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Increasing the Number of Nurse Faculty with Doctoral Degrees: Outcomes of the Maryland Nurse Educator Doctoral Grant Program 2013-2018

EXECUTIVE SUMMARY

- ▶ The nursing faculty shortage worsens the nursing shortage.
- ▶ The Nurse Educator Doctoral Grants for Practice and Dissertation Research (NEDG) program was launched in 2012 to expedite doctoral degree completion and reduce personal debt for full-time nurse faculty in Maryland.
- ▶ The program provided financial incentives to retain and develop a cadre of nursing faculty with terminal degrees.
- ▶ The NEDG program met its goals of increasing the number of doctorally prepared faculty in Maryland and retaining them in teaching positions.
- ▶ It is highly regarded by awardees and clearly influential in facilitating degree completion.

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NEARLY 1 MILLION registered nurses in the United States will reach retirement age within the next 10-15 years (Keele & Alpert, 2015). Moreover, one-third of current faculty will retire by 2025, 44% of whom hold research-focused doctorates (Fang & Kesten, 2017). Though the Institute of Medicine (IOM, 2010) report on *The Future of Nursing* recommended 80% of the nursing workforce be educated at the baccalaureate level, nursing programs will be hampered in their ability to meet this goal because of the looming faculty shortage. Thus, the nursing faculty shortage worsens the nursing shortage. As noted by Fang and Kesten (2017), there is a “sense of urgency for the nursing education community to address the impending exodus of senior

faculty and to develop younger faculty for their successful succession” (p. 633).

Since 2001, the mean age of full-time faculty at nursing schools offering baccalaureate and graduate education has increased steadily (American Association of Colleges of Nursing [AACN], 2016). For doctorally prepared faculty holding the ranks of professor, associate professor, and assistant professor, mean age increased 6 years, 3.8 years, and 0.7 years, respectively. This is significant because most vacant positions within schools of nursing require or prefer faculty with a doctoral degree (AACN, 2016) and the limited pool of doctorally prepared faculty was identified by 68.2% of programs as an issue in faculty recruitment (Oermann, Lynn, & Agger, 2016).

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Maryland's Nurse Faculty Shortage

In 2003, the State of Maryland identified a worsening nursing shortage, with a 14.7% vacancy rate in healthcare organizations, along with a 6% decline in enrollments and 9% drop in graduations from Maryland nursing programs. Despite a variety of statewide initiatives, according to the 2014 U.S. Department of Health and Human Services Health Resources and Services Administration (2014), Maryland is one of 16 states projected to have a significant shortfall of RNs by 2025.

The Nurse Educator Doctoral Grants for Practice and Dissertation Research (NEDG) program was launched in 2012 to expedite doctoral degree completion and reduce personal debt for full-time nurse faculty in Maryland. Earlier research (D. Seigart, personal communication, 2011) found “time and money” were the two greatest barriers to doctoral degree completion for employed nurse faculty. Since 2013, 98 faculty from 22 Maryland nursing programs have received NEDG awards. Outcome data including awardee sociodemographic profiles, degree completion by type, retention in faculty role, and use of NEDG funds are presented for 2013-2018. Recommendations for program improvement and implications for nurse educators and program administrators are discussed.

Financial Support and the Impact on Furthering Education

Peer review research findings corroborate the influence of prior college debt on the decision to return to school. Jones-Schenk, Leafman, Wallace, and Allen (2017) found that the academic progression plans of entry-level nursing graduates were strongly influenced by their existing financial obligations. A study of deans and directors of nursing programs in eight states revealed a lack of knowledge regarding the financial incentives for tuition support and loan repay-

ment (Morgan et al., 2014). While some states offered support for service (SFS) programs to “increase the pool of potential nurse faculty and to increase the educational qualifications of current nurse faculty within the state” (Morgan et al., 2014, p. 282), nursing school administrators were not always aware of them. Furthermore, there was mixed support for pursuit of a non-nursing doctoral degree even though varied educational backgrounds could enrich the fabric of the faculty providing nursing education (Morgan et al., 2014).

In a similar survey of Maryland Deans and Directors (Maryland Higher Education Commission, 2017a, 2017b), 18 of 28 academic leaders (64% response rate) reported on their use of the state's SFS programs. Half of the respondents were from community colleges and half were from baccalaureate programs. The findings of the 20-question survey indicated 94% were aware of the SFS programs; however, only 56% used all three available programs and 6% used none of them. Of interest, 44% of the responding deans and directors had personally used at least one of the SFS programs. The vast majority (89%) credited the SFS programs with increasing educational qualifications of applicants and current faculty, recruiting faculty (89%), and retaining faculty (78%). These academic leaders supported funding for a variety of doctoral degrees including the doctor of philosophy (PhD), doctor of education (EdD), and doctor of nursing practice (DNP).

Wheeler and Eichelberger (2017) explored factors influencing the pursuit of a doctoral degree and found that availability of scholarships, tuition reimbursement, time of classes, available online courses, tuition costs, and work demands were important considerations. However, the most important motivating factor was personal development (62%) followed by career advancement (27%). More than half of graduates (59%) planned a career

in academia, with 65% enrolled in research-focused programs and 48% enrolled in practice-focused programs (Wheeler & Eichelberger, 2017).

Whether funds for doctoral study are from federal, state, or private sources, nurses considering a program of study want assurance that financial support is available and will remain a source of continuous support (Nehls & Rice, 2014). Even when resources are offered for educational advancement, nursing faculty may not take advantage of them unless the academic culture serves as a motivator and encourages completion of doctoral degrees among faculty (Agger, Oermann, & Lynn, 2014).

In fiscal year 2015, the U.S. Department of Education collected approximately \$4.5 billion on defaulted student loans. Around 114,000 borrowers, or a little less than 10% of those with student loans, had their Social Security payments garnished in that year. The population of student debt holders aged 50-64 in default has increased 407% since 2002. The borrowers aged 65 and older facing Social Security garnishment have increased by 540% (Government Accountability Office, 2016). The number of students graduating in debt is mounting at an alarming rate. Feeg and Mancino (2014) found that nursing students are similar to all other undergraduates with an average of \$30,000 in student loans. This has implications for pursuit and completion of advanced degrees and choosing an academic career that requires a doctoral degree.

Doctoral Degree Choices and Impact on the Nurse Faculty Shortage

Although DNP education focuses on preparation of nurses for the advanced practice role, those graduates are often sought as nurse educators. They are considered to be ideal for clinical teaching and advancement of translation of nursing knowledge into practice (Fang &

Table 1.
Nurse Educator Doctoral Grants Distribution and Retention FY 2012-FY 2018

Fiscal Year	NEDG Recipients	Funding	# Lost in Cohort	Retention Rate
2013	16	\$330,000	3	81%
2014	10	\$270,000	3	70%
2015	25	\$655,000	5	80%
2016	15	\$350,000	0	100%
2017	19	\$440,000	0	100%
2018	13	\$305,000	0	100%
Total	98	\$2,350,000	11	88.77%

SOURCE: Maryland Higher Education Commission, Nurse Educator Doctoral Grants for Practice and Dissertation Research (NEDG), 6-year program review completed December 8, 2017.

Bednash, 2017). The percentage of full-time nurse faculty with a DNP in 2015 was 14%. In their study, Fang and Bednash (2017) found 56.8% of DNP students who anticipated a career in academia were already full-time or part-time faculty members.

An issue not adequately addressed in the literature is the preparation of both DNP and PhD graduates for the faculty role. The National League for Nursing (NLN, 2017) recently issued *Outcomes and Competencies for Graduate Academic Nurse Educator Preparation* to guide schools of nursing, not only those who offer graduate degrees in nursing education but also those whose DNP and PhD students intend to pursue an academic career.

NEDG Program

The NEDG program was built on analysis of existing faculty-focused resources and direct communication from Maryland deans and directors of nursing programs in 2011 who indicated the need for current faculty to have the time and funding to complete doctoral degrees. NEDG was structured to provide a sustainable financial solution for faculty who recently completed doctoral degrees or who were anticipating doctoral degree completion within the next 2 years. The maximum grant award was \$30,000 per nominee which was distributed to the employing institution for

release to faculty members for specific degree-related expenditures. The only requirements of faculty awardees were continued progress toward degree completion/degree conferral, ongoing employment as a faculty member in good standing, submission of a copy of final scholarly work, and citations of published work to be posted on the NSP II website (www.nursesupport.org).

Nomination and eligibility. Deans and directors of all Maryland nursing degree programs were invited to nominate an unlimited number of current full-time faculty who met the criteria for degree completion. To be eligible, nominees were required to be in pursuit of an appropriate graduate degree and working in a full-time clinical, nurse educator, or nursing faculty position, as certified by the dean or director. A nomination form, plan of study, support letter from the dean/director, and budget proposal describing both existing support and budgetary needs were required. Allowable expenditures included expenses related to dissertation research or capstone completion, tuition or loan repayment, professional development, conference fees, travel expenses for speaking engagements, and professional association membership dues. A selection panel reviewed all nominations and made recommendations for funding.

Program evaluation. Program evaluation used a retrospective,

longitudinal, post-hoc review of secondary data as well as information from a researcher-made, 20-item web-based survey which was sent to all NEDG grant recipients ($n=98$). Sociodemographic data included gender, ethnicity, birth generation, length of career nursing experience, employment status, employer type and region, years expected to work as faculty, current salary range, and type of doctoral degree sought/completed. Additional questions explored the impact of the NEDG grant on awardees personally, areas for which they used the funding, amount of student debt when NEDG was received, and strategies for recruitment and retention of nurse faculty. Data were collected over a 2-month period from February 10 through April 15, 2017 with a 65% survey response (64/98).

Awards and faculty retention. To date, 12 universities and 10 community colleges from all regions of Maryland have accessed NEDG funds to support current faculty in doctoral degree completion. This represents 76% of nursing programs in the state. From 2013-2018, 98 nurse faculty were awarded over \$2.35 million. The distribution by year, total funding, and faculty retention appear in Table 1. Over the 6 years of the NEDG program, the average retention of faculty was 88.8%. Of the 11 faculty who left employment with Maryland nursing

Table 2.
Degrees Sought by Year of NEDG Award

	DNP	PhD in Nursing	EdD	PhD Other	Total
2013	4	4	3	5	16
2014	6	4	0	0	10
2015	11	9	3	2	25
2016	5	7	3	0	15
2017	9	7	0	3	19
2018	6	4	3	0	13
Total	41	35	12	10	98

programs, three returned to clinical practice as advanced practice nurses, seven moved out of state relocating to New York, South Carolina, Pennsylvania, Massachusetts, West Virginia (however, three became directors of nursing programs), and one retired.

Profiles of recipients and degrees sought. The majority of survey respondents were female (92.2%, $n=59$) and Caucasian (59.4%, $n=38$); however, some diversity was noted with 28% ($n=18$) self-identifying as Black, 7.8% ($n=5$) Asian, 4.7% ($n=3$) Hispanic/Latino, 1.56% ($n=1$) American Indian, and 1.56% ($n=1$) other. The preponderance, 62.5% ($n=40$), were from Generation X (born between 1961 and 1981), with 29.69% ($n=19$) noted as Baby Boomers (1943-1960), and 9.38% ($n=6$) Millennials (1982-2000). This group represented skillful nurses with 56.5% ($n=36$) reporting 21 years to more than 40 years of experience, 23.44% ($n=15$) with 16-20 years, 12.5% ($n=8$) with 11-15 years, 6.25% ($n=4$) with 6-10 years, and only one with less than 5 years.

Degrees sought by year of NEDG award appear in Table 2. Consistent with national trends, the DNP degree was most popular, followed by PhD in Nursing or Nursing Education, EdD, and PhD in non-nursing fields (e.g., PhD in Behavioral Health and Community Health, Human Educational Psychology, Public Policy and Health Administration, Health Administration, Higher Education, and Public Health). Of the 98 NEDG recipients, 43 were attending in-

state schools while 55 were attending out-of-state programs. As of April 2017, two-thirds (67.19%, $n=43$) had completed the doctoral degree for which they had received funding.

Recipients reported their current salary range as follows: \$70,000-\$89,999 (42.86%), \$50,000-\$69,999 (23.81%), \$90,000-\$109,999 (12.7%), \$110,000-\$130,000 (12.7%), and more than \$130,000 (4.76%). The vast majority were employed as full-time faculty (90.32%, $n=56$), with 9.67% ($n=6$) indicating positions as part-time/adjunct faculty. While 40% ($n=25$) indicated they expected to work as a faculty member for 11-20 years, more than one-third ($n=22$) expected to work as a faculty member for 10 years or less.

Debt load and how NEDG funds were used. Recipients reported having sizable student debt when they received their awards: 22% owed \$20,000-\$49,999, 15.87% owed \$50,000-\$74,999, 12.7% owed \$10,000-\$19,999, and 11% owed \$75,000-\$99,999. Surprisingly, 9% reported debt of greater than \$100,000 with another 5% owing more than \$175,000.

NEDG funds were used in the following ways: tuition support for doctoral education (55.56%), repayment of student loans from previous educational programs (42.86%), conference attendance/presentation (39.68%), technology support hardware/software (38.10%), materials and supplies (34.92%), continuing education to maintain practice

requirements (15.87%), salary for research assistant (9.52%), and course release time (1.59%).

Impact of NEDG on faculty role. When asked how important the NEDG award was in completing a doctoral degree, 85.17% rated it as “extremely important.” One recipient commented, “The NEDG award assisted me in paying off my student loans for my PhD. As a result, I did not have to change jobs to obtain an increase in my salary to pay off my student loans.” Another stated, “Without this award, I would have been forced to do additional hours outside my teaching role to supplement my income. The interest on my loans was accumulating and my salary alone was not sufficient to support me and my family. The extra time working a second job was slowing down my progress toward completing my doctoral degree.” A third remarked, “Course release time was by far the most helpful component of this award. It allowed me the time necessary to accomplish the course and project requirements in a timely manner. Attainment of my terminal degree and still fulfilling my responsibilities as a full-time faculty was possible with the help of this award.” The NEDG also provided funding for dissemination of scholarly work through conference presentations, both podium (63%) and posters (54.35%).

Recommended strategies to recruit and retain nursing faculty. Out of 12 possible strategies considered most effective to recruit and retain nursing faculty, the NEDG recipients ranked student loan forgiveness first (73.44%, $n=47$), followed by scholarships for tuition (65.63%, $n=42$), salary supplements (50%, $n=32$), professional development (46.88%, $n=30$), mentorship in the faculty role (40.63%, $n=26$), and leadership support (34.38%, $n=22$).

Discussion

The NEDG program has met its goals of increasing the number of

doctorally prepared faculty in Maryland and retaining them in teaching positions. It is highly regarded by awardees and clearly influential in facilitating degree completion. However, several trends have emerged that require further exploration. Among NEDG recipients, the DNP degree is the most popular and is on the rise, eclipsing the PhD in nursing. Interest in the EdD and non-nursing PhDs is also high. This is consistent with national trends but is concerning in light of reports doctorally prepared faculty are preferred over DNP-prepared faculty (Dreifuerst et al., 2016). Conversations about the appropriate educational preparation for a faculty position are needed to help degree seekers make the best choices based on their career goals and to consider the implications of having diversity in degree types among faculty.

A large number of NEDG awardees were attending out-of-state programs rather than staying in Maryland. At present, there are two PhD in nursing programs, four DNP programs, and three EdD programs. Given the availability of additional funding for tuition and fees for attending an in-state school, through the Hal and Jo Cohen Graduate Nurse Faculty Scholarship (Maryland Higher Education Commission, 2018), it would be important to explore why Maryland nursing faculty are choosing out-of-state doctoral programs with considerably higher tuition rates.

The majority of NEDG recipients were already burdened by student loans at the time of their NEDG award. Some of this debt extended as far back as their first undergraduate degree. Many NEDG recipients were not aware they could include student loan debt in the budget submission for the NEDG award, so they often prioritized financing new activities over paying off current student debt. Improvements in the application directions and revision of the budget template would help address this

issue. However, a larger conversation is needed to explore the implications of student loan default, on garnishment of Social Security, and revocation of professional and driver's licenses (Silver-Greenberg, Cowley, & Kitroeff, 2017).

Faculty salaries emerged as an area of concern for NEDG recipients. Given the years of nursing experience among the group, salary levels are modest and not competitive with those in clinical practice. With the combination of lower salaries for faculty positions and the costs associated with doctoral degree completion, a career in academia may not be attractive. Salary supplementation was recommended by half of the recipients as a measure to recruit and retain nursing faculty who have invested time and money to advance their education. Additional strategies to improve faculty compensation need to be explored as salary issues consistently emerge as barriers to the recruitment and retention of high-quality educators (Dreifuerst et al., 2016; Fang, Bednash, & Arietti, 2016; Oermann et al., 2016).

Consistent with national statistics, one-third of NEDG recipients were from the Baby Boomer generation and indicated they would be retiring in the next 10 years. While it was encouraging to see that more than 60% were from Generation X, only 40% of them indicated they would be working as faculty for the next 11-20 years. Exploration of the intentions of this group would be helpful to uncover what might entice them to stay in their teaching roles. In addition, it would be helpful to explore the characteristics of the Millennials who were seeking doctoral degrees at an earlier stage in their teaching careers and what persuaded them to do so.

The NEDG program supported nursing faculty from a variety of racial/ethnic backgrounds; however, there is room for improvement. More nurse educators from under-represented groups are needed to serve an increasingly diverse stu-

dent population. It is critical to encourage academic careers and develop a pipeline of minority educators. Mentorship and leadership development are important components for successful completion of graduate studies and preparation for a faculty role. Publicity about the NEDG program featuring awardees from under-represented groups may help in this effort.

Despite efforts to encourage nominations from all nursing programs, seven programs did not have any NEDG applicants. Further investigation is warranted to uncover the reasons. Once this information is known, interventions can be developed to assure wider representation from all 28 programs in the state.

While much has been uncovered about 65% of the NEDG recipients who responded to the survey, little is known about the other 35%. It is equally important to learn about the characteristics and experiences of the non-responders. Future research using other methodologies could provide valuable information to inform the NEDG program.

Conclusion

The NEDG program provided financial incentives to retain and develop a cadre of nursing faculty with terminal degrees. The personal sacrifices related to employer expectations for higher degree completions are not being matched by higher salaries and compensation. The student debt crisis is a burgeoning threat to meeting the IOM (2010) goal of doubling the number of nurses with doctoral degrees. Given the risks of losing professional licensure, this phenomenon requires further investigation. Furthermore, it is crucial that Maryland's in-state schools maximize ways to compete for nursing faculty doctoral students, whose tuition and fees could be fully funded through the NEDG and other NSP II programs.

Although there is wide agreement on the existence of the nursing faculty shortage, there are limited evaluative data to determine the best strategies for addressing

it. Recruitment and retention efforts that focus on monetary incentives to complete doctoral degrees have been effective with the NEDG program as described here. However, the NEDG was developed for full-time faculty and does not address recruitment and retention of the growing number of adjunct, part-time, and non-benefited nurse faculty positions.

Limitations and Future Investigation

The use of surveys to gather program evaluation data has limitations including forced choice responses and completion rates. There are key issues that deserve deeper investigation. Future focus groups with NEDG recipients could improve understanding of the lived experiences of those completing higher degrees. Through increased awareness of facilitators and barriers to accessing funds or gaps in funding support, nurse leaders can advocate for and implement changes in existing support for service programs. With the burden of student loan debt and financial worries noted by the majority of nurse faculty achieving terminal degrees, equity in salary or increased financial support for educational advancement is urgently needed. Going forward, it is important to explore answers to these nursing workforce issues.

Encouraging trends are evident with the age of nursing doctoral students decreasing (NLN, 2017) and the age distribution of full-time faculty increasing in the youngest age groups (Fang & Kesten, 2017). However, intensive efforts including funding for workload reduction, tuition reimbursement, and mentorship of talented young faculty must continue to prepare the next generation of nurse educators. As Dreifuerst and colleagues (2016) identified in a study of 548 nurses, issues with money, time, and program selection are among faculty concerns. Future research is needed to

expand on these themes. In addition, doubling the doctoral completions is insufficient to prepare future faculty for teaching, when neither the PhD in nursing nor the DNP curricula include pedagogically focused coursework to fulfill the role and expectations of a doctorally prepared nurse faculty. Looking beyond the financial support provided by the NEDG, increasing the completions of doctoral degrees among Maryland nurse faculty may require a more focused effort such as hosting a statewide forum on doctoral options, expanding support for service programs, and seeking the right program fit for individual faculty. \$

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