**BOARD OF HIGHER EDUCATION**

**REQUEST FOR COMMITTEE AND BOARD ACTION**

**COMMITTEE**: Academic Affairs **NO**.: AAC 13-15

**COMMITTEE DATE:** December 5, 2012

**BOARD DATE:** December 11, 2012

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**NURSING AND ALLIED HEALTH WORKFORCE DEVELOPMENT PLAN**

**MOVED**: The Board of Higher Education (the "Board") applauds and endorses the Nursing and Allied Health Workforce Development Plan, as presented by the Department of Higher Education (the "Department"), and calls upon each institution to engage in campus-level implementation planning, coordinated at the segmental level, to address the recommendations contained this report; the Board further directs the Department to report back to the Board on such campus-level implementation planning within ninety (90) days.

Authority: M.G.L. c. 15A, § 9; Section 2 of Chapter 139 of the Acts of 2012 (Line Item 7066-0020)

Contact: David Cedrone, Associate Commissioner Economic and Workforce Development and STEM

## Background

Massachusetts is facing structural nursing workforce shortage. Looming retirements, rising education level expectations, health care delivery transitions from acute-care hospitals to community-care institutions and a constrained faculty pipeline all contribute to real and anticipated near and long-term nursing workforce gaps. While many reports and supporting data have sounded this alarm, other reports of newly licensed nurses struggling to find initial employment and candidates for nursing programs being turned away due to a lack of program capacity have sent conflicting messages about the nursing shortage.

To fully understand this workforce development dilemma requires a more informed analysis than can be obtained through an examination of labor vacancy rate trends or historical enrollment and graduation data. Health care industry reforms are driving broad-based transformations across the nursing workforce, requiring responses that affect practicing nurses as well as new nurses as well as the demand for teaching faculty in nursing programs.

The Department of Higher Education (Department), together with health care providers, industry associates and campus partners has led the development of a public/private partnership to address both near term nursing workforce needs and tackle systemic curriculum and program capacity challenges. The past accomplishments and proposals for future initiatives are represented in the *Nursing and Allied Health Workforce Development Plan.* This plan presents a roadmap for future action across public and private higher education nursing programs as well as nursing employer partners to transform the existing and future nursing workforce in response to our rapidly changing health care system.

The next step in this work is to translate strategies articulated in this plan into campus-level investments and implementations. The Department, along with the community of nurses, nurse leaders, nurse educators and healthcare employers stand ready to engage and support our campus partners in this important work.

The Department submits for consideration the attached *Nursing and Allied Health Workforce Development Plan.*

MASSACHUSETTS
Department of
Higher Education

# NURSING AND ALLIED HEALTH

# WORKFORCE DEVELOPMENT

*A Strategic Workforce Plan for Massachusetts' Healthcare Sector*

October 2012

# Executive Summary

Massachusetts is facing structural nursing workforce shortage. Looming retirements, rising education level expectations, health care delivery transitions from acute-care hospitals to community-care institutions and a constrained faculty pipeline all contribute to real and anticipated near and long-term nursing workforce gaps.

While various reports and data have sounded this alarm for a number of years, other reports of newly licensed nurses struggling to find initial employment and candidates for nursing programs being turned away due to a lack of program capacity have sent conflicting messages.

Both conditions are real and exist simultaneously. To fully understand this workforce dilemma requires a more informed analysis than can be obtained through an examination of labor vacancy rate trends or enrollment and graduation data. Health care industry reforms are driving broad-based transformations across the nursing workforce requiring responses that affect practicing nurses as well as future new nurses and the demand for faculty in certain nursing programs.

This document represents the first step in an ongoing process to develop a comprehensive plan to address nursing and allied health workforce development. In fact, this first version of the plan focuses exclusively on the nursing workforce. We intend to prepare and release an addendum later in 2013 which will focus on the workforce challenges unique to select professions in allied health.

This plan is organized in three sections.

We begin by describing the inception in 2005 of the *Nursing and Allied Health Initiative* (N&AHI), a partnership of the Massachusetts Department of Higher Education (DHE), the Organization of Nurse Leaders in Massachusetts and Rhode Island (ONL) and the Massachusetts Hospital Association (MHA) to address a then-looming shortage of nurses and nurse faculty. We summarize important initiatives (Appendix 1 & 2) launched by the partnership as they began to understand the nature of the challenge. This section of the report addresses the time period of 2005–2012 and represents the early convening of the community of educators, health care providers (employers) and industry partners in what was coined " the coalition of the willing," a public/private partnership that has endured, strengthened and significantly broadened over time. By example, the Centralized Clinical Placement (CCP) system now serves 109 health care organizations and 111 nursing programs across the region, managing more than 29,300 student-placements.

Section two addresses the need to quantify projected workforce gaps and appropriately size programmatic responses through data collection and analysis. We focus our analysis on data that describes the Massachusetts nursing workforce in context of a report published by the Institute of

Medicine (IOM), the *Future of Nursing: Leading Change, Advancing Health* (2010). This report calls for 80 percent of Registered Nurses (RN) to be educated at the baccalaureate level or above by 2020. Currently, only 55 percent of Massachusetts RNs meet that standard. The implications of this goal for Massachusetts (and nationally) are significant. A substantial number of incumbent nurses, currently practicing RNs, must raise their academic credential from associate to baccalaureate degree level; a Bachelor of Science in Nursing (BSN) is the generally preferred credential. Simultaneously, a much greater percentage of new nurse candidates must enter their career with a BSN degree or above. This presents a challenge for Schools of Nursing to meet what will likely be a significant increase in demand for Bachelor of Science in Nursing (BSN) programs and will require additional faculty to support this incremental demand.

In the third section of this plan we describe the evolution of "the coalition of the willing" into a more formally structured, although still almost exclusively volunteer, community organized to implement key strategies described in this plan. We highlight nearly a decade of support for the N&AHI by the Commonwealth of Massachusetts through sustained annual budget allocations to the Nursing & Allied Health Workforce Development Trust Fund. The N&AHI has been the cornerstone for this public/private collaboration since 2005. More recently, the Massachusetts Action Coalition (MAAC) was formed to engage an even broader community of stakeholders and in August of 2012, the Robert Wood Johnson Foundation awarded a multi-year grant to DHE and the ONL to advance their joint proposal for Academic Progression in Nursing (APIN). Together, these initiatives will lead the implementation of an array of workforce development strategies into the next decade, including:

- Statewide implementation of the Nurse of the Future Nursing Core Competencies© (NOFNCC), a framework for nursing curriculum redesign and a statewide transition into practice;
- A framework for seamless academic progression across all levels of nursing programs; and
- Programs that increase the number of nursing faculty to replace retiring nurses and build program capacity.

As indicated previously, this is the first step in the evolution of a comprehensive plan to address the challenges of nursing and allied health workforce development. Future versions of this plan will most certainly address issues that we can only speculate about today. We hope and anticipate that this plan will not only provide a roadmap to address strategic challenges as they are currently understood but will also provide a framework to stimulate further research and align the actions of health care providers, educators, industry associations and professional societies. We hope that you find this plan informative, welcome your comments and encourage you to engage in advancing this important work.

# Section 1 – The Nursing and Allied Health Initiative

## *The Nursing Shortage – It's More Than Just Numbers*

In 2005, Massachusetts faced a looming workforce challenge as the number of unfilled jobs for registered nurses was projected to grow from a reported 7,000 vacancies in 2003 to 12,000[1] by 2010. Recognizing the need for a coordinated response to this challenge that would include nursing programs at both public and private higher education institutions as well as health care providers and other industry partners, then Chancellor of Higher Education, Judith Gill, formed the Initiative on Nursing and Allied Health Education [now called Nursing and Allied Health Initiative (N&AHI)]. Through a collaborative industry/education leadership model, the Board of Higher Education[2], the Organization of Nurse Leaders MA & RI[3] (ONL), and the Massachusetts Hospital Association (MHA) began the work of addressing what were then the root causes of the nursing shortage—limited numbers of faculty available to teach in nursing programs, insufficient capacity of clinical education sites which constrained the number of clinical placements for students, and inadequate laboratory teaching facilities (Appendix 3).

These, as well as other issues that have surfaced in the ensuing years, continue as top priorities today. While action has been taken, nursing faculty remain in short supply with many approaching retirement; curriculum in nursing programs must be aligned to the knowledge, skills and attitudes (competencies) of the ever-evolving health care practice environment; and barriers to seamless academic progressions across all levels of the nursing education continuum must be removed.

As we look forward, new challenges loom on the horizon. The health care system is transitioning from a model based on acute-care hospitals as the central focus of care delivery to one in which community-based institutions address the longer-term health maintenance needs of our aging population. With this transition comes a growing need for many more gerontology-prepared nurses committed to serving a diverse community of patients presenting with complex disease diagnoses and associated treatment plans. To manage this environment, ever more sophisticated technology is now commonly applied in support of direct patient care introducing new

[1] "But Who Will Teach Them?", Lisa Young Yung, Director, Health and Human Services Programs, Massachusetts Community Colleges Executive Office (2003). Since then the dramatic and unforeseen contraction of the national economy have constrained growth in nursing jobs and have also resulted in deferred retirements and extra shifts by currently working nurses. As a result, many fewer vacancies materialized by 2010. However, the structural gap of projected retirements remains a threat to the capacity of our nursing workforce.

[2] Following the formation of the Executive Office of Education, the Department of Higher Education was formed to staff the Board of Higher Education and now oversees the Nursing and Allied Health Initiative.

[3] Previously known as the Massachusetts Organization of Nurse Executives (MONE)

knowledge and skill requirements for the nursing profession. And finally, nurses are expected to assume the mantle of leadership of inter-professional teams that combine the talents of many care disciplines as together they strive to deliver patient-centered care of the highest quality, safely and under ever more strict cost-controls.

## *Funding History – Sustained Support*

Massachusetts state government has provided over $6 million dollars in sustained support for the N&AHI since 2005. These funds have supported investments in innovative and transformative nursing education and workforce development projects across the Commonwealth. For fiscal years 2005 through 2009, funds were earmarked in the general line item for the DHE budget, beginning with $500,000 for each of the first 3 years, followed by appropriations of $1 million and $2 million in subsequent years as the importance and impact of the initiative became increasingly clear. In FY10, the N&AHI was designated a line in the state budget, initially receiving $1 million but later cut by more than half during a budget crisis (9C cuts) in the fall of 2009. In the two most recent fiscal years, FY11 and FY12, the N&AHI received annual appropriations of $635,250. While the budget was slightly reduced for FY13 to $500,000, an innovative funding model was introduced to support the Centralized Clinical Placement (CCP) system budget of $175,000, effectively maintaining level funding for the N&AHI in FY13.

Along the way, a trust fund was established in section 33 of chapter 305 of the acts of 2008, allowing for funds to be carried across fiscal-year boundaries to support multi-year implementation projects. The trust fund was intended to *"develop and support,… short-term and long-term strategies to increase the number of public and private higher education faculty and students who participate in programs that support careers in fields related to nursing and allied health.*" The DHE administers these funds, informed and guided by an advisory committee structure including representatives of public and private nursing education programs, health care providers, industry representatives and government officials.

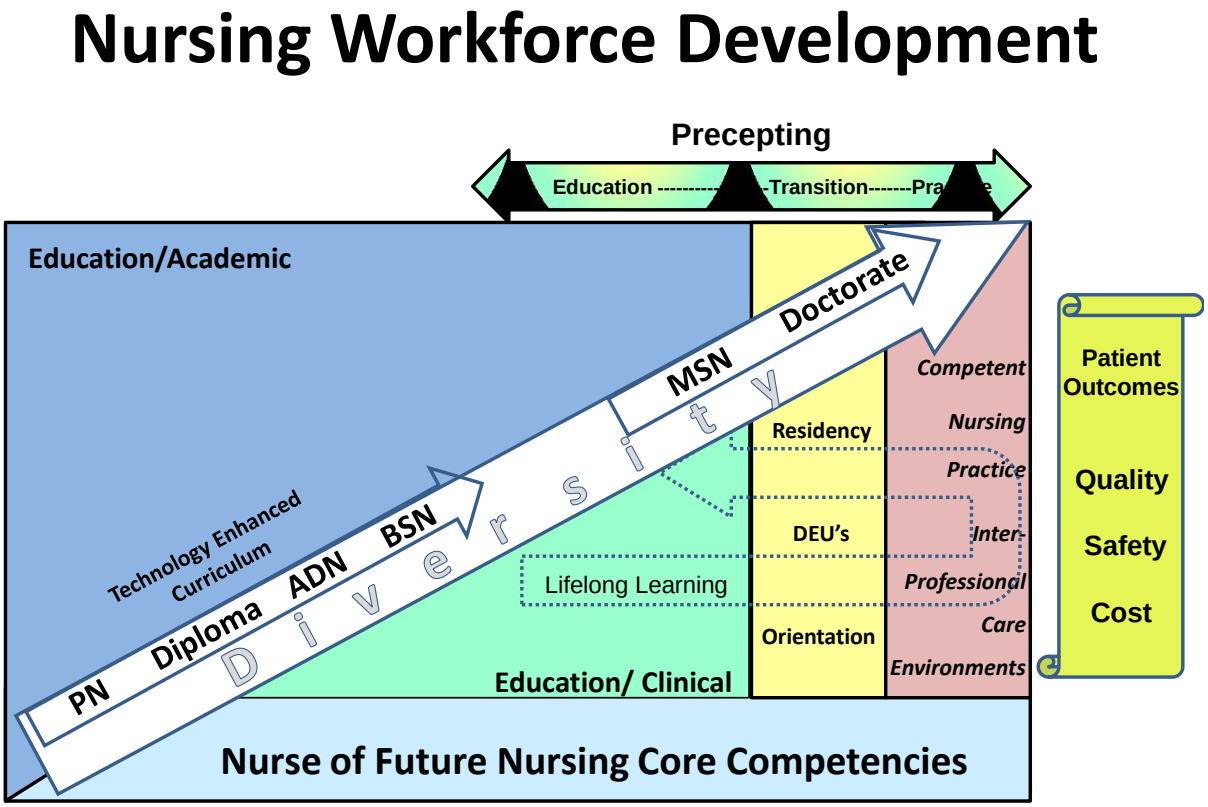
## *Nursing Workforce Development Framework*

Massachusetts has defined the following framework (Figure 1) for nursing workforce development that depicts a comprehensive system of academic and clinical education aligned to the practice environment. This framework is grounded in the Nurse of the Future Nursing Core Competencies© (NOFNCC) and depicts the seamless progression of newly licensed and incumbent nurses through academic programs into practice and ongoing advancement of their careers through lifelong learning. Seamless education pathways from Practical Nurse (PN) through Registered Nurse education—ADN, BSN and MSN to the Doctoral DNP/PhD level—offer entry/exit and reentry points at community colleges and vocational schools as well as public and private four-year nursing programs. These provide access to the profession for a more diverse body of students which, over time, will result in a workforce that more closely reflects

the demographics of the patient population. Newly licensed nurses and also incumbent RNs that are advancing their education and job levels will progress through orientation, preceptor support programs and dedicated educational units (DEU) that will ensure increased rates of retention and higher-level understanding of the NOFNCCs in practice environments.

This framework provides a guide for the development of our nursing workforce to advance a greater number and more diverse community of nurses into contemporary health care practice environments, prepared to provide high-quality, safe and cost-effective patient care achieving positive health outcomes.

**Figure 1**




Massachusetts Department of Higher Education

## *Key Initiatives – Measurable Outcomes*

One of the first priorities of the N&AHI was to ensure that the curricula of nursing programs reflect contemporary demands of the rapidly evolving health care practice environment. A "Gap Analysis" (Appendix 4) was initiated which in turn informed the definition of a measureable framework of knowledge, attitudes and skills known as the **Nurse of the Future Nursing Core**

**Competencies©** (NOFNCC). These competencies, developed collaboratively by academic and practice partners, reflect the knowledge, skills and attitudes that nurses must possess to be successful in the contemporary health care delivery environment. They are being infused into academic and clinical curricula as well as practice environments to provide a consistent thread of language and understanding for nurses across all levels and stages of their career development. A complete description of the NOFNCC's were published in 2010 (Appendix 5) and have since been the reference for numerous curriculum redesign initiatives in nursing programs at public and private higher education institutions across Massachusetts. DHE regularly fields requests for permission to use the NOFNCC's from states across the nation.

Great strides were made early on through the deployment and use of technology to support nurse education. Over a period of five years, $1,179,062 in grants were issued for the purchase of 28 **Simulation Manikins**—advanced laboratory technology to support improvements in clinical education—to partnering institutions of higher education and health care organizations across the Commonwealth (Appendix 6). In some cases these "seed" investments influenced additional private investments. For example, the Evelyn Lilly Lutz Foundation and the Peter J. Lappin and Family Foundation funded a state-of-the-art simulation laboratory at Northeast Health System's Beverly Hospital in 2011. DHE was recognized for our early involvement in making the Nursing Education and Simulation Center a reality, and Judith Michaud, a clinical nurse educator, later wrote saying, "I am very excited about the future of simulation here at NHS and the impact it will have on our nursing students and new graduate nurses."

Also, a web-based software tool was designed and deployed by the DHE to optimize the management of clinical nursing education placements between healthcare organizations and higher education nursing programs while maximizing the number of placement opportunities available to nursing students (Appendix 7). The **Centralized Clinical Placement** system (CCP) now serves 109 health care organizations and 111 nursing programs across the region, managing more than 29,300 student placements and also incorporates an online orientation application for students. To date, over 28,000 students have completed the online orientation modules, greatly increasing the efficiency, consistency and control of this essential element of student preparation for clinical learning experiences (Appendix 8). As this system supports an important and ongoing function for nursing programs and health care institutions, a sustainable, usage-based, fee-for-service funding model was implemented at the beginning of FY2013, supported by all participating institutions and administered by the DHE.

A **"Welcome Back Center"** (WBC) was established in 2005 supporting the successful transition of nurses previously trained in foreign countries to pursue licensure through Massachusetts nursing programs. This initiative helped to address the shortage of nurses and continues to address the need for greater diversity in the nursing workforce. The WBC was funded by the

N&AHI for five years and is now integrated into the offerings at Bunker Hill Community College (Appendix 9).

Thirty-six **Scholarships** were provided to clinical nurses enrolled in master's or doctoral nursing programs and who committed to teach at least one year upon graduation. The Tufts Health Plan Foundation, in collaboration with the Massachusetts Hospital Association, provided $350,000 over 2 years (2008–2010) to increase the number of qualified faculty in nursing programs. More follow-up is needed to determine the effectiveness of these scholarships, which averaged $10,000, to increase the number of nursing faculty on a long-term basis (Appendix 10).

The N&AHI issued five **Education Redesign Grants** in FY11 totaling $242,000. These projects addressed three key priorities: (1) implementation of core competencies into curriculum and practice, (2) development of curricula centered on gerontology, and (3) pilot models of seamless academic progression for LPN to BSN and ADN to BSN and MSN. In some cases these projects piloted new models while others built upon prior grant-funded projects, scaling up services to additional health care providers and nursing programs. In FY12, $250,000 was allocated to support grant projects of which approximately $200,000 was allocated to nursing projects targeted at seamless academic progression and transition into practice using a nurse residency model (Appendices 11–14). In early FY13, $50,000 was awarded to support both nursing and allied health in an update of a previous report, the *Massachusetts Healthcare Chartbook* (2007).

## *Changing Landscape - Is There Still a Nursing Shortage?*

In 2005, the Massachusetts Association of the Colleges of Nursing (MACN) reported a 7-percent vacancy rate for nursing jobs and that the shortage was expected to grow to 12 percent in 2010.[4] However, the downturn in the overall economy constrained growth in nursing jobs and we believe deferred some planned retirements. As a result, many fewer vacancies have recently been reported than projected in 2005[5]. At the same time many newly licensed nurses are finding it a challenge to secure initial employment. Anecdotal reports suggest that many new nurses aspire to jobs in acute care settings where demand is contracting due to health care reform. In community and long term-care settings, demand for nurses is on the upswing[6]; however, a cautionary note for newly licensed nurses is that placements in community care settings often require experienced nurses due to lower supervision ratios and thus may not provide a pathway for newly licensed nurses who still need to gain their initial employment experience.

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[4] "Ensuring an Educated Nursing Workforce for the Commonwealth", MACN, (2005).

[5] The Executive Office of Labor and Workforce Development has committed to reinstate the Vacancy Report in FY13 and so new vacancy data on nursing positions will be available later this year.

[6] Report to the Community (2011). Massachusetts Senior Care Foundation

Faculty shortages are also hidden by vacancies left unfilled due to budget constraints (a.k.a. 'faculty hiring suspensions'). Large class sizes and programs that are running at capacity yet constrained from expansion by the availability of faculty can also mask the shortage. And like clinical nurses, many faculty members are working past what has been considered traditional retirement age.

A scholarly review which began as a simple update of data regarding the registered nurse (RN) and nurse educator shortages in the United States, with a focus on Massachusetts, resulted in a resource/reference manual completed in 2011 by Susan L. Conrad, Ph.D., RN. The literature search for current, pertinent articles revealed a great deal of information about the many complex issues involved in the shortages, as well as best practices for positively impacting the shortages.[7]

In 2008, the Robert Wood Johnson (RWJ) foundation and the Institute of Medicine (IOM) launched a two-year initiative to assess the role of the nursing profession, the single largest segment of the health care workforce, in transforming the nation's health care system. A landmark report, *Future of Nursing: Leading Change, Advancing Health*, released in 2010 (Appendices 15, 16, 17), has informed the ongoing work of the DHE's N&AHI and this strategic workforce development plan. Specifically, the IOM report calls for 80 percent of RNs to be educated at the Bachelor of Science in Nursing level or higher by 2020. Currently, only 55 percent of Massachusetts RNs meet that standard. The report contends that higher levels of nursing education will better prepare the workforce with essential skills in leadership, policy development, research, evidence-based practice, teamwork and collaboration to ensure higher quality and safer practices while addressing increasingly complex patient healthcare needs.

# Section 2 – Nursing Workforce Data and Analysis

## *Rebalancing the Nursing Workforce*

The Massachusetts N&AHI has focused on the projected shortage of nurses and nursing faculty since 2005 and has built a foundation of action described previously in the section *Key Initiatives – measurable outcomes*. However, only recently have we begun to analyze available data to characterize the demographics of the nursing workforce, quantify the capacity of our education pipelines and qualitatively assess the workforce based upon the level of preparation of practicing nurses. The Institute of Medicine's call-to-action for 80 percent of nurses to be educated at the BSN or higher level by 2020 has further emphasized the need to drive our workforce planning based on data.

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[7] *Predictions and Preparedness: The Registered Nurse and Nurse Educator Shortages*, Susan L. Conrad PhD, RN, Professor, Nursing Department, Framingham State University (June 2011); see http://www.mass.edu/currentinit/NiReports.asp

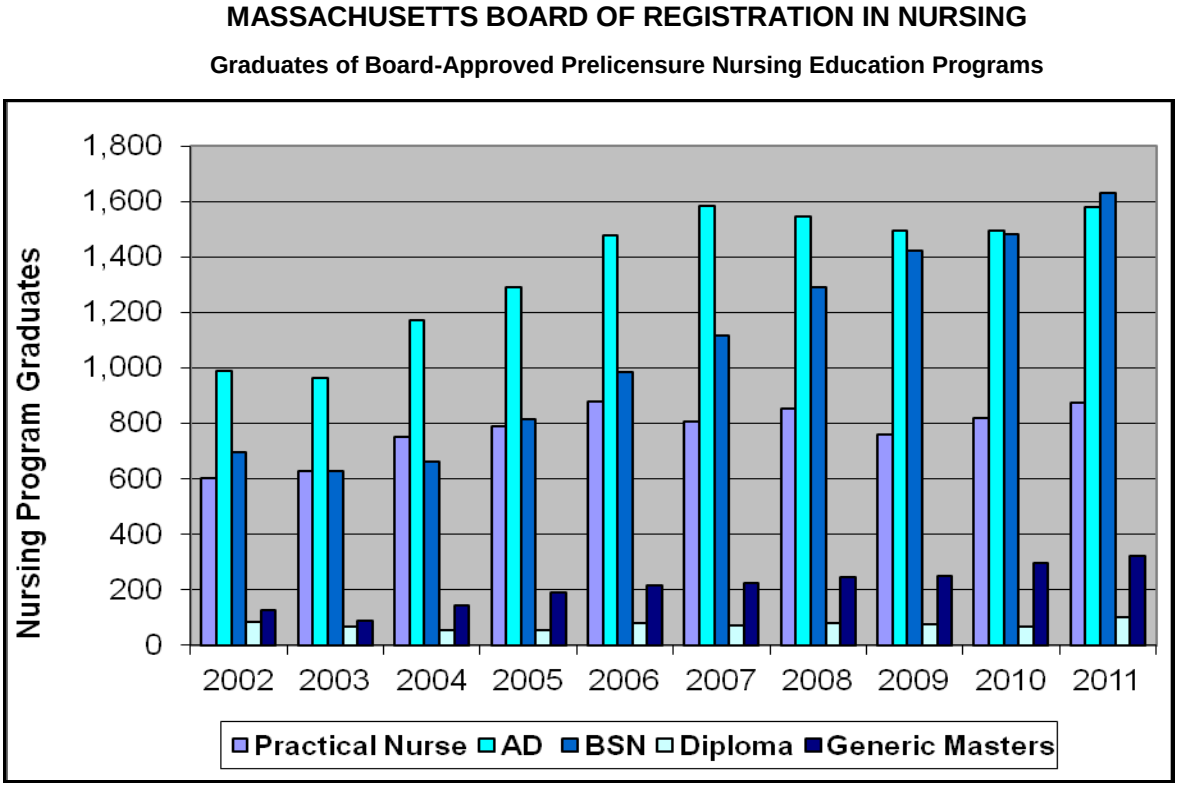
As indicated in Table 1 below, data on student admission, graduation and enrollment from the MA BORN indicate growing interest and student success in nursing programs from 2006 to 2010. Admissions to bachelor degree–RN programs have increased 27 percent and graduates from these programs have increased 50 percent while admission and graduation rates for associate degree RN programs have remained relatively flat. The increase in BSN degree awards, which in 2011 outpaced associate degree awards for the first time, is shown graphically in Chart 1. This increase in new nurse candidates pursuing a BSN degree for their entry point into a nursing career is a good step in rebalancing the nursing workforce but alone is insufficient to approach the 80-percent target of BSN-educated nurses or higher by 2020.

## Table 1

**Growth Rate of Nursing Candidates**
**Associate and Bachelor Degree Programs 2006- 2010**

| | **2006** | **2010** | **% Change** |
|---|---|---|---|
| Bachelors – RN | | | |
| Admissions | 1,624 | 2,068 | |
| Graduates | 987 | 1,484 | 50% |
| Enrollment | 5,017 | 6,525 | |
| Associates – RN | | | |
| Admissions | 2097 | 1950 | |
| Graduates | 1478 | 1494 | 1% |
| Enrollment | 4405 | 4522 | |
| Total – all RN programs (incl. Diploma and Entry Level Masters) | | | |
| Admissions | 4,137 | 4,464 | |
| Graduates | 2,750 | 3,341 | 21% |
| Enrollment | 10,329 | 12,144 | |

**Chart 1**




## Scenario Analysis

To assess the magnitude of the challenge represented by the IOM's call for 80 percent of the nursing workforce to be educated at the BSN level or above by 2020, we developed two scenarios (detailed below) of possible nursing workforce transitions. These include assumptions about overall workforce growth, retirements and academic progressions at all levels of nursing.

We offer a model of the future nursing workforce based in part on an assumed 7.8-percent aggregate growth in the workforce between 2012 and 2020. We assume that health care cost containment initiatives will limit workforce growth, despite the expected increase in demand of an aging population and other significant health care concerns. This is a critical assumption as any higher rate of projected growth in the nursing workforce will place additional demands on an already strained education pipeline. We need to test and validate this assumption.

Currently, 45 percent of Massachusetts licensed nurses hold an associate's degree or were educated in nursing diploma programs. Given the age distribution of this workforce (Table 2, page 18), many of these nurses will continue in the profession for the next 20+ years. Therefore,

any strategy to rebalance the workforce toward a higher percentage of BSN-prepared RNs must address the need for a substantial number of incumbent RNs to raise their academic credentials.

**Scenario 1 - 80% of RNs at BSN or above by 2020**:

In Scenario 1, approximately18,500 incumbent RNs holding an associate degree or diploma and more than 5,000 newly graduated, associate-degree-prepared nurses plus 750 LPNs would need to further their education to attain a BSN or above. We estimate that current, employed nurses will require three years on average to complete such programs, part-time. This translates into a requirement for five new cohorts of 5,000 part-time students each year between 2013 and 2017. This alone represents about three times the current number of students graduating from our BSN programs annually (Table 1). These five cohorts would necessarily overlap and, between 2015 and 2018, result in 15,000 additional part-time students annually. Clearly this is an impractical plan.

The necessary workforce transitions are shown below and would result in 103,134 RNs at BSN or above—approximately 79 percent of the total.

| Description | 2012 | 2020 | Change |
|---|---|---|---|
| Diploma-educated RNs | 15,208 | 5,648 | -9560 |
| new | | 340 | |
| advance to BSN | | -1,600 | |
| retire | | -8,300 | |
| ADNs | 38,574 | 21,674 | -16,900 |
| new | | 12,800 | |
| new-advance to BSN | | -5,200 | |
| current-44% advance to BSN; | | -16,900 | |
| retire | | -7,600 | |
| BSNs | 50,122 | 82,372 | 32,250 |
| new | | 14,600 | |
| from LPN | | 750 | |
| from new ADN | | 5,200 | |
| from incumbent ADN/Diploma | | 18,500 | |
| advance to higher degree | | -2,000 | |
| retire | | -4,800 | |
| Masters | 16,297 | 19,577 | 3280 |
| New | | 3,400 | |
| from BSN | | 2,000 | |
| advance to higher degree | | -520 | |
| retire | | -1,600 | |
| Doctorate | 785 | 1,185 | 400 |
| from Masters | | 520 | |
| retire | | -120 | |

| | | | |
|---|---|---|---|
| TOTAL | 120,986 | 130,456 | 9,470 |
| **BSN or higher** | **67,207** | **103,134** | **79.1%** |

**Key Assumptions:**

By 2020 we would need to increase the number of nurses with a BSN by over 32,000. At the present graduation rate, in eight years we can produce about 15,000 new nurses at the BSN level. The balance will have to come from the ADN pool of incumbent (currently practicing) and new ADN nurses. This would require that 29 percent of potential new ADNs (5,200) continue on to complete the BSN degree. Also, nearly 17,000 of the incumbent ADN workforce, currently about 44 percent of the total population of nurses, would need to advance to a BSN level, simultaneously reducing the number and percentage of ADN-prepared nurses.

Over the same period, 2000 BSN nurses will earn an MSN or higher degree, which includes some from the ADN group. Also based upon current graduation rates, approximately 3,400 more nurses will earn an MSN by 2020, although some will advance to a doctorate and others will retire, yielding a net increase of about 3,300 MSN prepared nurses.

Even with greater use of online courses, accelerated programs and improved seamless academic progression through other education reforms, **Scenario 1** is unrealistic as this would require considerably more capacity in our education pipeline to serve some 24,450 additional students pursuing their BSN (5,200 new ADNs, 18,500 incumbent ADNs and diploma-educated nurses, plus 750 LPNs advancing to the BSN level) over an eight-year period.

**Scenario 2 - 66% of RNs at BSN or above by 2020**:

In Scenario 2, many assumptions remain the same but fewer associate-degree-prepared nurses (ADNs) advance to BSN or greater by 2020. The revised target is to advance 2,300 new ADNs directly to a BSN, and support 5,180 incumbent (ADN) nurses, diploma-educated nurses, and LPNs to advance to a BSN for a total of nearly 7,500 new BSNs over an eight-year period. Assuming a three-year cycle for each cohort, five cohorts of 1,500 students each would need to be added to the education pipeline. In overlapping years, this would add 4,500 additional (part-time) students, a tripling of the current annual BSN pipeline. Added to newly licensed BSNs and reduced by BSNs moving to the next degree or retiring, the net increase at the BSN level is still over 15,000—a substantial educational achievement for many and a significant challenge for the system. Combined with increases at the MSN and doctoral level, this scenario projects a total increase of nearly 19,000 nurses at a BSN or higher (67,204 to 86,164), bringing Massachusetts to 66 percent of RNs educated at the BSN level or higher by 2020. (See Appendices 18 & 19 for the Excel models underlying Scenarios 1 & 2.**Scenario 2 - 66% of RN's at BSN or above by 2020**:

| Description | 2012 | 2020 | Change |
|---|---|---|---|
| Diploma-educated RNs | 15,208 | 6,568 | -8,640 |
| new | | 340 | |
| advance to BSN | | -680 | |
| retire | | -8,300 | |
| ADNs | 38,574 | 37,724 | -850 |
| new | | 12,800 | |
| new-advance to BSN | | -2,300 | |
| current-44% advance to BSN; | | -3,750 | |
| retire | | -7,600 | |
| BSNs | 50,122 | 65,402 | 15,280 |
| new | | 14,600 | |
| from LPN | | 750 | |
| from new ADN | | 2,300 | |
| from incumbent ADN/Diploma | | 4,430 | |
| advance to higher degree | | -2,000 | |
| retire | | -4,800 | |
| Masters | 16,297 | 19,577 | 3,280 |
| New | | 3,400 | |
| from BSN | | 2,000 | |
| advance to higher degree | | -520 | |
| retire | | -1,600 | |
| Doctorate | 785 | 1,185 | 400 |
| from Masters | | 520 | |
| retire | | -120 | |
| TOTAL | 120,986 | 130,456 | 9,470 |
| **BSN or higher** | **67,204** | **86,164** | **66.1%** |

**Proposed Target**

Based on these scenarios, the Massachusetts Action Coalition (co-led by the Department of Higher Education and the Organization of Nurse Leaders MA/RI) submitted a proposal to the Robert Wood Johnson Foundation for a grant to support Massachusetts' plan for seamless academic progression, faculty development and dissemination of the Nurse of the Future Nursing Core Competencies©. In this proposal, the Massachusetts Action Coalition targeted the goal of 66 percent of RNs prepared at the BSN level or above by 2020, still a significant challenge but one that we believe to be within our capacity to achieve.

## *Faculty Shortages*

As we project a significant rebalancing of the nursing workforce to achieve the goal of 80 percent of RNs educated at the baccalaureate level or above, we must similarly consider whether there is a need to rebalance the faculty workforce. Fewer than 68 percent of those who identify as Instructor/Faculty on the BORN re-licensure survey report hold a master's degree or higher.

From these data, we know that 32 percent of the Instructor/Faculty group hold a bachelor degree or less (3.8% Diploma, 6.1% ADN and 22.4% BSN) and are currently teaching in Practical Nurse, Diploma or ADN programs. This faculty may not be prepared to teach courses for newly licensed and incumbent ADNs who will be working toward a BSN or MSN.

Further, the 2010 BORN pilot survey showed that nearly 22 percent of those identifying themselves as Instructor/Faculty plan to seek additional education within the next five years. However, the average age of this population is 53, with nearly half those reporting an age of 55 years or older and more than 14 percent planning to retire, work less hours or leave nursing over that same period. One question unanswered by the current survey data is whether the description Instructor/Faculty counts nurses working in a teaching role in a practice setting as well as those working in an academic institution. The industry needs academic faculty as well as clinical practice faculty to ensure the preparation of students across the academic/practice continuum.

Having the right number of adequately prepared nurses as faculty will require a number of strategies which might include retirees returning to teaching, faculty being prepared to teach more online courses, incentives to attract more nurses into teaching, and incentives for current faculty to advance to higher levels of education. Advanced degrees are costly and faculty salaries are considerably lower than those for clinical nurses, factors that both add to the challenge of providing incentives for otherwise qualified nurses to move into faculty roles. This may be an area where ongoing scholarships or other incentives will be required.

## *Employer Partners*

While this challenge has so far been described in the context of the capacity of nursing programs to support projected demand, it is equally important to note the role that employers must play in supporting this rebalancing of the nursing workforce. Some employers are already sending a clear message by requiring that nurses be educated beyond an entry-level degree and are encouraging nurses to advance their education. However, in general, the difference in compensation between RNs with associate's degrees and RNs holding baccalaureate degrees is small. Without a financial incentive there has been little economic motivation for ADNs to advance their education. Employers will need to consider economic incentives as well as financial (tuition reimbursement) and other supports for practicing professional nurses to return to school and advance their education.

## *Emerging Data Capabilities*

The Nursing and Allied Health Initiative was established to address the shortage of nurses and nursing faculty through innovative projects that increase capacity and align nursing education programs to the practice environment. As indicated in the introduction to this report, *The Nursing Shortage – it's more than just numbers*, new challenges have developed since 2005 and others loom on the horizon. While the anticipated increase in retirements has been delayed due to the

downturn in the economy, this delay has only exacerbated the anticipated outflow of nurses in the future. Ongoing health care reforms are driving changes in the practice environment requiring realignment of academic curriculum, and the shift of the health care delivery model from short-term acute care toward longer-term community-based care necessitates a rebalancing of the workforce pipeline. As the call for more highly educated nurses leads both new nursing students and incumbent nurses to further their education, barriers to seamless academic progressions across all levels of the nursing education continuum must be removed.

To address these and other challenges, data describing the demographics and level of preparation of nurses will become increasingly important to inform workforce planning. While we do have access to valuable data today, we must acknowledge that the data are incomplete and imprecise. Work is underway to develop new data sources, improve response rates to current survey requests and refine analytic tools that will help to mine information from available data. Despite the current shortfalls, important projections and trends can be made to inform actions in the short term with the knowledge that we will continuously improve our understanding of the workforce pipeline based on ever-advancing information system capabilities.

The primary source of nursing statistics in Massachusetts is the Board of Registration in Nursing (BORN) which approves all pre-licensure programs and has collected data on admissions, graduates and enrollment from all licensed programs in the state for many years. Massachusetts, as a participant in a national initiative, completed its first *Minimum Data Set* survey in 2010 asking RNs who renewed their licenses online to answer a set of 31 questions (Appendix 20). The online survey captured information from approximately 38 percent of the 117,690 nurses who were sent license renewal notices. Nurses who were awarded licenses only recently—and therefore were not up for a first renewal (two-year cycle)—were not captured in this survey. In 2011, a similar survey of Licensed Practical Nurses (LPNs) was conducted; those data are not yet available although the survey questions are provided in this report (Appendix 21). The 2012 RN survey is entirely online and a significantly higher response rate is anticipated.

Following the initial analysis of the 2010 RN survey, a limited selection of data was publicly released by the MA BORN in April 2012. Additional information from the survey will be made available on the MA Department of Public Health website in the future. Table 2 below provides baseline information from the analysis.

**Table 2**

**MA BORN Pilot Study – 2010 RN Licensure Renewal Survey**

| Highest Degree by Age Group | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Age Range** | **<35 yrs** | **35-44** | **45-54** | **55-64** | **65+** | | **% of Total** |
| **Diploma** | 2.58% | 7.08% | 12.50% | 23.33% | 39.19% | | 12.57% |
| **Associate Degree** | 26.36% | 38.72% | 35.37% | 28.27% | 18.57% | | 31.88% |
| **Baccalaureate Degree** | 60.56% | 42.06% | 37.88% | 29.57% | 24.05% | | 41.43% |
| **Masters Degree** | 10.41% | 11.78% | 13.60% | 17.45% | 16.86% | | 13.47% |
| **Doctoral Degree (PhD, EdD, DNP)** | 0.08% | 0.36% | 0.66% | 1.37% | 1.33% | | 0.65% |
| | | | | | | | |
| **Baccalaureate+** | 71.05% | 54.20% | 52.13% | 48.39% | 42.23% | | 55.55% |
| | | | | | | | |
| **Age - % of Total** | 22.08% | 23.05% | 28.43% | 22.38% | 4.06% | | 100.00% |

Note: Columns total to Baccalaureate+

## *Initial Indicators*

From the analysis of the 2010 MA BORN *Minimum Data Set* survey we determined that nurses under 35 are much more likely to enter the field with a BSN or MSN degree (34% and 32%, respectively), more than twice as high as compared to the first degree earned by nurses currently in the 55–64 age group. When reporting their highest level of nursing education (Table 2), over 70 percent of nurses age 35 or younger have a BSN degree or higher as compared with significantly lower rates for all other age groups. Another encouraging sign is that 21 percent of current RNs expect to seek additional education in the next five years, and the historic data show about the same percent of nurses have moved beyond their entry-level degree over time.

Also from the survey data, 5 percent of RNs report plans to retire in the next five years but a total of 11 percent list plans which include retirement, leaving nursing or reducing their hours.

As more nurses start their careers with a more advanced degree and/or attain a higher degree during their career, we will see a gradual shift toward the goal of 80 percent of nurses with a BSN or higher degree. However, attrition alone will not move us fast enough toward the 2020 (or more practically, the 2025) goal.

**Other Data Sources**

The BORN *Interest in Nursing Survey*, while not a formal reporting requirement of nursing programs, has maintained an 87 percent or better response rate since 2006 and provides information on the number of program applicants as well as how many are reviewed, accepted, enrolled and/or waitlisted. Those programs that are unable to admit all qualified applicants report on the barriers to entry for students. In 2009, nearly 1900 qualified applicants for RN programs were turned away by nursing programs in Massachusetts with the major reasons cited as: faculty, clinical placements, space and capacity. In addition, BORN survey data about admission, graduation and enrollments in pre-licensure programs are available (Appendices 22-24).

BORN is also the source for annual data on the number and percent of graduates that pass the licensing exam, known as NCLEX, from each currently licensed nursing program (Appendix 25).

The biennial *Faculty Shortage Survey* (Appendix 26), produced in the spring of even-numbered years, collects information about actual, budgeted and projected faculty vacancies. Actual and projected faculty vacancies have fallen in recent years. However, the percent of nursing programs responding to the survey has also dropped from 82 percent in 2008 to 62 percent in 2010. Also, the data provided reflect only vacant positions that nursing programs plan to fill and have budget to support. Therefore, while these data provide some indication of faculty vacancy rate trends, declines in the percentage of reporting institutions and variability in definition of a vacant position (only budgeted positions are considered vacant; unfilled but unbudgeted positions are not recorded as vacancies) may lead to underreporting of the nursing faculty shortfall. The DHE will continue to explore opportunities to improve these and other data sources.

The Integrated Postsecondary Education Data System (IPEDS) is the national reference for enrollment and graduation data by degree program for all Massachusetts schools of nursing.

### Nurse of the Future Nursing Core Competencies Implementation

The ONL's Academic Practice Integration Committee (APIC) has recently developed a survey (Appendix 27) to gather information about implementation of the Nurse of the Future Nursing Core Competencies© (NOFNCC) in academic and practice settings—schools of nursing (academic partners) and teaching hospitals, community hospitals, long-term care facilities, and home care agencies (clinical practice partners) across the Commonwealth. The purpose of the survey is to determine the breadth, depth and fidelity of implementation of the competencies within these organizations and to use this data to plan actions that will further extend the integration of the NOFNCC in academic curriculum and practice settings. The recent grant proposal to the Robert Wood Johnson Foundation (RWJF) which focused on Academic Progression in Nursing (APIN) was based, in part, on ensuring the fidelity of implementation of the NOFNCC statewide.

### Seamless Academic Progression

The Nurse of the Future (NOF) Working Group is piloting a new survey (Appendix 28) to inform the development of a plan for seamless academic progression across nursing programs, statewide. This plan will effect changes in transfer policy and curriculum to reduce barriers to academic progression between and among all levels of nursing education. The plan further envisions the development of a Nursing Education Transfer Compact for public higher education with the option for voluntary participation by private higher education nursing programs.

## *Workforce Demand Data*

Data and associated analytic capabilities to describe and predict future workforce demand are evolving. As is the case for demographic data about the current workforce, data to project demand for specialty skilled workers by category of health care institution, geographic region, shift and other criteria are still primitive. However, some valuable data are available and can be the basis for reasonable projections. The N&AHI is working to improve our understanding of the available data sources and to make use of new and rapidly developing "real time" technology to mine job posting databases.

### Vacancy Rates

The Massachusetts Hospital Association conducts an annual survey of nursing vacancy rates at acute care and specialty hospitals. The 2011 survey included 94 hospitals of which 76 completed the survey, for a response rate of 81 percent. The results were released in July 2012 and provide comparisons to 2010 and to other historical records from the 24 years of data collection. Overall RN vacancy rates were 3.9 percent in 2011 compared to 3.0 percent in 2010. Acute care hospitals reported a vacancy rate of 3.9 percent, an increase from 2.9 percent in 2010 after a downward trend over the previous seven years where vacancy rates (budgeted FTEs) were

falling. The median vacancy rate for acute care hospitals was 4.1 percent over the 24-year period. The 2011 vacancy rate for specialty hospitals was 5.1 percent compared to 3.4 percent in 2010. Regional variation ranged from 2.9 percent in the Northeast to 4.3 percent in the West, though Metro Boston was nearly as high at 4.2 percent. A new question this year asked whether RN hires were required to have a BSN. Of the 73 hospitals answering this question, 12.3 percent responded yes.

The Massachusetts Executive Office of Labor and Workforce Development (EOLWD) identify registered nurses as one of the fastest growing occupations through 2014, growing at rate of 22 percent[8]. Their forecast for job openings for registered nurses shows an increase of 17.6 percent from 2008 to 2018 with annual openings averaging nearly 3000, which are almost equally split between new openings and those that represent replacements for nurses leaving the workforce.

The U.S. Bureau of Labor Statistics (BLS) employment projections indicate that the job outlook for RNs for 2010–2020 is 26-percent growth (faster than the average for all occupations) and states that "generally, nurses with at least a bachelor's degree (BSN) will have better job prospects than those without one." [9]

[8] Massachusetts EOLWD, Labor market Information; table showing industry projections for registered nurses in MA: http://lmi2.detma.org/lmi/Occupation_Projection_Jobs.asp

[9] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Registered Nurses, on the Internet at http://www.bls.gov/ooh/healthcare/registered-nurses.htm (visited June 08, 2012)

# Section 3 – Implementation

## *Public/Private Partnerships*

The Department of Higher Education's *Nursing and Allied Health Initiative* has provided a catalyst over the past seven years for education, employer and industry partners to collaborate on action plans that address emerging workforce development challenges in the health care sector. Over $6 million in sustained funding through the state budget have supported many successful pilot projects and broader initiatives.

Early in 2011, leaders of this partnership recognized that the transformation of the health care system, driven by state and national reform efforts, called for an even greater leadership role for nursing professionals. In response, an expanded leadership team formed under the banner of the Nursing Leadership Coalition (NLC).

In 2011, the Robert Wood Johnson Foundation (RWJF) and AARP Foundation called upon states to form State Action Coalitions that would advance the recommendations found in the Institute of Medicine (IOM) report, *The Future of Nursing: Leading Change, Advancing Health*. The NLC responded to this call with a proposal stating short-term and long-term goals and objectives (Table 3). ONL and DHE were co-applicants for this proposal to the Center to Champion Nursing in America (CCNA), representing a nursing and non-nursing partner, respectively, as required by CCNA. The Massachusetts Action Coalition for Nursing (MAAC) was formed and officially launched through a two-day site visit in March of 2012 by Dr. Susan B. Hassmiller, Senior Adviser for Nursing at the Robert Wood Johnson Foundation.

The NLC was always intended to be temporary in nature and in September of this year, after leading the planning and implementation of the highly successful launch of the MAAC, the collaboration formally disbanded.

In late spring 2012, the RWJF issued a Request for Proposals to designated state Action Coalitions to advance one or more strategies related to the IOM report's recommendation on academic progression. Once again, DHE and the ONL collaborated to submit a proposal focused on:

1. Accelerated pathways for nurses to achieve baccalaureate or higher degrees.
2. Integration of the Nurse of the Future Nursing Core Competencies© into curriculum and practice.
3. Increase in the faculty pool available to educate nurses from BSN through doctoral degrees.

In August of 2012, the RWJF announced that Massachusetts was one of nine states selected for a two-year, $300,000 grant award (Appendices 29 and 30).

Looking forward, Massachusetts enjoys a strong collaboration of education, employer and industry partners and a framework of complementary initiatives and funding sources to lead and support the transformation of our nursing and allied health workforce.

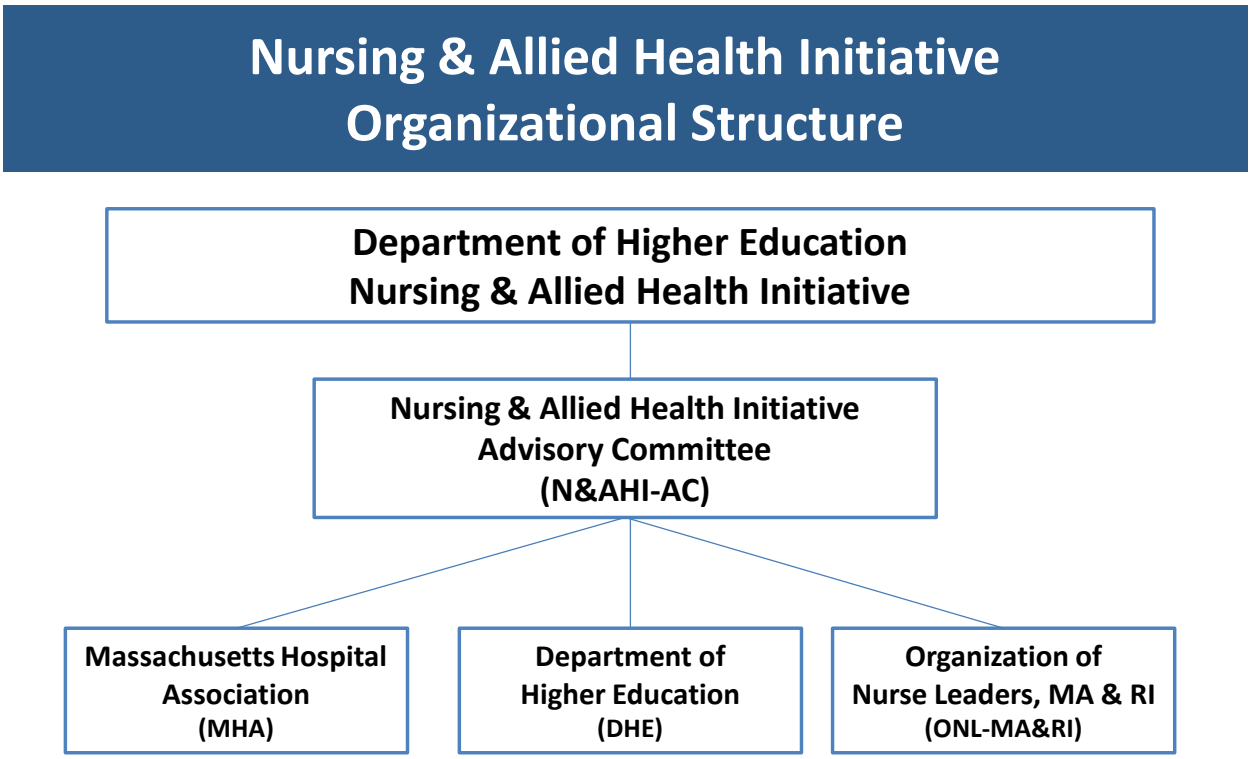
## *Governance Structure*

The following diagrams illustrate the organizational structure of those public/private partnerships that provide leadership for the Nursing and Allied Health workforce development initiative and the Massachusetts Action Coalition that will also address broader health care reform initiatives.

### Nursing and Allied Health Initiative

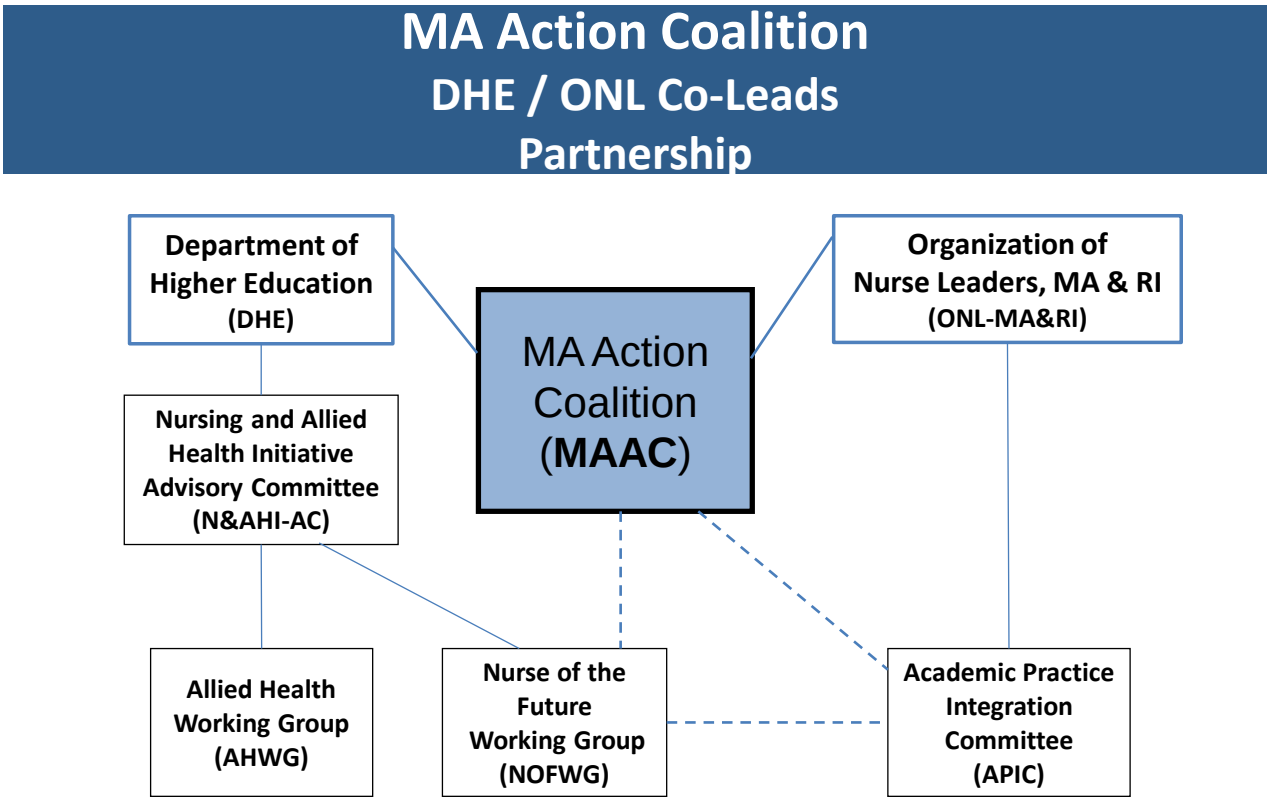
The Department of Higher Education (DHE), the Organization of Nurse Leaders MA & RI (ONL) and the Massachusetts Hospital Association (MHA) tri-chair the N&AHI Advisory Committee which provides industry, employer and education guidance to the DHE in support of the workforce development agenda (Figure 2).

**Figure 2**



In 2012, the Massachusetts Action Coalition for Nursing (MAAC), co-led by DHE and ONL was formed in response to the call from the Robert Wood Johnson and AARP Foundations to address broad recommendations contained in the IOM *Future of Nursing* report related to workforce development and overall health care reform. Figure 3 provides a depiction of the interrelationships of the MAAC, N&AHI and related working groups.

**Figure 3**




**Massachusetts Action Coalition**

The proposal to form the Massachusetts Action Coalition described six short- and long-term goals and objectives (Table 3) related to the priorities described in the IOM report. Subsequent to the formation of the MAAC, the Department of Higher Education and the Organization of Nurse Leaders responded to and were awarded a grant from the RWJF to address Academic Progression in Nursing (APIN).

Project teams have been organized to address the MAAC goals and the APIN grant project commitments for specific implementation strategies with major milestones for the APIN grant in

2014, 2016 and 2020 (two, four and eight years). Partners Investing in Nursing (PIN) grants, also funded by the RWJF will align and coordinate their initiatives through liaisons to the MAAC.

## Table 3

### Massachusetts Action Coalition Goals and Objectives

**SHORT TERM**

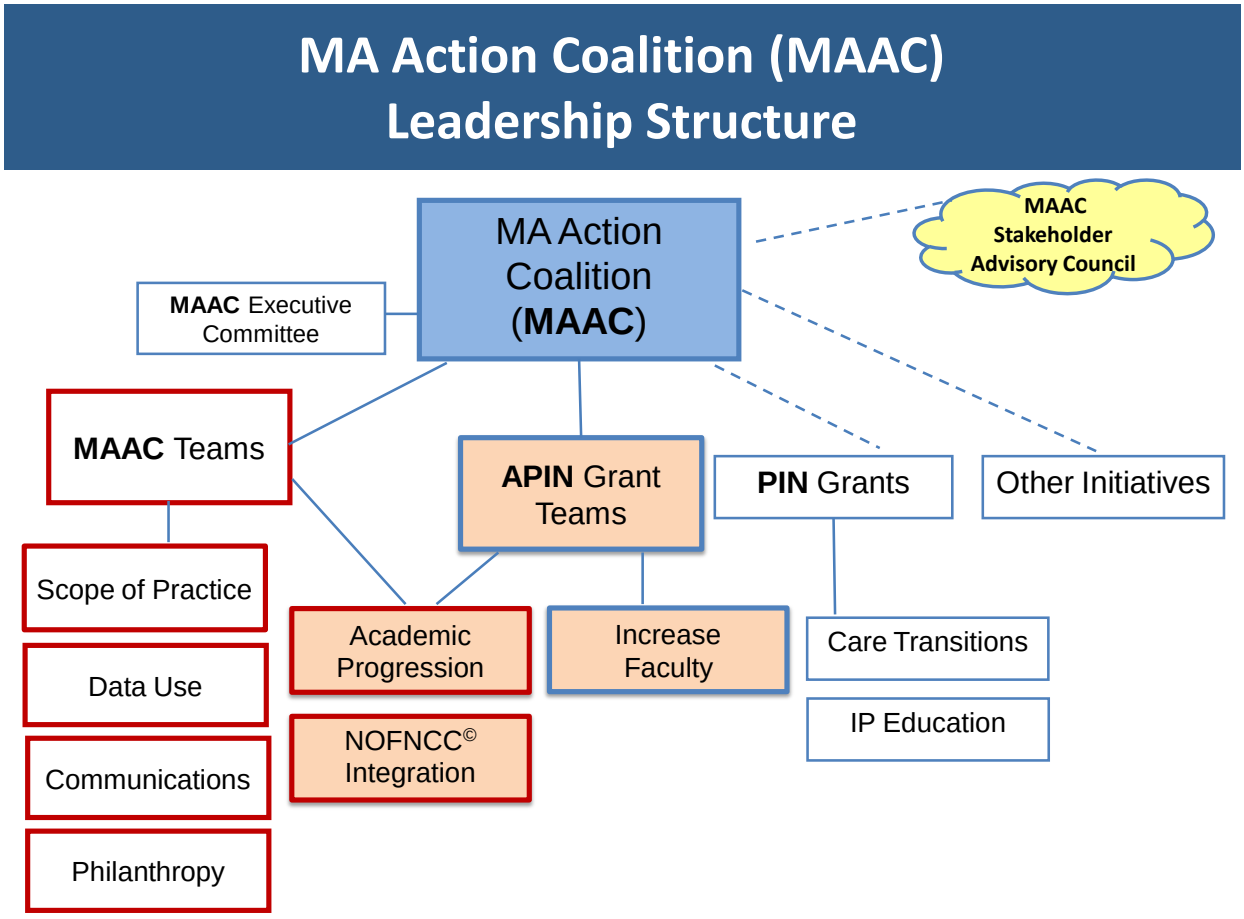
| Goals | Objectives |
|---|---|
| Disseminate IOM Report findings. | Develop plan to engage and educate stakeholders statewide. |
| Build statewide consensus for academic progression with plan to increase diversity. | Use developed ADN to BSN model as framework; survey nursing program requirements. |
| Develop plan for statewide adoption of NOFNCC©. | Expand integration of competencies into additional academic/practice settings. |

**LONG TERM**

| Goals | Objectives |
|---|---|
| Implement statewide plan for academic progression for all nurses. | Create statewide academic progression model for all levels of practice. |
| Remove scope of practice barriers for APN; strengthen inter-disciplinary collaboration within the medical community. | Develop strategies to influence policies, engage public/private sectors stakeholders to revise MA Nurse Practice Act. |
| Utilize data to understand healthcare workforce needs, demographics. | Analyze data; create action plans to address workforce needs and diversity gaps. |

The structure of project teams organized to address MAAC and APIN goals and strategies is depicted in Figure 4. Also shown in the diagram are a MAAC Executive Committee and a MAAC Stakeholder Advisory Council (not yet formed) which will provide higher level guidance related to broader issues of health care reform.

**Figure 4**




## *Implementation Plan - APIN Grant*

The **APIN** grant award addresses a number of the short- and long-term goals of the MAAC. The following implementation task and timeline section is extracted from the Academic Progression in Nursing (APIN) grant proposal. Officially, work on the grant commenced on September 1, 2012, and the extract that follows provides an overview.

**RWJF - What is your specific target for increasing the number of BSN and higher nurses in your state/region and your timeline for achieving this target at two, four and eight years?**

The greatest impact on the number and especially the percentage of BSN and higher nurses will come from the pipeline of practicing nurses prepared in diploma and associate degree programs. The Massachusetts Action Coalition projects that, on average, these practicing nurses will require three years to complete RN to BSN (or MSN) seamless academic programs. Therefore, only modest increases in nursing graduates are anticipated in Years 2 and 4. Year 8 estimates will be revised based an evaluation of data from the first four years of program activities. Adjustments to programmatic models and activities will be made throughout the project with a specific emphasis in Years 4 to 8 to ensure a trajectory that will attain the 2020 targets. RNs graduating from direct-entry BSN programs and from ADN to BSN (or MSN) programs will contribute to offsetting retirements and to fill the overall nursing workforce growth projections.

**Table 1** illustrates a model to attain the 80% BSN target by 2020. This is deemed unrealistic given the necessary increases in program capacity to serve the incremental number of students.

| Table 1 | BSN | MSN | Doctorate | BSN or > |
|---|---|---|---|---|
| **2012** | 50,122 | 16,297 | 785 | 55.55% |
| **Year 2** | 54,172 | 16,697 | 855 | 58.46% |
| **Year 4** | 60,772 | 17,377 | 945 | 63.09% |
| **Year 8** | 82,372 | 19,577 | 1,185 | 79.06% |

**Table 2** illustrates a significant increase toward attainment of the 80% goal; while still very challenging, it represents a more reasonable target given the capacity of existing academic program pipelines and constraints to increase those pipelines (primarily, but not exclusively, faculty). This model projects an increase of approximately 15,000 new BSNs over the eight-year period.

| Table 2 | BSN | MSN | Doctorate | BSN or > |
|---|---|---|---|---|
| **2012** | 50,122 | 16,297 | 785 | 55.55% |
| **Year 2** | 53,357 | 16,697 | 855 | 57.80% |
| **Year 4** | 56,982 | 17,377 | 945 | 60.06% |

| | | | | |
|---|---|---|---|---|
| **Year 8** | 65,402 | 19,577 | 1,185 | 66.05% |

## Implementation/Activity Timeline

| GOALS / Strategies / Activities | Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| **GOAL 1: Create accelerated pathways for nurses to achieve baccalaureate or higher degrees** | | | | | | | | |
| **Strategy 1**: Disseminate existing and new seamless academic progression models throughout the higher education system to promote the development of pathways for new nursing students and incumbent nursing workforce to achieve baccalaureate or higher degrees. | | | | | | | | |
| Disseminate information about existing models through regional meetings, summits, publications, etc. | x | x | x | x | x | x | x | x |
| Provide technical assistance to replicate and scale up selected models: LPN to BSN, ADN to BSN, RN to MSN, MSN to doctorate. | | x | x | x | x | x | x | x |
| Continue to pilot innovative progression models such as those currently funded by MA Department of Higher Education. | x | x | x | | | | | |
| Provide technical assistance to replicate and scale up piloted models. | | | x | x | x | x | x | x |
| Collect and share best practices (through regional meetings, summits, publications, etc.) that improve outreach, recruitment, and retention to assist students to advance their education and to insure diversity. | x | x | x | x | x | x | x | x |
| Work with employers to build support for advancing nurse education including planning support through scholarships, tuition forgiveness and scheduling practices. | x | x | x | x | x | | | |
| Explore expansion of Centralized Clinical Placement (CCP) system to include more non-acute/community settings, including exploration of feasibility of implementation. | | x | | | | | | |
| Expansion of CCP system (if deemed feasible). | | | x | x | | | | |
| Plan and conduct evaluation activities to identify best practices, areas for improvement and quantitative data on number of schools and practice settings implementing activities listed above for Strategy 1. | x | x | x | x | x | x | x | x |
| **Strategy 2:** Develop and implement Nursing Education Transfer Compact. | | | | | | | | |
| Analyze data from NOF survey on program requirements at two- and four-year nursing schools (see Appendix 2-1). | x | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Form working group with representation from all education levels to review NOF survey findings. | x | | | | | | | |
| Identify gaps and similarities in program requirements. | x | | | | | | | |
| Develop Nursing Education Transfer Compact draft. | x | x | | | | | | |
| Obtain compact buy-in and consensus, initially from public higher education institutions and private institutions interested in participating in first wave. | x | x | | | | | | |
| Finalize Compact based on activities above. | | x | | | | | | |
| Obtain sign-off from institutions. | | x | | | | | | |
| Expand adoption of Compact to additional private higher education institutions. | | | x | x | | | | |
| Plan and conduct evaluation to identify strengths and weaknesses of compact in order to maximize dissemination to other regions and states. | x | x | x | x | x | x | x | x |
| **<u>Strategy 3</u>**: Work with nursing programs and employers to increase options for flexible student-centered learning environments that will increase access for educational advancement. | | | | | | | | |
| Identify and disseminate models of nursing programs and employer partnerships that provide innovative options for environments that increase access for educational advancement. | | x | x | x | | | | |
| Work with schools and employer partners to identify capacity constraints, including operational, administrative, and space, and develop strategies to increase capacity. | | x | x | x | | | | |
| Work with nursing programs and employer partners to implement initiatives to encourage minority candidates, including men, to return to the classroom to pursue advanced degrees. | | x | x | x | x | x | x | x |
| Work with employers to implement strategies for progression to higher levels of education (e.g., onsite classes, BSN-preferred staffing policies, financial incentives for education). | | x | x | x | | | | |
| Work with MA Hospital Association to gather data in their annual survey regarding: 1) Number of health care employers with BSN preferred staffing policies; and 2) Number of nurses at each educational level working in each employed organization. | x | x | x | x | x | x | x | x |
| Analyze healthcare employer data to understand survey results and identify baseline measures as well as develop measures of success. | x | x | x | x | x | x | x | x |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Work with schools and employers to expand opportunities for online/hybrid learning. | | x | x | x | | | | |
| Plan and conduct evaluation activities to document strengths and weaknesses of implementation of activities addressing Strategy 3 to encourage expansion and replication efforts and improve outcomes. | | x | x | x | x | x | | |
| | | | | | | | | |
| **<u>Goal 2</u>: Promote the integration of Nurse of the Future Nursing Core Competencies (NOFNCC©).** | | | | | | | | |
| ***Activities related to both Strategies**:* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Conduct statewide Usage Survey for education and practice settings (currently in progress; survey in Appendix 2-2). | x | | | | | | | |
| Analyze Usage Survey results and identify gaps. | x | x | | | | | | |
| Convene statewide summits to roll out NOFNCC© in both academic and practice settings. | | x | x | x | | | | |
| **<u>Strategy 1</u>**: Work with academic institutions to integrate NOFNCC© into curriculum at all levels of education. | | | | | | | | |
| Develop curriculum blueprint, including toolkits, for use in academic settings. | x | x | | | | | | |
| Provide technical assistance to schools of nursing for implementation. | | x | x | x | x | x | x | x |
| Develop and implement student competency evaluation for end-of-program outcomes. | x | x | x | x | x | x | x | x |
| Evaluate utilization and success of NOFNCC© in academic settings post-rollout, including number of institutions adopting competencies. | | x | x | x | x | x | x | x |
| **<u>Strategy 2</u>**: Work with practice settings to integrate NOFNCC© into practice programs. | | | | | | | | |
| Develop curriculum blueprint and implementation toolkits for use in practice settings. | x | x | | | | | | |
| Provide technical assistance to practice settings for NOFNCC© implementation. | | x | x | x | x | x | x | x |
| Develop, pilot, and implement competency evaluation tool. | x | x | x | x | x | x | x | x |
| Evaluate utilization and success of NOFNCC© in practice settings post-rollout including number of institutions adopting competencies. | | x | x | x | x | x | x | x |

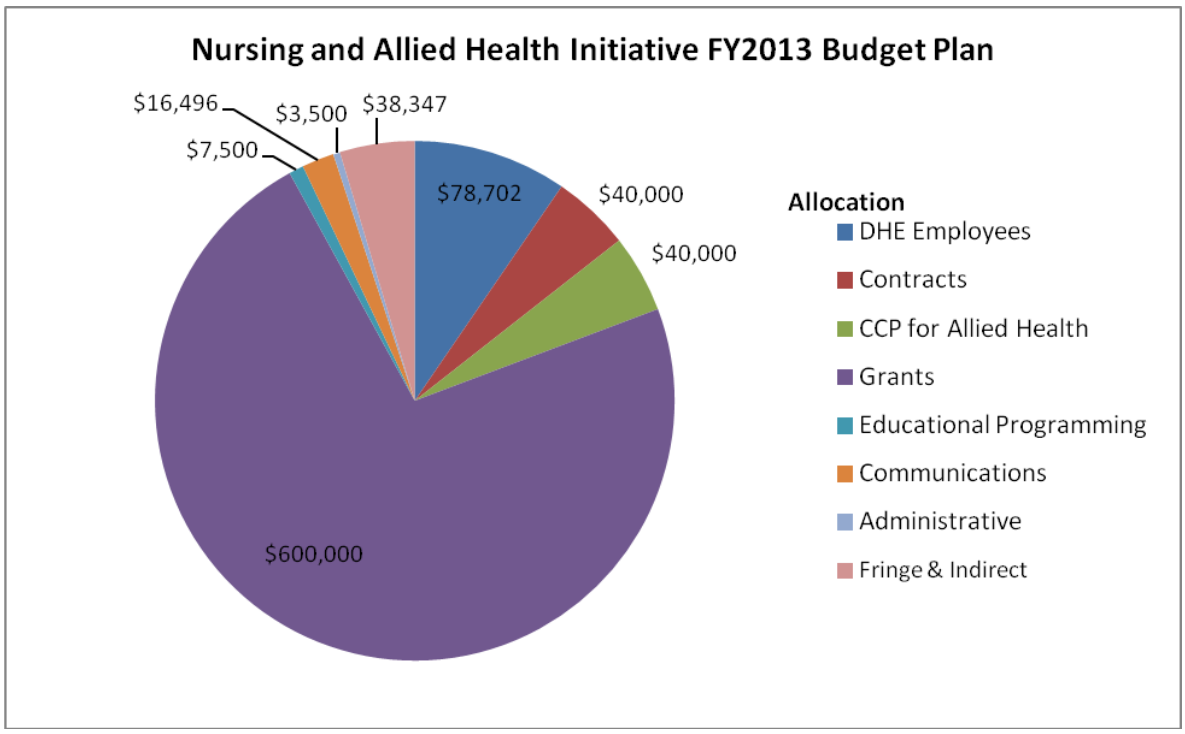
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **<u>Goal 3</u>: Increase faculty pool available to educate nurses from BSN through doctoral degrees** | | | | | | | | |
| ***Activities related to both Strategies***: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Work with schools of nursing to implement models and to increase slots for and use of adjunct faculty. | | | x | x | x | x | x | x |
| Work with schools to identify capacity constraints, including operational, administrative, and space, and develop strategies to increase capacity. | | | x | x | x | x | x | x |
| Work with schools and employers to identify minority nurses, including nurses of color, Latino nurses, and men in order to increase pool of minority nurse educators. | | x | x | x | x | x | x | x |
| Engage employers to develop incentives for MSNs in practice settings to take on teaching roles. | | x | x | x | | | | |
| Work with practice settings to encourage practicing nurses to become faculty and provide opportunities for joint appointments. | | | x | x | x | x | x | x |
| Target qualified retirees and incumbent nurses to inform them of opportunities for online teaching. | | x | x | x | | | | |
| Engage schools and employers to develop strategies for addressing disparities between compensation for nurses in faculty and practice settings. | | x | x | x | | | | |
| Explore opportunities for sharing faculty among institutions (e.g., Centralized Clinical Placement). | | | | x | x | x | x | x |
| **<u>Strategy 1</u>**: Provide opportunities for retired faculty to return to teaching positions. | | | | | | | | |
| Encourage education institutions to identify and overcome barriers for retirees to return to teaching. | x | x | x | x | x | x | x | x |
| Identify and encourage retired educators to return to part-time teaching. | | x | x | x | | | | |
| Work with professional organizations to identify retired nurses to return to part-time teaching in order to develop larger and more diverse pool of educators reflecting ethnicity and culture of future nursing students. | | x | x | x | x | x | x | x |
| Track process for encouraging education institutions to review/revise benefit packages and success of retired educators returning to teaching. | | | | x | x | x | x | x |
| **<u>Strategy 2</u>**: Maximize opportunities for existing workforce to obtain faculty positions | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Work with Tufts Health Plan Scholarship grantees to remain in education beyond their one-year commitment. | x | x | x | x | | | | |
| Consider opportunities for joint appointments (shared faculty between education and practice settings). | | x | x | x | | | | |
| Work with schools to expand faculty development programs to prepare qualified nurses for teaching positions. | | x | x | x | | | | |
| Work with professional organizations to ensure that new opportunities for existing workforce reach out to minority nurses, including nurses of color, Latino nurses, and men. | | x | x | x | x | x | x | x |
| Evaluate success of Strategy 2 in increasing number in workforce obtaining faculty positions. | | | x | x | x | x | x | x |

## *Budget*

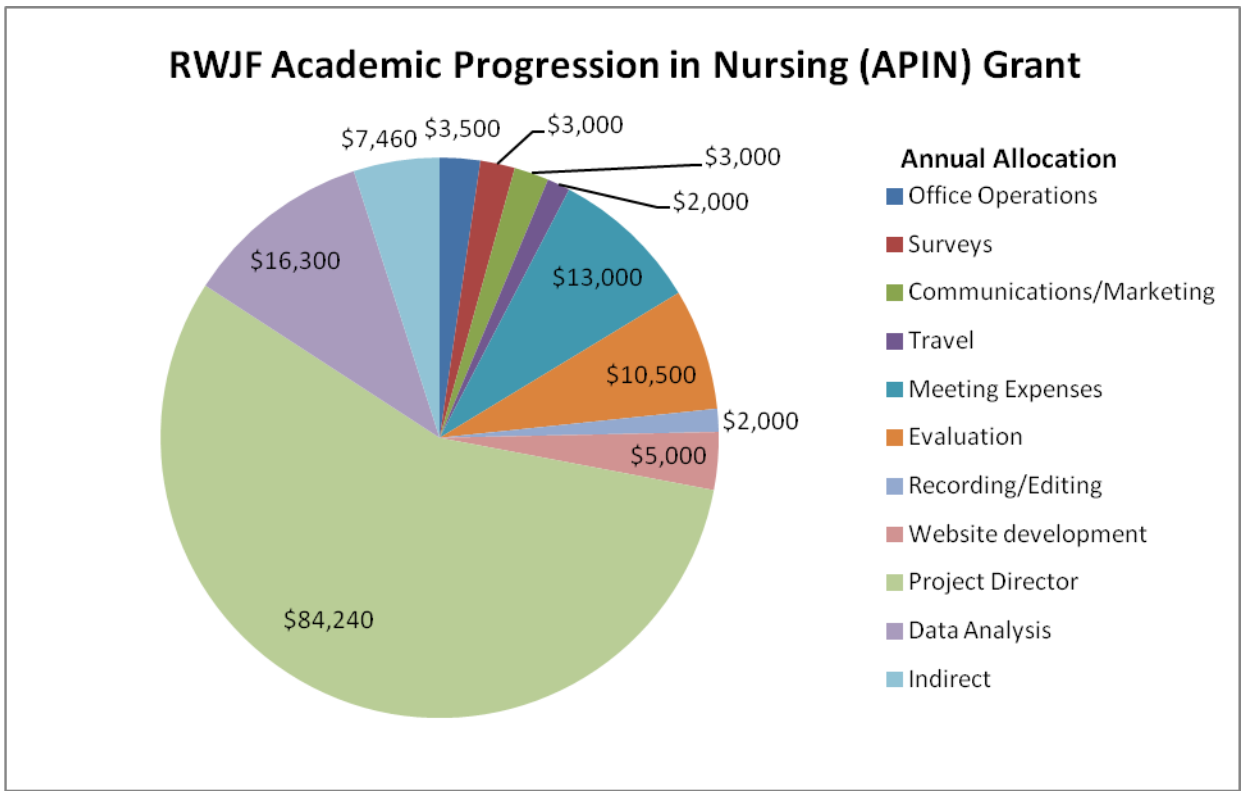
Implementation of our goals and objectives requires careful financial planning. The following descriptions and charts present current budget plans for the activities described in this implementation section.

The N&AHI received funding in FY13 through a specific DHE state budget line item in the amount of $500,000. These funds are held in the Nursing and Allied Health Workforce Development Trust Fund which includes carryover funds from FY12. The proposed spending allocation is shown in the pie chart below:




The total exceeds the FY13 appropriation as nearly $250,000 of the grants represent planned funding begun in FY12 that was either awarded or paid after July 1, 2012. The Nursing and Allied Health Workforce Development Trust Fund allows for this flexibility in the both actual timing of expenditures and the ability to receive funds from other outside resources such as the APIN grant illustrated below.

The APIN grant budget, approved by RWJF, will be utilized to pay for overall administration of the project and for the Project Director to convene and lead multi-stakeholder project teams advancing the proposed work, broadly disseminate results and promote communication as well as to conduct a formative evaluation of the project. The initial grant of $300,000 is for a two-year period with the opportunity to apply for a two-year renewal based upon performance.




## *Conclusion*

As the first step in the development of a comprehensive plan to address the challenges of nursing and allied health workforce development, we hope that you find this a valuable compilation of a wide range of information and data to guide near and longer term actions, inform research investigations and enhance collaboration with many, varied constituent groups.

We look forward to your contributions to the next version of this plan.

# List of Appendices



For more information: www.mass.edu/nursing