **Characteristics of All Doctoral Programs Schools with 10 or more PhD Graduates**

Variables	Descriptions
Program Size	8 schools have more part-time than full-time (2 schools had no data)
Diversity (n=11)	Men - Range: 4% - 82%; Median: 9%
	Black/AA - Range: 2% - 23%
	Asian - Range: 1% - 14%
	American Indian/Alaska Native - Range: 0% - 3%
	Hispanic/Latino - Range: 0% - 10%
Tuition and Expenses	Out of State (Full Time Students) - Range: $10,224 - $35,396
	Out of State (Part Time Students) - Range (per credit hour): $568 - $3,478
	In State (Full Time Students) - Range: $3,942 - $17,286
	In State (Part Time Students) - Range (per credit hour): $146 - $1,479
Funding and Student Support	Teaching Assistantships
	Research Assistantships
	Traineeships
	Fellowships
	Department of Defense
	National Institutes of Health
Student Resources	Teaching Skills
	Proposal Writing
	Statistics
	Orientation
	On-Campus Conferences
	Graduate Association
Employment Status at Graduation (n=12)	Job/Contract/Definite Commitment - Range: 51% - 92%
	Post-Doc - Range: 10% - 30%
	Still Seeking: 3% - 29%
Primary Job Responsibilities	Research & Development - Range: 0% - 41%
	Teaching - Range: 48% - 100%
Time to Completion	BSN to PhD: 3 to 6 years
	MSN to PhD: 2 to 6 years
	Nursing Practice, DNP: 1 to 3 years
GPA	Min. - 3.0 GPA
GRE Requirements	Taken within the last 5 years

Appendix B

PROGRAM MATRIX

Name of Program	Program Description	Target Population	Program Outcomes
The Leadership Alliance Contact Information: 164 Angell Street, Box 1963, Providence, RI 02912 401-863-1474	The Leadership Alliance is an academic consortium of 32 institutions of higher learning, including leading research and teaching college and universities. The Alliance seeks to create a core of outstanding leaders and role models for coming generations by providing excellent educational opportunities through its activities and initiatives. These programs include undergraduate internships and mentoring; graduate support and fellowships; faculty development opportunities, and research exchanges.	Underrepresented minorities	The mission of the Leadership Alliance is to develop underrepresented students into outstanding leaders and role models in academia, business and the public sector.
Meyerhoff Scholars Program Contact Information: UMBC Meyerhoff Scholars Program Academic Services 106C 1000 Hilltop Circle, Baltimore, MD 21250 410-455-3139	The Meyerhoff Scholars Program offers a different emphasis that focuses on highly able students who aspire to become leading research scientists and engineers. The program is open to people of all backgrounds committed to increasing the representation of minorities in science and engineering. The program adheres to 13 key components: recruitment, financial aid, summer bridge, program values, study groups, personal advising and counseling, tutoring, summer research internships, mentors, faculty involvement, administrative involvement and public support, and family involvement. To help acculturate students in the program's philosophy and provide them with the tools they need to succeed in their first college semester, all incoming Meyerhoff scholars attend an accelerated six-week residential program, called Summer Bridge. Through for-credit courses in calculus and African American studies, as well as, non-credit courses in chemistry, physics, study skills, and time management scholars experience the rigors of college-level instruction and learn how to meet higher standards of performance. During Meyerhoff scholar's freshman and sophomore years, students meet regularly with program staff for academic advising, while in their junior and senior years, sessions focus more on preparation for graduate and professional school applications. Meyerhoff scholars participate in research, conferences, paid internships, and study-abroad experiences that ground their knowledge and open their minds to other cultures and perspectives. Scholars have also participated in the International Research Training Program, funded by the National Institutes of Health, at the University of Lancaster in England.	Prospective undergraduate students of all backgrounds who plan to pursue doctoral study in the sciences or engineering and who are interested in the advancement of minorities in those fields	The program is having a dramatically positive impact on the number of minority students succeeding in STEM fields; students were 5.3 times more likely to have graduated from or be currently attending a STEM PhD or MD/PhD program than those students who were invited to join the program but declined and attended another university.
The PhD Project Tara Perino Associate Director, The PhD Project *tperino@KPMG.com* 201-307-7932 Zoila Jurado Senior Associate, Outreach and Program Administrator *zjurado@kpmg.com* 201-505-6184	The PhD Project was established by The KPMG Foundation in 1994, following the termination of the Minority Summer Institute (MSI). MSI encouraged minority undergraduates to look at careers in academia, but did not meet intended expectations. Bernie Milano, then head of recruiting at KPMG, and Peter Thorp of Citigroup, led a process to shift the model and focus on minorities at the graduate level instead. The PhD Project was launched with additional support from GMAC and AACSB. In 2005, The PhD Project once a program of the KPMG Foundation, became a separate 501(c)(3) with the KPMG Foundation remaining as the primary funder and administrator. The PhD Project's mission is to increase the diversity of corporate America by increasing the diversity of business school faculty by targeting minority business scholars. Following matriculation through their PhD programs they serve as role models attracting and mentoring minority students. The PhD project supports a nurturing academic environment that targets the preparation of all students by allowing them to experience the richness of learning from a diverse faculty member.	African-Americans, Hispanic-Americans, and Native Americans	The PhD Project's mission is to increase the diversity of corporate America by increasing the diversity of business school faculty.

Program Matrix (continued)

Name of Program	Program Description	Target Population	Program Outcomes
The NAHN Fellowship Program Wallen, G.R., Rivera-Goba, M., Hastings, C., Peragallo, N., & de Leon Siantz, M. (2005). Developing the research pipeline: increasing minority nursing research opportunities. Nursing Education Perspectives, 26(1), 29–33. Retrieved from *http://search.proquest.com/docview/236652579?accountid=14541*	The National Institutes of Health (NIH) Warren Magnuson Clinical Center (CC) and the National Association of Hispanic Nurses (NAHN) developed a research career development postdoctoral fellowship to increase the number of Hispanic nurse researchers involved in health disparities research. The NIH/NAHN designed the fellowship program to include a substantial multiple mentorship component with clearly established project goals, expectations, and effective communication channels. The fellowship focuses on increasing exposure to the research-intensive environment and workforce through mentorship, inclusion, and infrastructure. Fellows are assigned both a peer mentor and senior mentor. The peer mentor interacts with fellows daily, while senior mentors utilized monthly one-on-one meetings to expand on the fellowship experience. Fellows have an unlimited amount of resources including access to online journals, office space and supplies, and training workshops in order to fulfill the goals and objectives of the fellowship program.	Underrepresented minorities (Hispanic Americans)	Increasing the number of underrepresented minorities in the health professions is believed to be one possible solution to reducing minority health disparities. Increase the number of Hispanic nurse researchers involved in health disparities research.
The Institute for Broadening Participation Building Partnerships to Support Diversity in STEM Contact Information: P.O. Box 607 Damariscotta, ME 04543 1-866-593-9103 207-563-5929 *contactus@ibparticipation.org* *http://www.pathwaystoscience.org/*	The mission of the Institute for Broadening Participation (IBP) is to increase diversity in the Science, Technology, Engineering and Mathematics (STEM) workforce. We design and implement strategies to increase access to STEM education, funding, and careers, with special emphasis on diverse underrepresented groups. We believe that diversifying the STEM workforce is the best way to ensure our nation's economic vitality and solve global challenges. IBP provides technical support, including website development, digital application tools, and data management. IBP is funded by the National Science Foundation (NSF) and the National Aeronautics and Space Administration (NASA). This web portal highlights program and funding opportunities in STEM from K-12 through the graduate and post-doctoral level. The site provides a central repository for programs, funding opportunities, news, events, contacts, profiles, and best practices associated with STEM programs across the country. Students may use the site to search programs and funding opportunities, read student and faculty profiles, contact programs of interest, and add their name to our mailing list. Faculty may use the site to search contacts, identify complementary STEM programs and research efforts across the country, and publicize STEM news and events. Highlighted programs include AGEP: Pathways and Connections, NASA One Stop Shop Initiative, Maine STEM, Pathways to Ocean Science, REU Pathways to Engineering: A Digital REU Mentoring Manual, MS PHD'S, National Alliance for Doctoral Studies in the Mathematics, Collaborative Research COSEE, Maine Physical Sciences Partnership, A Rising Tide: Advancing Women and Leadership at the University of Maine, and Analysis of Potential Interaction Whale-Lobster Gear Interaction.	Faculty of undergraduate and graduate programs	The goal is to ensure that students from underrepresented backgrounds pursue doctoral degrees in math and science fields. These students are given tools, a nurturing environment, and encouraged to succeed.

Program Matrix (continued)

Name of Program	Program Description	Target Population	Program Outcomes
Minorities Striving and Pursuing Higher Degrees of Success in Earth System Science (MS PHD'S) Contact Information: Institute for Broadening Participation (IBP) P.O. Box 607 Damariscotta, ME 04543 Toll Free: (866) 593-9103 *contactus@ibparticipation.org* *www.IBParticipation.org*	MS PHD'S was established with a goal of providing professional development experiences to facilitate the advancement of minorities committed to achieving outstanding Earth system science careers. Minorities are given increased exposure to Earth system science community, via participation in scientific conferences, mentoring relationships and virtual community activities. Program participants will have opportunities to improve their professional skills (e.g. grantsmanship, research, communication, teaching, etc.) development opportunities. Program participants also receive information regarding future funding, education and career opportunities and resources. Networking, membership, and collaboration among peers, junior- and senior-level researchers and educators are also provided. The Professional Development Program engages one new cohort of students per year (approximately 30 minority undergraduate and graduate student participants per cohort) in a series of activities conducted in three phases. Phase I: Student participant and mentor partnership orientation, initial mentor-mentee partners' interactions, networking, professional development, broad Earth system science and engineering exposure and MS PHD'S community building activities will occur during Phase I. This phase will occur during the Fall American Geophysical Union meeting in San Francisco, CA. Phase II: Participants will engage in additional Earth system science and engineering exposure, mentor-mentee interaction, networking and professional development activities at one of the MS PHD'S Organizational Partners' meetings (American Geophysical Union, American Meteorological Society, American Society of Limnology and Oceanography, National Association of Black Geologist and Geophysicists, Joint Oceanographic Institutions, Ocean Carbon and Biogeochemistry (OCB) program, On the Cutting Edge Professional Development for Geoscience Faculty program, and The Oceanography Society). Each participant will attend the meeting that most closely aligns with his or her specific academic and professional interests. Phase III: The final phase includes 'capstone' activities, which will occur at the National Academies in Washington, D.C. During Phase III, participants will engage in a series of brownbag discussions, government agency visits, and dialogs with professional society and foundation representatives. In addition to these activities, each student participant will also receive a scholarship award of up to $1,000.00 and participate in a tour of the NASA Goddard Space Flight Center facilities.	Minority undergraduate and graduate students	At the conclusion of the MS PHD'S in Earth System Science Initiative's Professional Development Program, it is anticipated that the student participants will be better prepared to achieve their academic and professional goals. It is also expected that as a result of mentor-mentee partnerships, science exposure, and networking activities, these individuals will remain actively engaged in their fields of specialization and respective professional societies.
The National Alliance for Doctoral Studies in the Mathematical Sciences Contact Information: Caitlin Crispin Department of Biostatistics, College of Public Health The University of Iowa 105 River St. N332 CPHB Iowa City, IA 52245-1009 319-384-1580 319-384-1591 *mathalliance@uiowa.edu*	The National Alliance for Doctoral Studies in the Mathematical Sciences is an alliance between a group of proven mentors in math sciences departments at several PhD and master's granting universities together with mentors at math science departments at colleges and universities which serve a substantial number of underrepresented undergraduate students. IBP provides technical support to the National Mathematics Alliance, including website development, digital application tools, and data management. The Alliance was founded in 2002 and since that time more than 450 undergraduate math sciences majors have benefited from our programs. Many of these students are in graduate school and several are now undergraduate Alliance faculty and inviting their own students to join. The Alliance brings together three Alliance Anchor Programs with proven track records in training underrepresented students in the mathematical sciences. As a result of this expansion we have expanded our scope to include a graduate program and a postdoctoral program. We have also begun an initiative in the statistical sciences under the leadership of Dr. Kathryn Chaloner.	Underrepresented students in the mathematical sciences.	Building a network of students and faculty from underrepresented backgrounds. Encouraging students to pursue advance degrees in the math and science fields.

Appendix C

DOCTORAL AND POTENTIAL DOCTORAL STUDENTS' DECISIONS TO PURSUE ADVANCED STUDY AT THE DOCTORAL LEVEL

Analysis Prepared by: Asher Beckwitt, PhD, CEO

TABLE OF CONTENTS

1. BACKGROUND AND METHODOLOGY

Background

The goal of this study was to explore doctoral students and potential students' decisions to purse their doctoral degrees and their views about the process.

Methodology

Two focus groups were conducted. Each group consisted of approximately 10 participants and lasted about one hour in length. They were all digitally recorded and transcribed verbatim.

A qualitative content analysis approach (Hsieh and Shannon, 2005) was used to inductively and deductively analyze the data. Deductive (or pre-set) codes) were identified as necessary based on the topics, questions, and expected answers in the questionnaire guide. Data was also inductively coded to identify the categories and themes that emerged from the data. QSR Internationals NVivo 10 was used to store, code, query, and organize the data.

The data was imported into NVivo 10. Using a line-by-line open coding technique (Glaser & Strauss, 1967), each sentence of the focus group responses was reviewed and coded with one or more codes. Initially, the analyst deductively coded the focus groups by assigning the preset codes to the text. The analyst then re-read the same response and inductively coded the text with the emerging codes.

Participants' words were used to establish the inductive codes. Codes were added and/or modified as necessary as new meanings emerged (Schilling, 2006). Using a constant comparison method (Glaser & Strauss, 1967), each piece of text was systematically compared and assigned to one or more codes. To assess coding consistency, codes and their assignment to text were checked and rechecked. Codes were also compared to each other to form categories or themes that emerged from the data.

Two types of trustworthiness were used to ensure credibility of the data. Negative case analysis (Lincoln & Guba, 1985) was employed to check all of the codes against the themes to consider any alternative explanations about codes that did not fit into the themes. Themes were modified if necessary to include any additional codes. Interpretations of the themes were checked against the raw data (Lincoln & Guba, 1985).

Each focus group was initially coded and analyzed separately. They were then analyzed together to address the themes that emerged from both groups. This report describes the themes from each focus group and the overall themes from both groups.

2. DOCTORAL STUDENTS GROUP THEMES

Several themes emerged from the doctoral students group. These themes were: employment and timing of when to return to school; feeling welcome, supported, mentored; finances; and motivations to pursue a doctoral degree.

Theme 1: Employment and timing

This theme describes participants' employment, time management, and their decisions about the timing of when they returned to school. The majority of the participants in this study were employed in a professional or academic setting. Professionally, they worked as nurses in administrative, research, clinical, and/or community settings. In academia, most of the participants taught undergraduate courses and worked with undergraduate students who were pursing associates or bachelor's degrees.

Most of the participants made the decision to return to school while they were working in a professional or academic setting. They also continued to work as they pursed their doctorate. One participant discussed the support she received from her supervisor as she worked and attended school.

> *Working in a leadership position in the support of the VP of nursing and, again, it's the first time that I worked with someone who is PhD credentialed, so she understands the process and allows me the flexibility of the time totally and making your own hours and not having that pressure at work, so she was in support of that initiative.*

Participants also mentioned the importance of time management in managing school, work, and their family life. "I learned that you have to time manage. Time management is essential, but even more so here because I'm managing a full time job and a family."

In addition, participants discussed pursuing their degree when their children went to college. One participant stated, "When my kids went [to] college, I said what I am doing, what should I do, what is the goal of my life." Another participant explained, "I've always had a love of learning and now that my children basically are out of the house I felt like it was my time."

Theme 2: Feeling welcomed, supported, mentored

Overall, participants chose XXXX because they felt welcomed or at home in the doctoral program. One participant mentioned the importance of being able to attend an information session which helped her to be prepared before starting the program.

> *I think at XXXX I really felt welcomed. You were able to speak to the first cohort, so I felt very well prepared for that college and they were very open, whereas other places, it was just like look online, see what the course requirements are, what the eligibility is.*

Another participant mentioned that it was important to her to attend a school where she felt supported and the faculty shared the same research interests.

> *It's more of a partnership and a collaborative atmosphere and I think that there's such a variability of faculty who are doing so many different things that whether you're in administration or practice or quality, there's something for everyone, I guess, like the cupcake store. There's something for everyone, so it was... that's what drew me to this particular program.*

Participants also mentioned the importance of having mentors who encouraged them to pursue a doctorate. Mentors helped participants make the decision to return to school.

> *I knew that this is what I wanted to do but I wasn't sure if I was ready yet and they sort of pushed you along, gave you a little nudge. Their belief in you to rise to the occasion I think was very important for me.*

Another participant went back and forth about whether she should return to school or not at that time since she had young children. Her mentor helped her to make a decision to return to school.

> *I sat down with a mentor of mine and she said to me, 'if you wait for the right time you'll be waiting forever because nothing ... the stars never align perfectly. But if you get this now at your age it will be that much more time that you'll have to utilize it, to use it and to really do more with it.' So for me, it was that back and forth in my mind but then it was a conversation with one mentor that really I guess you could say made the difference for me. And I said, 'you know what? I'm just going to do it now,' and that was just it.*

Theme 3: Finances

Participants were concerned about how to finance their continuing education. The majority of participants sought financial support from work through a reimbursement and/or faculty forgiveness loan program. Most of the participants had received a faculty forgiveness loan.

One participant had three children who were in college while she attended school. She knew she would not be able to afford school without a loan or reimbursement from work.

> *I made a decision to leave a tenured faculty position that did not offer tuition reimbursement to go back into a clinical setting that would at least if that fund every dried up that I would get at least $5,000 towards my degree.*

Theme 4: Motivations to pursue a doctoral degree

Participants pursued their doctorates to obtain the skillset, knowledge, and credentialing they needed to advance in their careers, pursue their interests, and/or make a difference or give back to nursing or academia. One participant in nursing administration expressed the importance of having a doctorate in the workplace.

> *I think that when an administration in nursing leadership sits at the boardroom table, those PhD ... the skillset, the competencies that you learn at the PhD level allows you the ability to speak at a different ...with a different set of skills than if master's prepared.*

The majority of participants pursued a doctoral degree so that they could teach or advance in their teaching career. One participant stated, "My purpose for going back for my PhD was because I wanted to become a teacher in a four year program." Another participant expressed the importance of having a doctorate to advance in academia.

> *I've actually taught for 30 years in nursing. I've held a faculty position full time for five of those years. What I realized of late now is that in order to pursue a tenure track position, it mandates a PhD, so that was a driving force that I had held a faculty position and in some ways never felt on par at the table with others that held a PhD.*

Participants also returned to school to further their knowledge so that they could pursue their passions or interests.

> *Working with a minority group that is what my passion is and how I can help the underprivileged. Then there are so many opportunities available if somebody guides them, so I said, 'let me go back to study and get a PhD, and that will give me more knowledge about the policies and all the things that are available so I can work with that.'*

Participants also emphasized the need to pursue a PhD in order to learn the research skills they needed to further their interests.

> *I'm interested in doing research. I have a few issues, you could say topics that are near and dear to my heart that I see where more research is necessary to ... in the areas of maternal/child health, and I have so many ideas and so many things I'd like to do but I don't know how to do them, so going for my PhD is giving me now the education where it will no longer be just an idea but I could take my idea, I could create a study and I could really turn it into something.*

In addition, participants pursued a doctorate in order to make a difference and/or give back.

> *I've had leadership roles and usually it follows whatever degree I advance through, so the next step for me, the natural step is to go on to the doctorate program which is why I'm here for the PhD and the PhD in particular because I think it has more of a voice. It has more prestige and I think I could make more of a difference with a PhD.*

Another participant came to the United States from Ghana to study nursing. She felt passionate about pursuing her degree so she could make a difference in nursing by teaching.

> *When I was in nursing school I always wanted to give back not knowing that I would end up in the United States. I always said I would give back to nursing by teaching. That was my main goal.*

3. ACCELERATED DEGREE STUDENTS GROUP

The participants in this group addressed three main themes. These themes were degree path, work experience, and selecting a school/program.

Theme 1: Degree Path

Degree path was the most commonly discussed theme in this group. It refers to the path that participant's wish to pursue in the future after completing their current degree. There was a lot of discussion about whether to pursue a PhD or a DNP. In exploring future degree options, participants identified that the PhD is for people who are interested in research and teaching. On the other hand, the DNP is a practitioner/clinical degree. Participants chose which degree they wished to pursue based on their interests.

> *You've got the PhD which is primarily teaching and research. I know that there are some of us, like myself, who want to really focus on the advanced patient care. And the PhD doesn't do much for you in patient care. And that's why I brought up the DNP because I would love to get my DNP.*

Participants were also concerned about the changing requirements for practice and the stability of the degree.

> *Are the boards going to require a DNP to get your nurse practitioner? Because if all they require is a master's in nurse practitioner for the same scope of practice, there is no incentive. But aside from that, some schools, including my own at Kent State, are phasing out their master's programs in anticipation of the law changing.*

There was a lot of confusion among participants about the benefits of different career paths.

> *Let's say I want to be a family nurse practitioner and I want to spend 20 years practicing as a family nurse practitioner. But I want to hold my doctoral degree. Will my PhD allow me to become a nurse practitioner?*

In addition, some participants questioned whether it is worth it to pursue a doctorate.

> *And so I feel like the DNP program, I still have the same scope of practice as a DNP, how many more tools is it going to give me? I mean, they say well, you are going to do more research with Meta-analysis and you're going to look at more journal articles and be reviewing the stuff. But that's what we promote good nurses to do already. So if a good nurse in the master's program was really good and a good nurse in the DNP program was really good, at the end of the day could you tell the difference?*

Theme 2: Work Experience

This theme addressed participants' perspectives on what they need to do in order to prepare themselves to pursue a doctorate. The majority of participants stressed the importance of gaining work experience before they pursue their doctorate or during their degree process.

> *I think you need some work experience in a hospital because what you learn from your didactic courses is important, it's important to use that in a real setting. And I think in a hospital you learn interdisciplinary, inter-professional communication with doctors, physical therapists, with the patients. And you don't get that if you are not working in a hospital. And I think collaborating with different professions is very important for the patient and for their outcomes.*

One participant felt it was important to have work experience to gain respect in the workforce.

> *If I am 28 – I am 26 now – 28, 29 when I get my PhD and here I am in charge because I want to do health policy and everything, in charge of BSNs and MSNs that are 35, 40, that have more experience and have been in the workforce longer than I have, how are they supposed to look to me as a leader unless I have been in it for a long enough time?*

Another participant mentioned the idea of having a residency program, similar to doctors, that is sponsored by the schools for nurses to gain experience while they are pursuing their degree. This participant felt that a residency program would help nurses gain experience in the work environment (as well as be able to choose a specialty area within nursing), which would help them determine which degree to pursue.

> *So as you get closer to the residency program, you decide well, I want to do a PhD in this area or I would like to be a midwife or I'd like to be a nurse anesthetist that would then go to the DNP, the PhD level. But it [residency program] would help bridge that gap and it would push it a lot quicker instead of us trying to just climb job to job to job. The program would, maybe within a year time; you would get the experience necessary. So you stop having those questions of do they have the experience. Because there are some programs you go straight into the advanced practice and then people really question their experience because they didn't work as a nurse before. And I hope the residency program would bridge that.*

Theme 3: Selecting a school/program

The main factors participants mentioned in selecting a school were: finances, scheduling, mentoring/networking opportunities, and meeting their academic and/or professional needs. Most of the participants were concerned about the financial aspects of pursuing a doctoral degree. Participants mentioned that finances were a barrier to continuing with their education.

> *If I have some incentives and funding and support, I am ready for a PhD program. So that financial component for me is huge. I have the passion, I want to do it. But if I don't have the means, it's not something I can go into any time soon.*

A few participants were concerned about accruing more student loans.

> *I think it's more of a barrier, a financial barrier. Most of us this is our second degree already to get our BSN or going through our master's to MSN. We already have loans from our first degree and now we have moved laterally and got the great opportunity that the Robert Wood Johnson Foundation has given us. But that, I don't think, has covered everybody's student loans for our BSN or MSN, but it helped considerably.*

In addition, participants stated it was important to them to find a program that would work with their schedules. Participants needed a doctoral program that would allow them the flexibility to manage their work and personal lives.

Flexibility is going to matter to me, with the ability to hopefully work a lot—I don't know if I want to say fulltime, but work enough and be able to do the schooling for a doctorate degree at the same time. And I know there are schools that have curriculums based around having a career while doing the doctorate. So that is the flexibility personally for me.

It was also important for participants to feel as though they had a professional network and/or mentoring support. One participant talked about opportunities she had to network at her school.

Our scholarship advisor, she facilitates networking opportunities so we can go to conferences and then also we have like a meet and greet with all of our, the faculty of the college of nursing which is like graduate level faculty. And we get to know them and they get to share what their program is about or what their passion in certain areas of research is.

Another participant discussed the importance that her mentor played in her decision to continue education.

Dr. Callia in Stoneybrook, she told me upon graduation I'm going to give you a year and then I am going to come find you in the hospital, I must enroll you in a master's program. Having that, having her embrace such a responsibility, to mentor me because she knew I wanted a PhD, she said a year's experience is good, that along the line during the program you build up more clinical skills. But go for a year and then think of advanced practice. So I think if each institution would have someone like that, that would really help.

Participants were also concerned about finding a degree program that met their academic and professional needs. One participant mentioned that they need to know as much as they can about the program before they enter to make sure it meets their educational needs. "A clear definition of what the program is offering, what the guidelines/expectations are, what are the prerequisites to get in the program?" Another participant citied the reputation of the school is important to them.

Are they well known for the particular field that I want to go into? Because we could talk about PhD, but there's different avenues. Do they put out a lot of, do you want to be a teacher, and do a lot of teachers come out of that school? You want to be a researcher; do they do a lot of research? So you can go to a school that doesn't cost much at all, but if they don't put you where you want to be…

4. OVERALL THEMES FOR BOTH GROUPS

Several themes were discussed in both groups. These themes were research, finances, and mentoring. Overall, participants were interested in pursuing a PhD in order to gain the skills they needed to engage in research, or felt like the PhD was more oriented towards research. Participants mentioned the importance of financial assistance in order to pursue, or continue to pursue, a doctoral degree. In addition, participants were interested in programs that would allow them the flexibility to work while attending school. Finally, participants noted having individual mentoring, or networking/mentoring, opportunities at their school/s were significant in their decision to pursue a doctoral degree.

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