



The Future of the Nursing Workforce in Ohio



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“Nursing, the largest discipline within the health care delivery work force, is facing multiple challenges to its historic mission to care compassionately and competently for those who are ill and to promote practices that improve and preserve the health of the public” (Doris Edwards, in 2008 Testimony before the Ohio State Legislature).

INTRODUCTION

The Issue and its Background

According to the U. S. Bureau of Labor Statistics, registered nurses represent the largest health profession in the United States with over 2.4 million registered nurses (RNs) providing acute, primary and chronic care services across a wide range of healthcare settings. Yet since 1998, the U.S. has experienced the longest nurse shortage in the past fifty years (Auerbach et al 2007). National projections regarding the nursing shortage indicate that the demand for trained nurses will continue to exceed supply. According to the most reliable projections, estimates of the nursing workforce shortage range from between 300,000 to more than a million by 2020-2025 (Aiken et al, 2009). Yet, experts agree that even a deficit of 300,000 nurses is almost three times greater than any nursing shortage the United States has experienced in over 50 years (ibid.).

Although the nursing workforce shortage may have recently eased somewhat (Auerbach, Buerhaus and Staiger, 2007) — and current media reports indicate a trend of nurses coming back into the workforce as a result of the country's economic recession and job loss — there is no authority who disputes projections of a substantial long-term nurse shortage if current trends continue without planned and directed policy interventions. Widespread concern about the significance of the nurse faculty shortage is evident in the reports of prominent nursing organizations, as well as in the activities of the various state workforce centers to collect and analyze data in order to make informed policy decisions about their respective nursing workforces.¹

Ohio is one of three states — including California and Texas -- with the largest gaps and needs for nurses and nursing students (www.allnurses.com; Health Workforce Information Center, 2009). Ohio's shortage is projected to be 32,000 nurses or a 29% shortage by 2020, with the adult critical care and medical-surgical nursing segments having the greatest shortages (Center for Health Affairs, 2007). In the absence of a considered and coordinated nurse workforce plan — particularly given health reform's emphasis on models of care that provide access to primary care and focus on disease prevention and chronic care management — Ohio stands to face serious implications for patient safety, quality of care, health outcomes, and health care costs.

This issue brief will examine the magnitude, causes, and impact of the current and projected nurse workforce shortage both nationally and in Ohio. It will provide background information about the various educational and training paths to becoming a nurse and issues related to nurse education. Finally, it will discuss various strategies and responses to the nursing workforce issue, including the role of state policymakers.

¹ In October 2009, the Visiting Nurse Association Healthcare Partners of Ohio held a conference featuring Dr. Craig Moore — a healthcare economist and expert on creating regional models of nurse workforces — who discussed implications for the Northeast Ohio region.

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PROJECTED SUPPLY, DEMAND FOR FULL TIME EQUIVALENT RNS IN OHIO: 2000-2020

Year	FTE Supply	FTE Demand	Shortage	% Shortage
2000	86,912	88,957	-2,045	-2%
2005	89,288	94,204	-4,916	-5%
2010	88,947	99,405	-10,458	-11%
2015	85,541	105,593	-20,052	-19%
2020	79,716	111,693	-31,977	-29%

OHIO'S RN AND LPN TURNOVER AND VACANCY RATES

RN turnover rates	
US	13.6%
OHIO	10.9%

LPN vacancy rates	
US	6.7%
OHIO	6.5%

RN vacancy rates	
US	8.1%
OHIO	4.8%

LPN turnover rates	
US	14.3%
OHIO	16.2%

PAST AND PRESENT CAUSES OF THE SHORTAGE: INCREASING DEMAND AND DECREASING SUPPLY

An Aging Nursing Workforce Caring for an Aging Population

A primary reason the projected nursing shortage is so alarming compared to current and past shortages is that the decline in the number of available nurses will coincide with an increased need for the services of nurses as a result of the aging of the baby boom generation (Keenan, 2003). At the same time, the nursing population is experiencing a parallel aging process. In Ohio, for example, the average age of registered nurses (RNs) is 47 and the average age of licensed practical nurses (LPNs) is 48 (Ohio Nursing Education Study Committee, 2008). In addition, the number of nurses entering the workforce is not keeping pace with the number of nurses expected to retire in the next decade. In Ohio, the median age for retiring academic nursing faculty is 51.5 years (Ibid.) and 40 percent of Ohio's practicing nurses are expected to leave the field within the next 10 years (Ibid.).

New Demands on the Nursing Workforce

A second reason for the current and projected shortage is the range of new and often frustrating demands placed on nurses that can result in an unfavorable work environment. For example, a recent American Nurses Association (ANA) survey of nearly 5,000 nurses across the nation revealed that more than 67 percent are working unplanned overtime every month (www.nursingworld.org, citing 2007 ANA's National Survey of the Nursing Workforce). In addition, an increasing number of relatively inexperienced graduates are being hired by hospitals to care for patients whose needs are more complex and labor-intensive than in the past. An Advisory Board survey of 2,000 nurses found that between 10 to 13 percent of U.S. medical-surgical, critical-care and emergency room nurses have less than one year of work experience (Evans, 2006). In addition, a 2006 survey of RNs working in a wide range of care settings revealed that 25% had received no information technology (IT) training in the past year; 56% responded they had received only between one and eight hours of IT training (Lawrence, 2006). In Ohio, nurse leaders cite long hours, increasing caseloads and the

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demands of physical management of patients as critical factors in the state's shortage. In addition, they cite the need for standardized and enforced safe handling practices to improve the current work environment and retain today's nurses.²

Nursing Schools — Faculty Shortages and Capacity Issues

In 2008, experts at the Center to Champion Nursing in America identified the nursing faculty pipeline as the “bottleneck” that has contributed to the nursing shortage. The American Association of Colleges of Nursing (AACN) survey of baccalaureate nursing schools found that 71.4 percent of schools cited faculty shortages as a reason for not accepting qualified applicants (2007). Across the country, more than 40,000 qualified applicants were denied admission to baccalaureate and graduate programs in 2007, while an additional 48,000 were denied admission to associate degree programs (AACN and National League of Nursing, 2008). In Ohio, qualified nursing student applicants are denied admission to the state's pre-licensure programs at the rate of 5,000-6,000 a year, in large measure, because of the shortage of qualified nursing faculty and the limited number of clinical placement site options (Ohio Board of Nursing, 2007). While most of the denials are in associate degree programs, several programs reported a significant number of denials for potential bachelor's of science in nursing (BSN) students as well.

Nurse academic faculty are often lured away from academic settings by higher clinical salaries. The 2008 Ohio Nurse Education Study Committee report found that within the state, the average salary for a master's prepared nurse practitioner is \$81,517, in comparison with an associate professor's average salary of \$66,588. This salary estimates are comparable to national estimates cited by the American Association of Colleges of Nursing (AACN) in 2007: a teaching advanced practice nurse (APN) in an academic setting earns an annual salary of \$66,925, while an APN in a clinical setting earns \$74,812. An APN in a hospital setting makes almost \$5,000 more, or \$79,395 (AACN, Nurse Faculty Shortage Fact Sheet; www.aacn.nche.edu).

THE SHORTAGE AND ITS IMPACT ON HEALTH CARE QUALITY AND PATIENT SAFETY

Recent research has found definitive links between nurse staffing issues and health care quality and patient safety:

- One in four unexpected events leading to patient death, injury or permanent loss of function are the result of inadequate staffing, according to a 2002 report by the Joint Commission on Accreditation of Healthcare Organizations.
- The odds of making an error during a 12.5+ hour shift are more than three times greater than during a shift of 8.5 hours or less (Rogers et al 2004).
- The risk of hospital deaths would increase by 31 percent—or roughly 20,000 avoidable deaths each year—if all hospitals staffed eight patients per nurse instead of four, according to a 2002 study published in the *Journal of the American Medical Association*.
- Improved RN staffing cuts down on pneumonia, urinary infections, cardiac arrest, shock and other adverse health outcomes, based on findings from a 2002 study published in the *New England Journal of Medicine*.
- U.S. hospitals could avoid as many as 6,700 patient deaths, 70,400 complications and 4 million days of hospital care if they employed more registered nurses and

² In preparing background materials for this Issue Paper, interviews were conducted with several key stakeholders identified as lead thinkers regarding the nursing workforce in Ohio. The interviewees represented a range of nurses in practice, academic and research positions. Please see “Acknowledgements” section at the close of this paper.

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- increased the hours of nursing care per patient (Needleman, 2006).
- Heavy workloads contribute to staffing shortages: for each patient added to a nurse's workload, rates of burnout and job dissatisfaction — two key precursors to job turnover — rise by 23 percent and 15 percent respectively (ibid.)
- The Agency for Healthcare Research and Quality (AHRQ) found in its meta-analysis that every additional full-time nurse per patient day was associated with a 9 percent reduction in mortality in intensive care patients and a 16 percent reduction in mortality in surgical patients (www.ahrq.gov; March 2007, Nurse Staffing Report)
- The burnout scores for bedside nurses in hospitals are among the highest recorded in research among human services workers (Aiken, 2007).
- A study conducted for the Centers for Medicare and Medicaid Services found that quality of care in nursing homes is directly related to nurse staffing levels. However, almost 97 percent of nursing homes “do not meet one or more of the threshold standards” for staffing levels (Harrington et. al., 2004).
- Although federal guidelines offer suggested staffing ratios that a school nurse be assigned to no more than 750 students, only 12 states in the country comply with the guidelines (Harrington et. al., 2004).

SOLUTIONS: NURSE RETENTION AND RECRUITMENT

According to Linda Aiken, a health policy researcher with the University of Pennsylvania and an authority on the causes, consequences, and solutions to the nursing shortage, researchers and experts have identified several solutions to remedy the root causes of the nursing shortage:

- The nurse education community must develop incentives for teachers and students to enter and remain in the field, and must design additional educational pathways towards becoming a professional nurse;
- There needs to be an increase in and expansion of the federal investment in nursing training and education;
- There needs to be ongoing support by hospitals and other nurse employers for the education of new nurses;
 - Employer strategies need to focus on increasing nurse efficiency;
 - Health care payers need to understand the critical role that nursing plays in patient quality and safety and ensure appropriate payment for services

In addition to innovative strategies related to recruitment and retention, nursing workforce researchers stress the importance of further exploring the role of nurses, their relationship to other health care providers, work redesign, and the linking of nursing practice to positive health outcomes.

Additional Educational Pathways and Incentives to Becoming a Nurse/Nurse Faculty

In order to recruit additional students and faculty into the nursing field, several schools across the country have expanded on the four traditional educational pathways leading to eligibility to sit for the licensing exam for authority to practice as an RN: (1) hospital-based diploma; (2) hospital-based or community college associate degree; (3) bachelor's degree; (4) master's degree. (For those not familiar with the various educational pathways to the nursing profession, the appendix summarizes the path to education of nurses, including tracks for licensed practical nurses (LPNs), registered nurses (RNs) and advanced practice nurses (APNs) and illustrates the distinction between and among their roles.) For example, innovative fast-track programs that

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reduce both bachelor and doctoral programs by a year, as well as second-degree Bachelor of Science in Nursing (BSN) programs for students who have already obtained a college degree, have become more common. As a result, there has been a decline in the number of students entering nursing through the traditional path of completing a diploma program immediately following high school. Instead, during the course of the past two decades, it has become increasingly more common for students to enter the field either by graduating from a two-year associate degree program “after a substantial period in their early twenties spent in other careers,” or by completing accelerated (12-18 months) second-degree BSN programs (Auerbach, 2007).

Nurse Education and Training

- Licensed Practical Nurse (LPN): To become a licensed practical nurse, an individual must take approximately one year of post high school educational coursework focused on basic nursing care and pass a licensing exam.
- Registered Nurse (RN): To become an RN, there are three educational routes, including (1) bachelor's degree programs; (2) associate's degree programs; and (3) diploma programs.
- Advanced Practice Nurse: An RN who has completed advanced clinical education and has a minimum of a master's degree.

In order to meet the demand for doctorally prepared nursing faculty, some nursing programs (e.g., Rutgers College of Nursing in New Jersey) have introduced accelerated BSN to PhD programs. Historically, “the culture of requiring practice before graduate education has contributed” to the late entry of nurses into doctoral study as well as to more part-time (i.e., longer schooling period) study compared to other disciplines (Reinhard et al, 2007). On average, only 350 to 400 nurses each year receive a doctoral degree. In addition, the American Association of Community Colleges (AACC) is advancing a strategy to increase the number of nursing faculty by increasing the RN to Master's of Science in Nursing (MSN) graduates. The AACC advocates the RN to MSN Faculty and Scholarship Initiative, a collaborative effort between RN associate degree programs, hospitals and nurse educators to address the nursing faculty shortage (www.aacc.nche.edu).

Another strategy for recruiting and attracting enrollment in nursing baccalaureate programs has been to target underrepresented and nontraditional groups. In 2002, the American Association of Critical Care Nurses (AACN) suggested the strategy of targeting underrepresented and nontraditional groups as a means to recruit and attract enrollment in nursing baccalaureate programs. Proposed strategies included mentoring programs targeting minority high school students, stepping up efforts to provide tutoring in English as a second language and reaching out to male candidates. At present, only 11.6 percent of RNs are from racial or ethnic minority backgrounds and only 5.7 percent are men.

Additional innovative initiatives have emerged in different regions of the country in response to the problem of nursing education capacity including the following (Joynt and Kimball, 2008)³:

3 Reference is made to: “Blowing Open the Bottleneck: Designing New Approaches to Increase Nurse Education Capacity,” a white paper written by J. Joynt and B. Kimball and supported by AARP, the Robert Wood Johnson Foundation and the U.S. Department of Labor. May 2008

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- The Oregon Consortium on Nursing Education (OCNE) is a consortium of all nursing educational institutions in the state that offers a shared, competency-based entry-level BSN curriculum. OCNE also has partnered with a wide range of private foundations and the federal Health Resources and Services Administration (HRSA) to receive both financial and technical assistance support. The Consortium aims to increase faculty capacity and diversity and to engage in redesign of nursing education — including the ways in which clinical education is offered.
- Governors from 19 western states formed the Western Governor's University (WGU) over a decade ago, with the intention of using technology to transform higher education. Today, students can earn both BSN and a Master's in Nursing through WGU's on-line curriculum supported by the faculty. WGU also utilizes staff nurses to provide clinical education to nursing students. A new program — the Multi-State Approach to the Preparation of Registered Nurses (MAP-RN) - is being developed that will target working adult students who are interested in attaining a BSN.
- The University of Portland (Oregon) and the University of Massachusetts — Boston have implemented the concept of the Dedicated Education Unit (DEU). Originally developed at the Flinders University of South Australia School of Nursing, the DEU model increases faculty capacity by engaging staff nurses in the clinical education of students. In Portland, the DEU was developed and implemented in partnership with the Providence Portland Medical Center, Providence St. Vincent Medical Center and the Portland VA Medical Center; staff nurses at the hospital partners serve as clinical instructors for the DEUs.

Ohio Board of Nursing — Key Findings from 2008 Annual Executive Summary on Nursing Education

- Forty (40) associate degree programs produce over 50% of the states new graduates per year; baccalaureate degree (BSN) programs contribute about 40%; 7% come from diploma programs and 3% from master's degree programs.
- RN programs are close to capacity: diploma programs report being filled to 95.2% of capacity; associate degree programs report 93.2% of capacity; and baccalaureate (and higher) programs report 95% of capacity.
- RN programs at ALL levels (ADN, diploma and BSN and higher) report denying admission to qualified applicants due to a lack of "available" seats.
- Although 25 of the 67 RN programs have expanded programs, there are challenges associated with expansion: the need for additional faculty; constraints related to clinical placements; and the need for physical space and/or equipment.

Each of the aforementioned innovations represents the leveraging of resources and a commitment to developing strategic partnerships and sustaining collaborative activities. In addition, the architects and implementers of the initiatives recognize the importance of working with state authorities and regulators in order to address regulatory flexibility and the need to seek waivers to specific policies to develop program components.

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Across the country, several regional and county-level innovations to address the shortage are underway as well. For example, in many areas, innovative nursing programs are working with local Workforce Investment Boards (WIB) to leverage funding from the federal Department of Labor's Workforce Investment Act to recruit and train individuals for careers in nursing. For example, in Atlantic and Cape May Counties, New Jersey, the WIB created the New Jersey Collaborative Center for Nursing — comprised of the WIB, regional community colleges and technical schools, hospitals, long-term care facilities, rehabilitation centers and home care agencies — to assess and address the region's projected 30 percent shortage of both the RN and LPN workforce by 2020 (New Jersey Collaborative Center for Nursing, 2006).

Funding sources for the Collaborative included national, local and philanthropic entities, as well as local employers and educational institutions. The Collaborative has achieved positive outcomes, including increases in LPN enrollment,

Associate Degree RN enrollment, as well as an increase in the nursing faculty in the region through joint appointments, health care partner financial support and grant funding. Regional programs involving WIBs are fast becoming promising models as they bring together a range of community stakeholders and underscore the economic as well as quality of life factors related to the nursing workforce. They also represent a strong local/regional approach to workforce issues.

Improvements to Clinical Nursing Education

Confounding the current and future nursing shortage is the limited availability of sites at which students may complete their required clinical experience. The most current National League of Nursing Survey on Clinical Education identified the following barriers

Ohio's Advanced Practice Nurses (APN)*

Recent interviews with Ohio's Advanced Practice Nurses identified several practice issues:

- APNs are required to meet the need for primary care, especially in safety net settings.
- APN advocates seek adjustments to their practice environments, stressing that their role in the development of the medical home model is critical and would reduce costs and improve access and quality.
- In a 2009 report, the Ohio Association of Advanced Practice Nurses identified research showing the impact of APNs on quality, patient satisfaction and cost savings.
- Although they are working on similar issues re: financial support for further education, tuition forgiveness, etc. — APNs see themselves distinct from RNs at the policy table.
- Pressing policy issues related to admitting privileges and prescription authority are central to APN concerns.
- The education and retention of graduating APNs in Ohio are aspects of another critical policy issue that must be addressed. The perception of restricted practice drives upwardly mobile RNs to seek educational programs — and ultimately employment — outside of Ohio. Practice requirements also discourage APNs from re-locating to Ohio from other states.
- Focus on dissemination of evidence-based research that illustrates the return on investment and cost savings related to the role and practice of APNs in primary care settings.
- Pennsylvania's health reform -- which builds on access to advanced practice nurses as a means to improved health care coverage and access — may represent a trend among states to address nursing workforce issues within over-arching health reform initiatives. APNs are central in providing cost-effective, high-quality and appropriate care in patient-centered health homes.

*APNs include Certified Nurse Practitioners, Certified Nurse Midwives, Certified Nurse Specialists, and Certified Registered Nurse Anesthetists. They must pass a national certification exam to be board-certified.

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to effective clinical education in pre-licensure nursing programs: lack of quality sites, lack of faculty qualified to teach on-site, and restrictions on the numbers of students allowed by clinical agencies (www.nln.org; August 2009). Survey authors point out that while many innovative approaches to clinical education show promise, there is a clear need for more research to assure improvements in educational practice: "Research is needed to uncover the best practices in nursing education so that the risks of untested ideas are reduced while the benefits of innovation can be disseminated" (MacIntyre et al, 2009).

In August 2009, a leading team of nursing education researchers published "Five Recommendations for Prelicensure Clinical Nursing Education" in the *Journal of Nursing Education*. Their article offers five strategies to address the two primary factors of the nursing shortage: insufficient numbers of faculty and limited availability of sites for students' clinical experiences (Id. at 2, 2009), as a means to stimulate dialogue among local, state and national stakeholders regarding new approaches to nursing education:

- Re-envision nursing student-staff nurse relationships
- Re-conceptualize the role of clinical faculty
- Enhance development for school-based faculty and staff nurses working with students
- Re-examine the depth and breadth of the clinical component⁴
- Strengthen the evidence for best practices in clinical nursing education

Federal Government Investment in Nurse Training and Education

At the federal level, although Congress has acknowledged the far-ranging issues related to the national nursing workforce, funding support for nurse training and education programs remains inadequate, particularly compared to federal support for physician training. The Nurse Training Act (P.L. 94-63) and Title VIII of the Public Health Service Act are the two primary federal sources for nurse education. In President Obama's proposed budget for FY 2010, \$263.4 million would be allocated for Title VIII programs, which is funded at \$171 million at present. The Nursing Faculty Loan Program and the Nurse Education Loan Repayment & Nurse Scholarships programs are the two Title VIII programs that would receive the increased funding.

In July 2009, the U.S. Congress passed the Nurse Reinvestment Act of 2009, which builds on existing nurse workforce programs enacted as part of Title VIII in response to previous nursing shortages. The legislation establishes new scholarships for nursing students and offers grants to nursing schools for faculty loan cancellation programs in which advanced degree students can receive loans that will be partially forgiven if they become nurse faculty members. However, no appropriations have been specified for the various programs created by the Act.

Other federal spending efforts include the following:

- The American Economic Recovery and Reinvestment Act includes \$500 million to address critical health care workforce shortages. Approximately \$200 million will target the nursing and other primary care provider shortages by increasing HRSA's Title VII and VIII nursing and other workforce development programs.

⁴ According to the National Council of State Boards of Nursing, there is wide variation regarding the total number of clinical hours required in associate and baccalaureate nursing programs. MacIntyre et al report that "most state boards of nursing do not specify a minimum number of clinical hours in prelicensure programs" and argue for more evidence and research correlating the number of clinical hours with outcomes.

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- Another \$250 million is allocated to the Department of Labor for competitive grants for job training and placement in high growth sectors with priority given to health care jobs – which would provide an opportunity for nursing education support.
- The Omnibus Appropriations Act of 2009 increases FY 2009 nursing education funding by almost 10 percent; it also provides a 46 percent increase in funding for the Title VIII faculty loan repayment program to help reduce the nursing faculty shortage.

The Health Resources and Services Administration (HRSA) administers several nurse education and practice grant programs, in addition to scholarship, loan and loan repayment programs. Unfortunately, these programs are also inadequately funded. In FY 2007, HRSA turned away 96 percent of qualified applicants for its nursing scholarship program because of inadequate funding (ANA, Nursing World, 2009; <http://bhpr.hrsa.gov/nursing/scholarship>).

On a positive note, in February 2009, HRSA funded a new Health Workforce Information Center as a means to provide access to health workforce programs and funding sources; workforce data, research and policy; educational opportunities and models, and best practices. The Center is operated by the University of North Dakota's School of Medicine and Health Sciences and offers national and state-specific information on nurses, physicians and allied health professionals.

State Government Investment in Nurse Training and Education

At the state level, initiatives to invest in nurse training and education have taken various forms: appropriations to create new nursing education programs or to expand the capacity of existing programs; programs to provide funds for nursing scholarships; and programs to forgive loans. Some of the most recent efforts are focused on designating funds to entice nurses to become faculty — in response to the specific shortage among nurse educators. For example:

- In 2009, the state of Arizona introduced an act to authorize additional funding for the nursing student loan program and to promote teaching in nursing education programs (HB 1022);
- Connecticut's SB4 and SB11 created scholarship funding for nurses in advanced degree programs and supported a loan forgiveness program that "encourages nurses to obtain advanced degrees in order to qualify for nursing educator positions at state universities and colleges (ANA, Nursing World, 2009).
- The Nurse Support Program (NSP) in Maryland was developed through legislation by which a 0.1 percent increase to the rate structure of Maryland hospitals funds efforts to increase nursing school faculty and enrollments (Joynt & Kimball, 2008).⁵ In addition, the state's Health Services Cost Review Commission (HSCRC) awarded \$6 million in grants (2006-2011) to seven academic institutions.
- Colorado's legislature has two nurse faculty shortage bills on its statutory books both passed in 2006: the Nursing Teacher Loan Forgiveness Program and the Nursing Faculty Fellowship Program, the latter of which assists nursing schools in filling faculty vacancies by providing fellowship payments.
- In 1990, Ohio's legislature established the Nurse Education Assistance Loan Program (NEALP) to provide financial assistance to students enrolled in approved post licensure nurse education programs in Ohio. To qualify for loan cancellation, recipients must be employed as a faculty member instructing licensed practical

⁵ The Nurse Support Program Assistance Fund (SB230/Chapter 221) was proposed by former Governor Robert L. Ehrlich, Jr., and signed into law by him in May 2006.

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nursing and/or registered nursing course work to future nurses in the State of Ohio for a minimum of four years after graduation. For the 2008 application period, \$265,000 was awarded to NEALP applicants (www.ncsbn.org).

Hospital Investment in Nurse Training and Education

According to a study of hospitals in 12 communities across the country by The Center for Studying Health System Change (HSC), hospitals are addressing the ongoing nursing shortage by investing in nurse education and improving working conditions. Strategies to improve working conditions include higher nurse staffing levels and expanded use of support staff to assist with the personal care needs of patients. In Ohio, most hospitals offer some type of tuition reimbursement program for nurses and several offer programs partnering with community colleges to leverage federal grant dollars to help support hospital employed LPN nurses to become RNs. Several hospitals across the country are participating in the Transforming Care at the Bedside (TCAB) program sponsored by the Robert Wood Johnson Foundation and the Institute for Healthcare Improvement. TCAB has worked to emphasize the connection between effective nursing care in hospital medical/surgical units and better clinical outcomes and patient safety. One participating hospital, Cedars-Sinai Medical Center in Los Angeles, realized an \$8 million dollar per year return on investment due to its efforts to expand the pipeline for nursing with cooperative partnerships, recruit high school students into the field, improve the work environment, and improve nurse-doctor communications.

Government Regulation: Improving Nursing Working Conditions

Some states see greater regulation of the nursing industry as one way to address the nurse turnover and attrition on the job. Specifically, states may set standards for nurse staffing ratios and/or implement mandatory overtime laws. However, there is some controversy regarding the impact of such laws, as some experts believe that minimum staffing ratios will exacerbate the need for additional RNs (Keenan, 2003). According to the American Nurses Association (ANA), a recent review (as of September 2009) of state-level laws and regulations affecting nurse practice conditions found that:

- 15⁶ states have enacted laws and/or regulations carrying restrictions in the use of mandatory overtime;
- 14 states (plus DC) have enacted nurse staffing plans and ratios in order to ensure appropriate staffing coverage (California legislated mandated ratios; 7 states, including Ohio, required staffing committees with plans/levels specific to each unit; 4 states passed laws or adopted regulations requiring disclosure of staffing ratios);

At the federal level, the Safe Nursing and Patient Care Act (S. 357/H.R. 791) would limit the number of overtime hours a nurse could be required to work. Supporters of the bill point out that Federal regulations place limits on the amount of time that can be worked in other industries in which the work directly affects public safety (e.g., aviation and transportation), yet health care is exempt from such regulations.

States as Data Repositories

The availability of reliable state-level nursing data is critical for policy-making decisions related to the nursing workforce. In the past, states relied on national survey data collected by HRSA to study nursing workforce supply and demand issues. Unfortunately, the HRSA model is difficult to use at the state level and its projections have been inaccurate in the past. As a result, since 2000, states have been playing a more

⁶ Connecticut, Illinois, Maryland, Minnesota, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Texas, Washington, West Virginia (legislated); California, Missouri (regulations)

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intensive and significant role in collecting the data required to study nursing workforce supply and demand. Many states have created state nursing centers for the purposes of collecting and analyzing workforce data and improving nurse recruitment and retention. At present, approximately 30 states have nursing workforce centers, and 25 of those centers have operational data collection and analysis programs. The state of Ohio launched its workforce center in 2008 and is committed to working with nursing centers throughout the county to identify innovative strategies for the recruitment and retention of nurses (www.ohiocenterfornursing.org). One of the most prominent roles of the state centers is to serve as an educational resource for policymakers, especially in the areas of forecasting nursing workforce supply and demand.

As each of the state centers matures, individual centers have established their respective areas of expertise. For example, the Florida Center for Nursing has focused on state-level data collection and offers comprehensive workforce data reports on nurse supply, demand and education at statewide and regional levels; the California Institute for Nursing and Healthcare has taken the lead in clinical development (the Centralized Clinical Placement Program) and the utilization of simulation in nursing education (Statewide Simulation Alliance); and, the New Jersey Collaborative Center for Nursing (NJCCN) — working in collaboration with two Rutgers University economists — developed its own demand forecasting model in order to project the LPN and RN numbers in the state's 21 counties.

The state centers coordinate with their state nursing boards and the National Council of State Boards of Nursing (NCSBN) to formulate an unduplicated list of practicing nurses; in contrast, the American Medical Association has kept a master list of practicing physicians since the 1960s. At present, the Center to Champion Nursing in America (CCNA) is coordinating with multi-stakeholder state teams around the country who are working collaboratively to share best practices, foster advocacy and enhance the ability of their respective states to educate and retain more highly skilled nurses. CCNA is an initiative of AARP, the AARP Foundation and the Robert Wood Johnson Foundation and is working on increasing the nation's capacity to educate and retain nurses.

WHAT OHIO'S NURSES ARE SAYING ABOUT THE NURSING SHORTAGE

Interviews with Ohio's nurse leaders and reports generated by nursing organizations such as the Ohio Nurses' Association were used to gather up-to-date impressions from the field about the nursing shortage and associated challenges. Overall, those individuals interviewed in Ohio appreciated the scope of the shortage problem and the role it plays in the overall health reform debate. Based on their comments, it is clear that they worry that patient safety will suffer if these issues are not urgently addressed.

Regarding nursing education, Ohio's nurse leaders note the following:

- Expansion of the nursing workforce is inhibited by the shortage of nursing faculty
- Only 6 percent of the nurses in Ohio work in nursing education (Nurse Education Study Committee Report, 2008).
- As educators retire, the faculty shortage is projected to become more severe: if 40 percent of the educators retire in the next 10 years — as the Education Study Committee Report projects — then Ohio will need to replace approximately 3,600 nurse educators (*ibid.*).
- Eligible students interested in nursing careers cannot enter programs that lack capacity to absorb them.
- The faculty shortage *within* the nursing shortage has many contributing factors, the most cited of which is that salaries for nurse educators are not competitive. Not only

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do graduate nurses working clinically earn substantially more than nursing faculty, but the salaries of nurse educators compare very unfavorably with faculty salaries from other professional training curricula.

- The costs, resources and time necessary to maintain clinical certification for nurse educators is burdensome.
- There are few financial incentives for RNs to pursue further graduate preparation in order to teach future nurses.
- Although the part-time graduate study is the route most commonly pursued by nursing students, there is limited student aid for part-time graduate study.
- Funding assistance and educational grants for nurses are supported primarily by a small portion of nursing licensure renewal fees.
- The pathway for LPNs to move on to associate degrees and higher often requires starting from scratch.
- Interviewees cited regulatory barriers that hinder nurses coming to Ohio from other states.
- Medicare funding for nursing is used disproportionately to support diploma and LPN programs and not to support graduate nursing education in the state. Most of the support for these diploma programs from Medicare goes to private, non-profit teaching hospitals concentrated in only five states (Aiken et al, 2009). This is despite the fact that Ohio has an over-supply of LPN's, with a level of training not recognized for many acute care hospital nurse vacancies.
- Among the solutions offered by the interviewees were: use of Workforce Investment Act funds to help support nurses seeking graduate degrees; loan forgiveness following years spent in nursing education; income tax credits to ameliorate the faculty salary inequities in the short term and, in the longer term, to bring nursing faculty salaries in better alignment with those of other professions; the possible use of federal dollars for nursing from those allocated for public health preparedness in addressing such matters as pandemic flu.

Regarding the clinical training of nursing students, Ohio's nurse leaders note the following:

- There is variability in the number of clinical hours required by students in the various forms of nurse training programs (diploma, LPN, RN). This lack of consistency is illustrative of the state's lack of a broad, unified approach to the nursing agenda.
- The insufficient number of clinical training sites also contributes to restricting student admissions to nursing training programs. The requirement for a preponderance of hospital-based training and low ratios of supervisors/preceptors to student nurses limit where training can be delivered.
- Clinical training through simulation technology is emerging as an innovation in nursing education in many states; however, the Ohio Board of Nursing does not currently recognize time spent in simulated training contexts as clinical time.
- Other technological innovations could be explored to address the teaching shortage. One discussed by several sources was the use of distance learning, which would allow some faculty (especially those who are older and may be considering retirement due to the strains associated with hands-on clinical patient care) to work less than full time and still serve an important role in training student nurses.

Regarding the work environment of nurses, Ohio's nurse leaders note the following:

- Long hours, increasing caseloads and the demands of physical management of patients are issues that Ohio's nurse leaders also see as critical to the shortage issue.
- The development of standardized and enforced safe handling practices is very important in improving the work environment essential for retaining today's nurses.

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- The disproportionate under-representation of males and persons from minority backgrounds in nursing limits the pool of potential nurses and nurse educators; targeted recruitment towards these underrepresented groups is critical in order to build and sustain the state's nursing workforce and address the growing number of cultural diversity issues among patients and staff.

OHIO'S RECENT NURSING ADVOCACY ACTIVITIES

Although the state of Ohio has historically been less active than other states regarding nursing issues, this trend has changed in the past two years, as demonstrated by Ohio's nursing leadership taking the lead in shaping the future of nursing in the state by launching and committing to several initiatives:

- In February 2008, a virtual Center for Nursing was launched by the Ohio State Board of Nursing to promote nursing as a career and to provide information (via the web) about the nursing workforce issues in Ohio. (www.ohiocenterfornursing.org).
- The Nursing 2015 collaborative created by members of the Ohio Nurses Association (ONA), the Ohio Hospital Association (OHA) and the Ohio Organization for Nurse Executives (OONE) aims to recommend strategic directions, objectives, and tactics that will enhance the profession of nursing in Ohio. The group is structured around a set of agreed-upon guiding principles, working together to address four strategic areas of nursing: education; environment (work-site); leadership; practice culture. (<http://nursing2015.wordpress.com>).
- The Ohio Network for Nursing Workforce (ONNW)⁷ links with the National Forum for Centers for Nursing, where innovative strategies for recruitment and retention of nurses from states around the country are developed. The ONNW network is statewide and works to share nursing supply and demand data (via state and regional resources), disseminate best practice information, and facilitate focused dialogue regarding nursing workforce policy development (www.ohiocenterfornursing.org/workforce_network.html). In a planned Nursing Education Capacity Project (2009-2011), ONNW will partner with the AARP Executive Council and the Center to Champion Nursing in America (CCNA) to expand the nursing education capacity in Ohio to meet the needs of Ohio's aging population. Activities will include working with the Florida Center for Nursing and other local and national agencies.
- The Ohio Board of Nursing conducted the 2007-2008 Ohio Nursing Workforce Survey to provide a snapshot of the nursing workforce in Ohio.
- The passage of hospital staffing guidelines through statute in July 2008 (HB 346), setting nurse-patient ratios and requiring hospitals to establish nursing care committees and conduct annual reviews of staffing ratios. With the passage of this law, Ohio became one of several states following California's lead on this issue.
- A report on the state's nursing education issues, assigned through the state budget in 2007 (HB 119), was presented to the Ohio legislature in December 2008. The report of the Ohio Nurse Education Study Committee focused on strategies to produce more nursing faculty and strategies to address insufficient clinical placement opportunities and the number of clinical hours for nursing students.

⁷ The founding members of the Ohio Network for Nursing Workforce are: Cincinnati Health Council Health Care Workforce, the Greater Cincinnati Health Council; the Licensed Practical Nurse Association of Ohio; The Northeast Ohio Nursing Initiative, the Center for Health Affairs, Cleveland; Nursing Institute of West Central Ohio, Dayton; Ohio Board of Nursing; Ohio Hospital Association; Ohio League for Nursing; Ohio Nurses Association and the Ohio Organization of Nurse Executives.

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POLICY IMPLICATIONS: THE ROLE OF OHIO'S POLICYMAKERS

Support Nurse Education Funding and Innovation

An important role for Ohio's policymakers in addressing the nursing workforce shortage is to continue to support existing nurse education funding. For example, as noted earlier, the Nurse Education Assistance Loan Program (NEALP), established by the Ohio General Assembly in 1990, assists the state in meeting nursing shortages by providing financial assistance to students enrolled in approved post licensure nurse education programs. For the 2008 application period, \$265,000 was awarded to NEALP applicants (www.ncsbn.org).

In addition, through the Nurse Education Grant Program (NEGP), the Ohio Board of Nursing works collaboratively with education programs and facilitated partnerships to increase the enrollment capacity of education programs. From 2005, the Board has disbursed \$2,748,425 to nursing education programs. At present, 11 education programs are partnering with 35 other education programs, community health centers, or health care facilities (Ohio Administrative Code Chapter 4723-25-01).

In December 2008, after the Ohio General Assembly's Nursing Education Study Committee found that 65 percent of nursing schools in Ohio cited "faculty shortage" as the main reason for not accepting all qualified nursing school applicants, the Committee made a set of recommendations to address the shortage of nursing educators. In April 2009, those recommendations became the basis of Senate bill SB89 introduced by Ohio State Senator Sue Morano. The Comprehensive Nurse Education bill sought to:

- Restructure allocation of the Nurse Education Assistance Loan Program (NEALP) to give the Chancellor of the Ohio Board of Regents authority to reallocate 25 percent of NEALP funds to nursing programs with the most need for assistance.
- Enable the Ohio Skills Bank to serve as mediator between universities and hospitals: The Ohio Skills Bank, administered by the Board of Regents, would collaborate with educational programs to meet the needs for nursing education in every region of the state. The goal of this provision is to enable nurses to serve as mentors for nursing students, while also allowing hospitals and nursing programs to work together in coming up with solutions to the nursing educator shortage.
- Change requirements for Advance Practice Nurses (APN): APNs transferring to Ohio from out of state would not be required to complete 500 hours of direct supervision under a physician to gain authority to write prescriptions if they had prescriptive authority for at least one year in another state and can provide the appropriate documentation.

Although SB 89 was referred to the House Committee in October 2009, and the Senate Health Committee has held hearings on three occasions without any opposition, its status remains uncertain given the legislature's current focus on state finances and budget concerns.

Additional measures to consider in support of nurse education include financial incentives for RNs to pursue further graduate preparation in order to teach future nurses; additional student aid for part-time graduate study; the use of Workforce Investment Act funds to help support nurses seeking graduate degrees; loan forgiveness following years spent in nursing education; income tax credits to ameliorate the faculty salary inequities in the short term and, in the longer term, to bring nursing faculty salaries in better alignment with those of other professions. Along these lines, Ohio HB74, introduced to the Ohio General Assembly in March 2009, would offer tuition

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reimbursement for nursing education, state income tax credits for nursing professors, and state income tax deductions for nurse aides.

Finally, Ohio policymakers might consider encouraging the use of distance learning, which would allow some faculty (especially those who are older and may be considering retirement due to the strains associated with hands-on clinical patient care) to work less than full time and still serve an important role in training student nurses.

Address Clinical Education Requirements

Given the shortage of clinical training sites for Ohio's nursing students, Ohio policymakers should look for ways to streamline clinical education requirements. For example, the Ohio legislature should consider establishing consistent requirements for the number of clinical hours required by students in the various forms of nurse training programs. Efforts should be made to correlate the number of clinical hours with health outcomes in order to set an appropriate and evidence-based standard. Presently, nursing students are required by Ohio law to have at least 12 months of clinical nursing coursework. However, it is currently the responsibility of the program administrator to determine the number of hours necessary to graduate. As a result, according to the December 2008 report to the legislature by the Ohio Nursing Education Study Committee, clinical hours in Ohio nursing schools ranged from 81-1604 in 2007. For baccalaureate RN programs, the reported range was 495-1515 clinical hours and for RN diploma programs, the reported range was 705-1297 hours. In addition, the Ohio Board of Nursing should consider recognizing the time spent in simulated training contexts as clinical time. Utilization of regional simulation centers is fast becoming an innovative educational intervention in many nursing schools across the country. The Ohio Nurse Education Study Committee, however, identified significant limitations to this concept and found that there is no evidence that clinical simulation devices can adequately replace direct care hours. It is clear that there is a need for additional evidence-based research in order to address these divergent positions on the issue of clinical simulation. Likewise, consideration should be given to re-evaluating the currently acceptable ratio of supervisors/preceptors to nursing students in clinical settings.

Regulate Work Standards

As mentioned previously, some states see greater regulation of the nursing industry as one way to address nurse turnover and attrition on the job. Ohio already moved in this direction with the passage of HB 346 in 2007, setting nurse-patient ratios and requiring hospitals to establish nursing care committees and conduct annual reviews of staffing ratios. Pending bills in the Ohio legislature — HR 2273 and S1031 — would mandate minimum nurse patient ratios; limit an organization's ability to adjust other staffing costs to contribute to increasing nursing care hours; provide whistle blower protections; and enact enforcement and penalty provisions (Ohio Organization of Nurse Executives, 2009). In addition, S1031 would mandate staff safety measures. Pending bill HB74 would limit mandatory overtime for nurses.

The Role of Advanced Practice Nurses (APNs)

In a May 10, 2009, letter to the editor of the *New York Times*, the President of the American Nurses Association — Rebecca Patton — responded to an earlier article that focused on the issue of the shortage of primary care doctors across the country and implications for health reform (Patton, 2009). Noting that making better use of APNs can help “ensure that as more people gain coverage under reforms, they will have access to primary care and preventive services amid the shortage of primary care

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physicians," Patton calls on policymakers to consider the fact that the role of APNs is a critical component of health care reform. A recurring theme among Ohio's nursing leaders interviewed for this issue paper was that among the country's APNs, the state is not perceived as being at the forefront of appropriate and effective utilization of the APN workforce. More specifically, reimbursement models often exclude APNs, and state requirements for certification and licensure are stringent.⁸

Require Data Collection and Reporting

In 2008, the Ohio Nursing Education Study Committee recommended that the state legislature make data collection on the nursing workforce a priority for the state. The Committee found that Ohio is lacking substantial statewide statistics on the nursing workforce. It suggested that the Board of Nursing conduct a survey (tied to the online licensure process) that collects information about each nurse's education, employment status, years of experience, etc.

To its credit, since 2002, the Ohio Board of Nursing has collected data from each pre-licensure nursing education program related to program capacity, intent to expand, actual expansion, and the projected need for future faculty. In the Board's 2007-2008 Nursing Education Annual Report Summary, two additional categories of information were added: (1) whether programs incorporated clinical or patient simulation technology into their curriculum and (2) how many hours were spent by students in supervised clinical practice in health care facilities.

CONCLUDING REMARKS

Across the states, nurse leaders, health services researchers and policymakers continue to work on a range of strategies and approaches to address the primary issues related to the nursing workforce. They may vary in scale, in focus and in funding, yet they share the singular goal of creating an adequate, appropriately trained nursing workforce. The challenge is how best to forge the most appropriate and effective policies, programs and initiatives — and to remove administrative, regulatory and fiscal barriers — towards improvement. Ohio is fortunate to have nursing and health care leaders who are committed to a new direction for the future of the state's nursing workforce — one which will ensure its ability to meet the challenges of a changing health care landscape while protecting quality of care and patient safety.

In their own words, the Ohio Nursing Leadership summit— comprised of representatives from a broad range of nursing specialty organizations, nurse educators and provider associations developed a statement on health care reform from the perspective of nurses, who represent the largest segment of the health care workforce: *"The Ohio health system must be re-structured to guarantee access to appropriate high quality, affordable, sustainable health care for all. . . A true health care system emphasizes the professional services and skills in which nurses specialize: prevention, screening, health education, cultural competency, chronic disease management, coordination of care, as well as provision of community-based primary care by nurses and advanced practice nurses. . . A well-designed system or approach that shifts the emphasis from a 'sickness' system to a 'health care system' and improves health care, quality, equity, cost-effectiveness and access, deserves our attention and support."*

8 Chapter 4723.40 of Ohio "Administrative Rules for Prescribing Drugs and Therapeutic Devices" includes a requirement that before nurses who have been authorized to prescribe in other states can begin such practices in the state of Ohio, they must completion a 500-hour externship program. A physician must supervise the APN's prescription practices during this externship. Such a requirement acts as a detriment to attracting APNs to practice – and potentially work as nurse educators – in the state. Ohio SB 89 would eliminate this requirement for APNs.

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APPENDIX

Paths to Nursing

The nursing profession involves three types of workers: registered nurses (RNs), licensed practical nurses (LPNs) or Licensed Vocational Nurses (LVNs), and nurse aides. The following are descriptions of the educational requirements and work responsibilities for each:

- ▶ Professional or Registered Nurses (RNs) have obtained the initial professional license of registered nurse. RNs "...interpret and respond to patient symptoms, reactions, and progress" and plan or direct care accordingly in a variety of settings, including specialized areas such as intensive care, obstetrics and public health. "They teach patients and families about proper health care, assist in patient rehabilitation, and provide emotional support to promote recovery. RNs use a broad knowledge base to administer treatments and make decisions about patients."
- ▶ Licensed Practical Nurses (LPNs) or Licensed Vocational Nurses (LVNs) care for the sick, injured, convalescent and disabled under the supervision of a physician or registered nurse. LPNs "...provide basic bedside care, may give injections or medications, change dressings, evaluate patient needs, implement care plans, and supervise nursing assistants."
- ▶ Nurse Aides assist in routine patient care activities, such as bathing, dressing and feeding patients. Aides who work in nursing facilities or home health agencies that receive funds for Medicare or Medicaid are required to complete at least 75 hours of training. Nurse aides most commonly work in nursing homes, although they may work in hospitals and home care settings.

Structure of Nursing Education

Educational Programs Leading to Licensure as a Practical Nurse (LPN): After completing a one-year educational program, practical nurse program graduates are eligible to sit for the National Council of State Boards of Nursing Licensure Exam for Practical Nurses (the NCLEX-PN exam). Approximately 1,152 State-approved LPN programs were offered in 2000 in the United States.

Educational Programs Leading to Initial Professional Licensure (RN): Students can prepare to become RNs in three ways:

1. Diploma nursing programs are 2-3 year hospital-based programs that prepare students to deliver direct patient care in hospital settings. Some of these programs are affiliated with community and technical colleges. Diploma programs declined in number from 256 in 1985 to 76 in 2002. According to the National League of Nursing, these programs accounted for 5 percent of all RN programs in 2003.
2. Associate degree in nursing programs are 2-3 year programs, typically offered in community and technical colleges, that prepare students to provide direct patient care in a variety of settings. After a period of growth—between 1985 and 1995 the number of these programs increased by 13 percent—associate degree programs declined in number. In 2003, there were 846 such programs. Associate degree programs account for 59 percent of all RN programs, and about the same proportion—60 percent of all RN students—are admitted annually into such programs.
3. Bachelor's degree in nursing — entry level programs are 4-year programs that prepare students to practice in all health-care settings. The generic or entry-level baccalaureate program admits students who have no previous nursing education and awards a baccalaureate nursing degree upon completion. According to the

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AACN, 566 schools offered generic, or entry-level, baccalaureate degrees in 2003. These programs account for about 36 percent of all RN programs, and roughly the same percentage of students are admitted into them annually.

There is a trend of accelerated programs for non-nursing college graduates; these programs admit students who hold baccalaureate degrees in other disciplines but have no previous nursing education and award graduates a baccalaureate nursing degree. These fast-track programs typically take 12 to 18 months of full-time, year-round study. In 2004, 136 accelerated baccalaureate nursing programs were available in 37 States and the District of Columbia. According to the AACN, 50 new accelerated baccalaureate programs currently are in the planning stages (2006).

Educational Programs Leading to Advanced Professional Licensure (RN)

- Bachelor's degree in nursing — non-entry-level programs admit RNs with associate degrees or diplomas in nursing and award a baccalaureate nursing degree. In 2004, there were 611 of these programs, also called RN completion or RN-to-Baccalaureate programs.

Advanced Education

- Master's degree in nursing programs prepare students for education, management and advanced practice roles. Practicing nurses who wish to become advanced practice nurses or desire more advanced nurse education in a clinical specialty may choose to enroll in a master of science in nursing (MSN) program with a specialization in their chosen area of interest (e.g., family nurse practitioner, acute care clinical specialist) or a track in the chosen function (e.g., educator, health policy, ethics, administrator). Most of these students already will have earned their BSN degree, and a majority will already be licensed to practice nursing. In 2003, 400 institutions in the United States and its territories offered master's degrees in nursing.
- Accelerated master's programs are available for individuals who have completed baccalaureate or other graduate degrees in fields other than nursing. These programs include 12 months of intensive nursing education, after which the student is eligible to sit for the NCLEX-RN. Upon passage of the exam, the student then continues with the master's portion of the program to complete the chosen specialization. Thirty-seven institutions offer accelerated master's programs in the United States and its territories, and programs at another 18 institutions are in the planning stages.
- Doctoral degrees in Nursing (i.e., Ph.D., DNS, DNSc) represent the terminal degree in the field. In 2003, 88 institutions offered doctoral degrees in nursing. In most large public universities and academic health centers, nursing faculty must hold a doctoral degree to teach in master's and doctoral programs. This cadre of faculty is most often engaged in nursing research and the advancement of nursing sciences.

Source: Health Resources and Services Administration (HRSA) at www.bhpr.hrsa.gov.

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Author

Joanne Fucello, MSW, LCSW

Health Policy Consultant, Pennington, New Jersey

Edited by: Janet Goldberg, MPA

Health Policy Institute of Ohio

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37 west broad street, suite 350, columbus, ohio 43215-4198 • phone: 614.224.4950 • fax: 614.224.2205
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