

# The Maryland Nurse Support Program II: A Program Evaluation of Faculty Workforce Initiative

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*Statewide initiatives to address registered nurse and nursing faculty shortages funded through a percentage of pooled hospital-based revenue are described and evaluated. From 2016-2020, \$90 million was awarded to 24 nursing programs for 106 competitive institutional grants and 532 faculty to prepare for or advance in teaching roles. Outcomes included increasing doctoral degree conferrals by 73% and adding 162 full-time and 190 part-time faculty to the workforce.*

Nursing workforce shortage estimates vary widely. Registered nurse (RN) shortages of about 500,000 across the country and regionally are estimated between 2016 and 2030 (Zhang et al., 2018). The current shortage is fueled by supply and demand factors including decreased nursing program enrollments, expanded advanced practice roles for nurses, increased patient acuity, and nurses leaving the workforce (Haryanto, 2019). Contributing to the national nursing shortage is the inadequate supply of nurse faculty (Daniel & Smith, 2018). These changes in the nursing workforce invariably impact healthcare systems.

The Maryland Health Services Cost Review Commission (HSCRC) recognized the importance of nursing to the health of the state when it created the first Nurse Education Support Program in 1986, followed by implementation of the first phase of the Nurse Support Program I (NSP I) in June 2001,

to address the short and long-term issues of recruiting and retaining nurses in Maryland hospitals. The program has been funded for over 19 years, with the most recent program evaluation and renewal in 2017. The HSCRC established the Nurse Support Program II (NSP II) in 2005 to increase the state's academic capacity to educate nurses, improve quality of care, and reduce hospital costs. NSP I and NSP II are each funded through pooled assessments totaling up to 0.1% of hospital-regulated gross patient revenue.

The NSP II, administered by the Maryland Higher Education Commission (MHEC) in collaboration with HSCRC, is designed to increase nursing graduates and mitigate barriers to nursing education through competitive institutional grants and faculty-focused initiatives. Competitive institutional grants fund initiatives to expand the number of nursing lecture and clinical faculty, support academic programs in developing innovative curricula and teaching methods, and enhance nursing enrollments and graduations to

meet the demands of Maryland's hospitals and health systems for nursing professionals. Faculty-focused initiatives recruit, develop, retain, and reward a cadre of well-prepared faculty and clinical nurse educators for nursing programs and hospital partners. These initiatives include the Hal and Jo Cohen Graduate Nurse Faculty Scholarship (GNF), New Nursing Faculty Fellowship (NNFF), Nurse Educator Doctoral Grants for Practice and Dissertation Research, and Academic Nurse Educator Certification awards. A service commitment is associated with the GNF and NNFF wherein the nominee agrees to work for 1 year in a full-time educator role for each year of the award.

## Background

At the end of the first decade of NSP II funding, a comprehensive program evaluation was conducted to examine this new endeavor (2006-2015). Daw and Terhaar (2017) reported 109 competitive institutional grants totaling nearly \$100 million were awarded to 27 nursing programs leading to a 27% increase in graduates. Increases in nursing faculty were seen as a result of fellowships, scholarships, and grants awarded to 950 faculty. These outcomes led to the renewal of NSP II funding for 5 years (2016-2020). In 2019, at the request of HSCRC, another comprehensive program evaluation was conducted, as it considered financing for an additional 5 years (2021-2025).

## Methods and Data Collection

Between January and October 2019, data were collected through a review of mandatory data tables (see Table 1) from interim annual and final reports submitted for 106 competitive institutional grants for FY 2016-FY 2019.

These grants included 47 that ended during the period and 59 funded during this time and continuing through FY22. Data gathered for analysis included number of additional pre-licensure students and graduates from associate of science in nursing, bachelor of science in nursing, and master of science in nursing entry programs; number of degree completions (RN-BSN); nursing licensure pass rates; number of graduate students and master degrees; doctor of nursing practice (DNP); doctor of philosophy in nursing (PhD) and post-graduate certificates; students and graduates from underrepresented groups (gender, ethnicity, and race); student retention and graduation rates; number of faculty with National League for Nursing (NLN's) certified nurse educator (CNE®) credential; number of faculty vacancies; and reasons for unfilled positions. Data were extracted on achievements in developing new nurse leaders and clinical faculty, clinical simulation expertise, collaborations in interprofessional education, advanced practice preceptor training, and overall impact on hospitals through academic-practice partnerships.

Additional sources of data included those publicly available from participating agencies.

- MHEC (2019a & b) provided data on nursing enrollments and graduates within the state from 2015-2019.
- Maryland Longitudinal Data System provided a customized report for academic progression for an associate degree to bachelor's in nursing degree completions within the state. Additionally, they delivered de-identified data on the diversity of Hal and Jo Cohen Graduate Nurse Faculty Scholarship recipients who were preparing to teach in a nursing program or hospital education department.
- Maryland HSCRC provided data on Magnet®-designated and non-designated hospitals, as well as those pursuing Magnet status with nurse-sensitive, quality, and patient satisfaction indicators. They also furnished agency nurse usage and annual cost to hospitals.
- Maryland Board of Nursing (MBON, 2020) offered data on annual pre-licensure graduates from nursing programs, licensure examination pass rates, and number of newly licensed nurses each year.
- Maryland Nursing Workforce Center (MNWC) provided a customized report from the American Association of Colleges of Nursing (AACN, 2019) that identified limited faculty, clinical sites, classroom spaces, and budget constraints as reasons 475

**Table 1.**  
**Mandatory Data Table**

<b>Criteria</b>	<b>Measure</b>
Nursing Pre-Licensure Graduates	Actual vs projected annual outcome for each year of grant funding
Nursing Higher Degrees Completed	
Nursing Faculty at Doctoral Level	
Collaborative or Statewide Results	
Annual Project Dissemination	Number of publications/presentations List of citations
Nursing Faculty with PhD in Nursing	Equivalents (total FTEs) full-time, part-time
Nursing Faculty with PhD - Other	
Nursing Faculty with DNP	
Nursing Faculty with EdD	
Nursing Faculty with MSN	
Clinical Nursing Faculty with BS	
Clinical Nursing Faculty with MS	
Full-Time Faculty with NLN Certified Nurse Educators Credential	Number with CNE and percent of full-time faculty
Number of Vacant Faculty Positions	Full-time, Part-time
Limitations in Filling Faculty Vacancies	Describe
Availability of Clinical Placements	Specify area(s) of shortage and list all current clinical sites
Enrollment	Unduplicated headcount for academic year
Program capacity (new students only)	
Number of qualified applicants	
Qualified but not admitted	
Admitted who registered	
Graduation rate	
Retention rate	For each: Maryland, geographic neighbors, other states, total number, percent in-state
Geographic Impact	
Nursing Faculty (full-time)	
Clinical or Part-Time Faculty	
Nursing Students	Rate achieved each year for 5 years
Pass Rates (NCLEX-RN)	
Employment Survey	Data collected within 1 year after graduation

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Table 1. (continued)  
Mandatory Data Table

Criteria	Measure
Degree	For each: total graduates, total responses, total employed, total employed in nursing, employment rate in nursing by all graduates, employment rate in nursing by all respondents
BSN	
RN-BSN	
CNL	
Master's	
Nursing Certificate	
DNP	
PhD	
<b>Grand Total</b>	All information required for each of the degrees listed
Number of Students who Graduated within 150% of the Stated Program Length	
Demographics • Students/Faculty Number from Underrepresented Groups in Nursing • Students and Faculty	Total number should add up to number of individuals in group
<b>Ethnic/Racial Minority</b>	Total number for each group: Asian, Black/African American, Latino/Hispanic, Pacific Islanders and Native American, White, mixed race, other
Nursing Faculty (full-time)	
Clinical or Part-Time Faculty	
Nursing Students	White, non-White, total number
Nursing Faculty (full-time)	
Clinical or Part-Time Faculty	
Nursing Students	Number male, female, total
<b>Gender</b>	
Nursing Faculty (full-time)	
Clinical or Part-Time Faculty	Number under 30, over 60, and total
Nursing Students	
<b>Age</b>	
Nursing Faculty (full-time)	Number under 30, over 60, and total
Clinical or Part-Time Faculty	
Nursing Students	

BSN = bachelor of science in nursing, CNE = certified nurse educator, CNL = clinical nurse leader, DNP = doctor of nursing practice, FTE = full-time equivalent, NLN = National League for Nursing

potential students were turned away from state nursing programs (AACN, 2019). MNWC also secured advanced practice workforce data and advocated for gathering additional state and national nursing workforce data.

The evaluation also sought answers to these questions: Did the number of graduates from Maryland nursing programs increase? Did the number of nurse faculty in Maryland increase?

## Evaluation Framework

The program evaluation followed Patton's Utilization-Focused Evaluation (UFE) model (Patton, 2012) and was structured in a reporting framework by funding allocation compared to targeted nurse and faculty outcomes. The UFE model is a problem-solving approach rather than a methodology and assumes stakeholders have a high degree of involvement in all evaluation phases. As such, it is a guiding framework built on five steps:

1. Identify and engage primary intended users.
2. Gain stakeholders' commitment to focus the evaluation by identifying key issues for in-depth analysis and establishing the evaluation's priority purposes.
3. Decide on evaluation options to generate credible findings and gather data.
4. Analyze and interpret findings and reach conclusions for use by

primary intended users.

5. Disseminate significant evaluation findings. The UFE is guided by end-users (nurses, faculty, administrators, consumers, health professionals) while the evaluator serves as an expert, collaborator, colleague, facilitator, problem-solver, analyst, and diplomat. The end-users were identified and engaged from the beginning of the process to ensure they were guiding decisions throughout the evaluation process. This model resulted in highly involved stakeholders participating in discussions and deliberations focused on program revisions needed for the future.

A 12-member advisory group was formed in October 2018 to obtain the broadest perspective possible in implementing the UFE model. The group included six NSP II faculty project directors from community colleges, public and private universities representing all geographic regions of Maryland, doctoral student who was also a nurse educator, nurse consultant with the NSP I hospital-based programs, nurse residency director, retired dean member of previous evaluation team and HSCRC, and MHEC staff members (see Table 2). Advisory group members worked in subcommittees from October 2018 to September 2019, analyzing data from various NSP-II program aspects.

In September and October 2019, before preparing the final

evaluation report, outcomes were shared with a broad group of stakeholders representing hospital chief nursing officers, nurse residency program leaders, regulatory agencies, and professional organizations with discussions about recommendations for future directions of the NSP II programs (see Table 3).

Among the stakeholders were members of the Maryland Hospital Association, Maryland Action Coalition, Maryland Organization of Nurse Leaders, Maryland Nurse Residency Collaborative, Maryland Nurses Association, Maryland Council of Deans and Directors of Nursing Programs, Maryland Nursing Workforce Center, Maryland Board of Nursing, Statewide Academic-Hospital Practice Partnership Committee, and HSCRC NSP I Advisory Board.

## Program Evaluation Findings

Over the past 5 years, \$90 million in grants were awarded to 24 Maryland nursing programs for competitive institutional grants and 532 nurses for faculty-focused awards to prepare for educator roles, take nurse educator positions, complete doctoral degrees, and demonstrate excellence in the specialty practice of nursing education. An evaluation of each grant type follows.

### Competitive Institutional Grants

From 2016-2020, over \$74 million was awarded to 106

**Table 2.**  
**Evaluation Advisory Group**

<b>Title</b>	<b>Role in Evaluation Group</b>	<b>Organization (schools of nursing unless otherwise noted)</b>	<b>Geographic Area of Maryland</b>
Outreach and Grants Management	Director, NSP II Initiative Evaluation	Maryland Higher Education Commission	Statewide
Chief, Information Management and Program Administration	Regulatory representative	Health Services Cost Review Commission	Statewide
Professor, Organizational Partnerships and Adult Health	Academic-practice partnerships	Public University	Central urban
Associate Dean	Nursing Workforce Comparisons Evaluation subcommittee; Doctoral/ APRN and CNE	Private University	Central urban
Associate Professor	Faculty-focused programs, scholarships, ATB subcommittee	Public University	Western (rural)
Professor, Director of Clinical Simulation Center	Faculty-focused programs (NEDG, GNF, ANEC)	Public University	Eastern shore
Nursing Program Director	Nursing Education: NCLEX-RN & Diversity	Historically Black College and University	Central urban
Associate Professor, Dual Enrollment Coordinator	ATB Evaluation subcommittee; Nurse residency	Community College	
Nurse Consultant	Nurse consultant; Nurse residency; NSP I evaluation	Maryland Organization of Nurse Leaders	Statewide
Doctoral Student	NSP II Project manager and faculty	Community College	Central
Nurse Consultant	NSP I Data Collection and Management; hospital liaison and diversity subcommittee	Health Services Cost Review Commission	Western rural
Director of Nursing and Associate Dean for Health Sciences	Nursing Education Research Evaluation and Simulation subcommittee	Previous NSP II Evaluation Team, Retired	

ANEC = Academic Nurse Educator Certification, APRN = advanced practice registered nurse, ATB = associate to bachelors, CNE = certified nurse educator, GNF = graduate nurse faculty, NEDG = nurse educator doctoral grants, NSP = Nurse Support Program

**Table 3.**  
**Future Directions Discussion**

Evaluation Outcome Initiatives	Stakeholder Perspectives
Increase Nursing Pre-Licensure Enrollments and Graduates	Successful programs should lead to an increase in the number of graduates for Maryland Schools of Nursing.
Advance the Education of Students and RNs to BSN, MSN, and Doctoral Levels	Agreements between academic programs preparing associate and baccalaureate graduates should streamline continuity of education program requirements to support students' achievement of advanced degrees. Academic and clinical partnerships should encourage and support nurses to obtain advanced preparation as clinicians, educators, and researchers.
Increase the Number of Doctorally Prepared Nurse Faculty	Programs should be supportive of developing and retaining new nurse faculty for schools of nursing to increase student enrollments and meet Institute of Medicine goals to double the number of nurses with doctoral degrees.
Build Collaborations between Education and Practice	Academic and clinical practice settings should work together to increase nursing school enrollments, efficiently and effectively utilize clinical practice sites, and continually improve quality of care and patient satisfaction.
Develop Statewide Resources and Models	Funding support should be given to increase greater intercollegiate, leadership, and clinical simulation experiences for academic and clinical preparation of students.

multi-year projects at 13 community colleges and 11 universities, including public, private, and historically Black institutions for competitive grants. The award distribution was geographically diverse: Western Maryland (3), Eastern Shore (3), Northern Maryland (3), and Southern Maryland (1). The remaining institutions were located in the central region of the state and Baltimore City. As noted in Table 4 and Figure 1, the largest investment was in support of academic progression, associate to bachelor's (ATB) dual enrollment and RN to BSN initiatives, followed by academic partnerships, growing the number of pre-licensure nurses, and other statewide initiatives. Doubling the number of faculty with doctorates was the initiative with the lowest dollar award.

Funding for academic progression initiatives produced three key outcomes: (a) improved time to completion of ATB by 50% with an estimated cost savings of \$13,000 per recent nurse graduate; (b) increased statewide proportion of BSN-prepared nurses to 60% to meet hospital skill mix needs; and (c) revision and update of the Maryland Nursing Articulation Education Agreement for seamless academic progression for licensed practical nursing to associate degree nursing to BSN. Outcomes of academic-practice partnerships included expanding NSP II opportunities to 558 hospital-based nurses, and leadership development for 48 nurse faculty and 89 hospital emerging and current nurse leaders through a year-long leadership program. Awards to

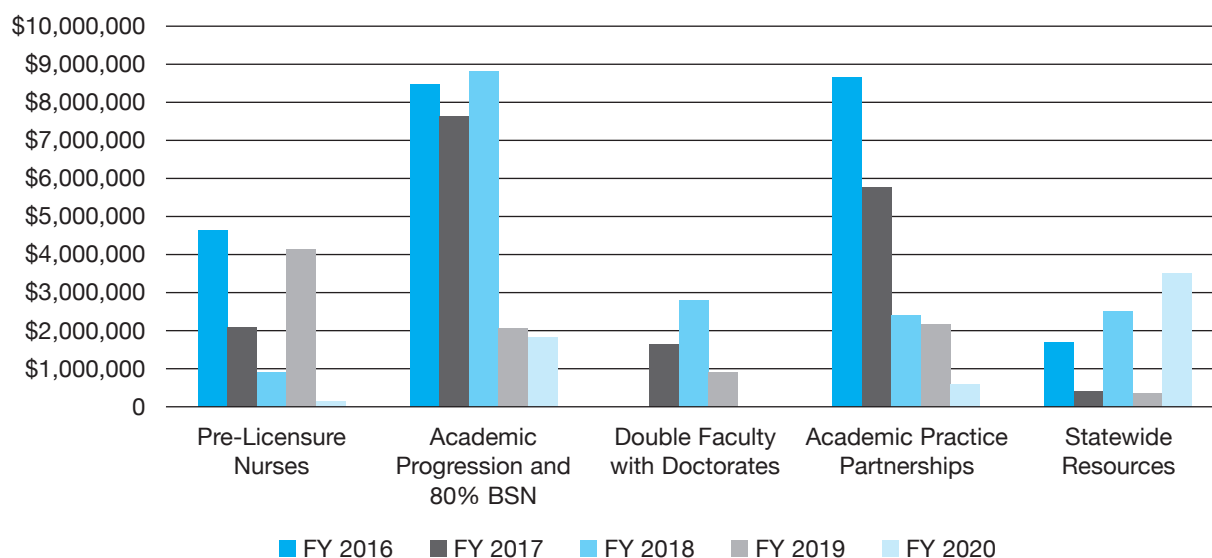
expand pre-licensure programs, enrollments, and graduates supported curriculum development to create a new MS-entry option at a large university, expand opportunities for second bachelor's degree career change students, and improved graduation rates. Statewide resource grants led to expanded training in clinical simulation use for 343 nurse faculty and 51 hospital educators and a 12% increase in the use of simulations in lieu of clinical sites, maximizing available clinical placements. Additionally, the Maryland Nursing Workforce Center was established and joined 34 other states in the National Forum of State Nursing Workforce Centers. The goal of doubling the number of faculty holding doctoral degrees was exceeded with a 78% increase.

Table 4.  
Funding for Competitive Institutional Grants FY 2016-FY 2020

FY Awarded	Pre-Licensure Nurses	Academic Progression and 80% BSN	Double Faculty with Doctorates	Academic Practice Partnerships	Statewide Resources	Total Funding
FY 2016	\$4,646,705	\$8,499,668	0	\$8,621,289	\$1,680,097	\$23,447,759
FY 2017	\$2,136,305	\$7,620,323	\$1,619,142	\$5,758,707	\$431,001	\$17,565,478
FY 2018	\$946,000	\$8,822,041	\$2,796,513	\$2,370,527	\$2,557,878	\$17,492,959
FY 2019	\$4,112,164	\$2,035,313	\$902,000	\$2,194,604	\$345,327	\$9,589,408
FY 2020	\$200,000	\$1,852,583	0	\$564,675	\$3,536,189	\$6,153,447
Total	\$12,041,174	\$28,829,928	\$5,317,655	\$19,446,802	\$8,550,492	\$74,249,051

Source: HSCRC, 2019d.

Figure 1.  
Competitive Institutional Grants FY 2016-FY 2020 by Initiatives Awarded



Source: HSCRC, 2019d.

### Highly Effective Competitive Institutional Grants Projects

Several grant projects were identified as especially effective in meeting outcomes. These included academic-practice partnerships to develop nurse preceptors (Mills et al., 2014), recruiting experienced clinicians to become clinical instructors

(Hinderer et al., 2016), preparing faculty as clinical simulation education leaders (Beroz et al., 2019), and creating LeadNursingForward.org, a website and searchable career portal to promote nursing education as a career and identify job opportunities throughout the state.

### Faculty-Focused Initiatives

Four faculty-focused initiatives for scholarships, fellowships, grants, and awards were offered through a nomination process. Over four rounds of funding, FY 2016-FY 2019, nearly \$16 million was provided to 532 nurses: \$11 million to 250 nurses (26



professional development specialist nurse educators employed at hospitals and 224 new nursing program instructors) to complete graduate degrees with tuition support in exchange for a teaching commitment; \$5 million was awarded to 282 full-time faculty to support recruitment, retention, and continuous professional development. Sixty-three of these full-time faculty completed doctoral degrees and 57 achieved the National League for Nursing's CNE credential for the first time or renewed their certification, a 55% increase and a mark of excellence for the state.

### Program Evaluation Questions

*Question 1.* Was there an increase in the number of graduates from Maryland nursing programs? For pre-licensure programs, the number of graduates did not increase during the 5-year review period. One of the state's largest programs discontinued its BSN program and transitioned to a master's entry program instead. This change caused a temporary decrease in new pre-licensure graduates of about 200 per year. Despite a slight decline in the number of pre-licensure graduates, the proportion of NCLEX testers who passed on the first attempt increased 8.51% for all Maryland programs, compared to a 5.82% increase nationally (MBON, 2020). Dramatic increases in graduate degrees occurred with triple the number of DNPs

conferred. Overall, there was an increase in the number of nursing graduates in the state. More careful wording of the research question by type of graduate will help discern statewide progress in the future.

*Question 2.* Was there an increase in the number of nurse faculty in Maryland? During the 2016-2020 review period, 162 new full-time faculty received fellowships with 90% continuing employment in academia. Additionally, there were 190 graduates from the Eastern Shore Faculty Academy and Mentorship Initiative, a non-credit training program to prepare nurse clinicians for new roles as part-time clinical faculty. More than 70% of these graduates were employed in part-time teaching positions. These results demonstrate an increase in the number of faculty in the state.

### Discussion

This comprehensive program evaluation informed the HSCRC's decision (December 2019) to renew NSP II funding of \$90 million for 5 years (2020-2025) with a continued focus on increasing the number of pre-licensure graduates, creating seamless academic progression, increasing the number of doctoral-degree recipients, providing opportunities for academic-practice partnerships, and developing statewide resources.

While academic progression goals were met during the evaluation period, continued

emphasis is needed to assure sustained progress. Nationally, 55.9% of the RN workforce holds a BSN degree. Maryland stands at 60.2% and is among 12 states with over 60% BSN-prepared nurses (Courville & Green, 2020), outpacing the neighboring states of Virginia, West Virginia, and Pennsylvania. A recent study involving five states, including New Jersey and Pennsylvania, found for each 10% increase in a hospital's proportion of BSN-prepared nurses, there was a 24% increase in the odds of surviving a cardiac arrest to discharge with good cerebral performance (Harrison et al., 2019). A better-educated nursing workforce provides a higher level of surveillance, quicker recognition of a deteriorating condition, and intervention with lifesaving measures to minimize potential neurologic damage (Harrison et al., 2019).

The number of doctoral degrees granted by Maryland schools tripled during the evaluation period. Demands for those with postgraduate degrees in both academic and practice settings will continue to rise. Doctoral degree enrollments are at an all-time high. Consistent with national trends, there is greater interest in the DNP, a practice-focused degree, and declining interest in the PhD, a research-focused degree (AACN, 2019).

Academic-practice partnerships, the initiative receiving the second-highest amount of funding, also exceeded projected outcomes to develop leaders, advance expertise in clinical simulation,

prepare RNs for positions as part-time faculty or in clinical education, train advanced practice nurse preceptors, and create interprofessional education modules for hospital bedside rounding, all intended to meet the needs of nurses in hospital practice and academic settings. A total 558 hospital RNs participated across seven NSP II academic-practice partnership projects, laying the groundwork for further group efforts. Presently, nurse leaders in academia and hospital practice are developing a set of universal student requirements accepted by all organizations for student clinical site rotations to reduce duplication in time and effort by both the hospital education and academic coordinators.

Outcomes of funding to enhance statewide resources led to developing programs to prepare clinical instructors and preceptors for advanced practice nursing students, academic credit for a nurse residency toolkit, and a nurse-managed wellness center for student clinical opportunities.

Faculty-focused initiatives effectively advanced degrees and certification and recruited and retained faculty (Daw, Mills et al., 2018; Daw, Seldomridge et al., 2018). This NSP II program also impacted the diversity of the future nursing faculty workforce, with 73% of Hal and Jo Cohen Graduate Nurse Faculty Scholarship recipients coming from racial and ethnic minorities and underrepresented groups in nursing (MHEC, 2019a & b). NSP II has a strong record of

successful strategies and could be a national model if adopted by other states to invest in nursing faculty and educational capacity.

### Limitations and Recommendations

The evaluation process uncovered several areas for exploration. First, there was an imbalance in faculty-focused initiatives with considerable support available to potential or new faculty but little for mid-career and senior faculty. A workgroup was developed to review all faculty-focused programs and propose revisions. Second, reporting by academic programs on mandatory data tables was inconsistent despite efforts to provide detailed definitions for each required metric due to completion of forms by non-nurses. A line was added to the mandatory data table for contact information of the person completing the table to improve accountability.

Third, project revisions and budget reallocations were generously allowed during the study period (2016-2020), perhaps contributing to less fiscal accountability among grant project directors. It would be wise to consider adding a cost-benefit analysis as part of the budget justification process for new grant proposals or project revisions. Similarly, parameters for budget amendments and carryover requests could be developed to guide decision-making. For example, carryover requests up to a certain percentage of the annual budget

or overall project budget might be allowable with supportive documentation, or a maximum amount of carryover could be established.

Fourth, an external group evaluation might be beneficial and provide input to the process through a different lens. Although the 12-person advisory group and the large stakeholder meetings represented a broad cross-section of experts from across the state, they are all familiar with the grant projects and know one another well. Constituting an evaluation group with little or no knowledge about the NSP II program might provide a fresh perspective but require even more time to determine impactful outcomes of crucial interest to the funder.

### Future Considerations

The NSP II education-focused grant program demonstrated success in Maryland and should be continued. This model can be implemented in other states by identifying a percentage of pooled hospital patient revenue for the program and administered by a recognized state-level coordinating body for higher education or a Nursing Workforce Center. At the beginning of each fiscal year, hospitals could be notified of their contribution based on their unique revenue share (see Table 5). Concurrently at the state level, the coordinating body for higher education, Nursing Workforce Center, or other identified entity, would review the nursing workforce, including

Table 5.  
Nurse Support II Hospital Monthly Payments

State Fiscal Year 2020: July 2019-June 2020	Gross FY 2020	Max Allowance	Monthly
Hospital	Patient Revenue*	0.1% of Patient Revenue	Payment
Sample 1	\$632,980,900	\$632,981	\$52,748
Sample 2	\$110,418,500	\$110,419	\$9,202
Sample 3	\$110,088,000	\$110,088	\$9,174
Sample 4	\$149,987,800	\$149,988	\$12,499
Sample 5	\$234,993,700	\$234,994	\$19,583
Sample 6	\$247,708,100	\$247,708	\$20,642
Sample 7	\$53,432,500	\$53,433	\$4,453
Total (Samples 1-49)	\$17,186,576,729	\$17,186,577	\$1,432,215

\* 2018 data

Source: HSCRC, 2019a.

shortages, difficult-to-fill positions, educational resources, student enrollments, graduates, newly licensed nurses, number of faculty and schools with faculty vacancies, and educational capacity. If findings indicated a nurse or nurse faculty shortage, stakeholders, including representatives of acute care hospitals and health systems, Nursing Workforce Centers, academic program deans and directors, among others, could be convened to consider solutions.

One solution to manage nurse vacancies in hospitals and healthcare organizations is agency staff and travel nurses; however, this option is costly. Agency nurse usage in Maryland costs \$130-\$138 million annually (HSCRC, 2019a, b, c). Expenses aside, there is the potential to negatively affect quality and safety of care, and patient, provider, and hospital employee job satisfaction (McCaughey et

al., 2018). Voluntary participation in a cost-sharing model to fund a program like NSP II to prepare nurses and nurse educators within the state provides a solid return on investment.

In Maryland, the NSP II programs are administered by MHEC staff at a modest cost of less than \$300,000 annually. For each NSP II grant project, a director, personnel to implement project activities, and up to 8% for indirect costs are allowed. Funding to support specific program outcomes is also provided (e.g., participant costs, materials, supplies, instructional software, and technology). Dissemination of project outcomes and costs through conference podium and poster presentations, publications, and statewide meetings is an expectation as it publicizes creative solutions to ensure an adequate supply of new nurses and active pipeline for nurse faculty.

## Conclusion

Zhang and coauthors (2018) cited three best practices for addressing the balance of nursing supply and demand: funding a permanent state-level Nursing Workforce Center to study the dynamics of the nursing workforce, expanding enrollments in nursing programs, and providing incentives for newly licensed nurses who practice in facilities for more than 2 years after graduation. These best practices are evident in Maryland's NSP programs. NSP II supported increased enrollments and a Nursing Workforce Center. NSP I funded a statewide nurse residency program as an incentive for newly licensed nurses.

Maryland's innovative funding model, built on a percentage of pooled hospital-based revenue, serves as an example of a long-term

statewide effort to support focused efforts and incentives to increase the number of entry-level nurses, faculty, and certified nurse educators.\$

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