



Delaware Center for  
Health Innovation

# Developing a Framework for Sustainable Workforce Capacity Assessments

February 8, 2017

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## Introduction

Providers and members of Delaware's health care workforce are key stakeholders engaged in the state's health care innovation efforts. The Delaware Center for Health Innovation (DCHI) and its community partners are working to improve the health of Delawareans, improve the quality of care and the patient experience, reduce the cost of health care services, and enhance the provider experience to promote patient-centered engagement in their health care. A critical piece of these transformation initiatives must include developing a framework for a sustainable health care workforce capacity assessment to ensure providers are in place to address patient health care needs in the transformed system of care.

One of the core responsibilities of the DCHI Workforce and Education Committee is to build sustainable workforce assessment capabilities. Delaware does not currently have standardized assessment framework in place to regularly analyze the state's health care workforce. Past assessments have typically required a special one-time project to compare Delaware's current workforce with its current and future needs. The Workforce and Education Committee has the responsibility to develop a framework for a sustainable health care workforce assessment and identify the organizations needed to carry forward this work over time.

Over the past several months the Workforce and Education Committee has been actively researching and analyzing Delaware and national health care workforce data to better understand approaches to developing a framework for a sustainable workforce capacity assessment. The general consensus of the Committee's work, with assistance from the Delaware Health Care Commission, is that health care workforce capacity planning and modeling is an evolving science without a best practice methodology commonly accepted throughout the public sector. Thus, Delaware is at the forefront of states beginning to develop such assessments and is in a position to pave the way for estimating health care workforce needs under a transformed system of care.

The Committee's work was informed by a previous initiative through the Delaware Health Care Commission which called for the development and implementation of a strategic plan for the collection, dissemination and use of health care workforce data. The Health Care Commission recommended such a strategic plan should identify data elements to be collected, data sources, analyses to be conducted, responsible entities, and timeline for completion and schedule of ongoing maintenance.

The purpose of this consensus paper is to recommend the development of a framework for sustainable workforce capacity assessments that will aid in the

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projection of what workforce will be needed to deliver care in the future. Similarly, an understanding of the current and future number of providers is needed to account for the supply of providers in the health care workforce. This consensus paper begins with an identification of currently available Delaware health care workforce data sources in an effort to stress the necessity of a centralized, sustainable workforce capacity assessment before recommending data elements to be included in the assessment. The Committee then describes anticipated outcomes stemming from the development and implementation of the assessment and analyzes how key health care workforce priority areas can expect to be impacted.

## Health Care Workforce Data Collection

The Workforce and Education Committee collected and analyzed available health care workforce data to better understand the context and trends related to workforce capacity planning in Delaware and nationally. Data sources consulted in the development of this paper are identified below.

### **Delaware Population and Market Trends**

Adequately planning for a transformed health care system requires Delaware to capitalize on available sources of predictive population data. Accurately predicting Delaware's Hispanic population is also vital to anticipating and addressing access to care issues frequently related to this subpopulation (e.g., patient/provider language barriers, cultural influences on health care, and impact of legal resident status).

As projections included below forecast Hispanic population growth for all 50 states, it is possible to rank order states' short and long term projected annual population growth rates. By doing so, the Committee can place Delaware's projected Hispanic population growth within the context of nationwide demographic trends. For 2010-2020 and 2020-2030, Delaware ranks 9<sup>th</sup> highest in the U.S. for projected annual percentage growth rate among the Hispanic population. As in other states, the growth rate of this population is expected to slow over time. However, deceleration in Delaware's Hispanic population growth rate is projected to occur to a lesser extent relative to other states. For the 2030-2040 time interval, Delaware's state ranking shifts to 6<sup>th</sup> highest in the United States.

This data points to the need for Delaware to recruit and retain a diverse provider community moving forward in order to proactively respond to the changing

demographics in the State. The framework proposed in this paper for developing a sustainable workforce capacity assessment calls for the collection of comprehensive provider information to monitor data points such as the number of Hispanic providers in Delaware, or the number of bilingual providers who speak Spanish. This level of information will allow Delaware to better understand the supply of its health care workforce and its ability to meet consumer demand.

*Delaware Population Consortium (DPC) and the University of Virginia Weldon Cooper Center for Public Service (WCCPS) Hispanic Population Projections:* Both DPC and WCCPS have recently published separate sets of Hispanic population projections for Delaware through 2040. DPC estimates include projections for state, its three counties, and major municipalities (Dover, Newark, and Wilmington). WCCPS estimates project Hispanic population increases for the U.S., as well as all 50 states and the District of Columbia. While the two sets of projections differ slightly in terms of the absolute size of Delaware’s Hispanic population, they yield similar estimates of both the relative size of the Hispanic population, as well as growth rate trends through 2040.

The table below includes DPC and WCCPS population projections in five year intervals until 2040.

*Table 1: Delaware Population Projections*

<b>Delaware Total Population</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
<b>DPC</b>	899,673	941,634	979,216	1,011,231	1,035,203	1,053,818	1,068,155
<b>WCCPS</b>	897,934		997,528		1,092,562		1,174,505
<b>Difference (DPC-WCCPS)</b>	1,739		-18,312		-57,359		-106,350
<b>% Difference [(DPC-WCCPS)/DPC]</b>	0.20%		-1.90%		-5.50%		-10.00%

The table below includes DPC and WCCPS Delaware Hispanic population projections in five year intervals until 2040.

*Table 2: Delaware Hispanic Population Projections*

Delaware Hispanic Population	2010	2015	2020	2025	2030	2035	2040
<b>DPC</b>	73,678	86,818	101,645	117,134	133,569	150,771	167,993
<b>WCCPS</b>	73,221		105,604		144,707		189,577
<b>Difference (DPC-WCCPS)</b>	457		-3,959		-11,138		-21,584
<b>% Difference [(DPC-WCCPS)/DPC]</b>	0.60%		-3.90%		-8.30%		-12.80%

The third table includes DPC and WCCPS projections on the Delaware Hispanic population as a percentage of the state’s overall population.

*Table 3: Delaware Hispanic Population as a Percentage of Overall State Population*

Delaware Hispanic Population as a % of Total Population	2010	2015	2020	2025	2030	2035	2040
<b>DPC</b>	8.20%	9.20%	10.40%	11.60%	12.90%	14.30%	15.70%
<b>WCCPS</b>	8.20%		10.60%		13.20%		16.10%

Finally, the table below identifies projected annual percentage growth rates (PAPGRs) for Delaware’s Hispanic population.

*Table 4: PAPGRs for Delaware’s Hispanic Population*

	Short-Term PAPGRs			Long-Term PAPGRs	
	2010-2020	2020-2030	2030-2040	2010-2040	2020-2040
<b>DPC</b>	3.80%	3.10%	2.60%	4.30%	3.30%
<b>WCCPS</b>	4.40%	3.70%	3.10%	5.30%	4.00%

### **Provider Capacity Shortages and Access to Care**

*Health Professional Shortage Areas (HPSAs):* HPSA designations are used to identify areas and population groups within the United States that are experiencing a shortage of health professionals. There are three categories of HPSA designation

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based on the health discipline that is experiencing a shortage: primary care, dental, and mental health. The primary factor used to determine a HPSA designation is the number of health professionals relative to the population with consideration of high need. A summary of Delaware HPSA designations are as follows:

- Primary Care: Delaware has a total of 9 primary care HPSA designations. Currently, 93.84% of the need for primary care is met. A total of 4 practitioners will need to be added to the workforce to remove the HPSA designation.
- Dental: Delaware has a total of 6 dental care HPSAs. Currently, only 47.08% of the current need for care is met. Delaware needs to attract and retain 31 practitioners to the workforce to remove this HPSA designation.
- Mental Health: Delaware has a total of 10 mental health HPSAs. Currently, only 13.94% of the current need for care is met. Delaware needs to attract and retain 5 practitioners to the workforce to remove the HPSA designation.

After numerous discussions within the Committee it was determined that provider shortage data solely from HPSA designations does not accurately reflect the issue at hand in Delaware, as the HPSA projections underestimate the number of providers needed to remove the shortage designation. These figures thus do not allow for an informed decision making process regarding the capacity of Delaware's health care workforce. Therefore, the Committee decided to leverage provider shortage data from a number of Community Health Needs Assessments as available.

*Delaware Primary Care Health Needs Assessment: Nanticoke's Community Health Needs Assessment for 2016-2019 leverages data included in the 2015 Delaware Primary Care Health Needs Assessment. Key findings include:*

- Sussex County has about 138 full-time equivalent physicians using 2013 data, down from 163 in 2011.
- Access to primary care in Sussex County is improving through the use of non-physician primary care providers such as Nurse Practitioners.
- Sussex County is the fastest growing county with the oldest residents having the highest proportion (41%) of mental health specialists that are age 60 or older.
- About 75% of primary care practices in Western Sussex County are currently accepting new patients, compared to 84-87% of primary care practices across the state reporting accepting new patients.

- Stakeholder opinions documented in the Assessment reports a lack of available, qualified physicians need to meet healthcare needs in the area, particularly for minorities or those who do not speak English well.

*Beebe Healthcare Community Health Needs Assessment 2016:* The current physician shortage for July 1, 2015 to June 30, 2017 for Beebe’s service area is as follows:

- Family Medicine: 3.2 FTEs
- Internal Medicine: 6.1 FTEs
- Endocrinology: 1.9 FTEs
- Otolaryngology: 2.0 FTEs
- Dermatology: 1.9 FTEs

*Christiana Care Health System Community Health Needs Assessment:* Christiana Care is currently undergoing a needs assessment and estimates that in New Castle County alone there may be a shortage of approximately 80 primary care physicians by 2019.

*Delaware Department of Labor, Labor Market Information:* The Delaware Department of Labor publishes both short and long term occupation projections for a number of disciplines within the health care workforce. A sampling of these projections are identified in the below tables.

*Table 5: Delaware Department of Labor Short-Term Occupation Projections*

Occupation	2015	Projected 2017	% Change
<b>Family &amp; General Practitioners</b>	537	548	2.05%
<b>Psychiatrists</b>	128	133	3.91%
<b>Dentists</b>	397	413	4.03%
<b>Dental Hygienists</b>	665	689	3.61%
<b>Physician Assistants</b>	423	450	6.38%
<b>Nurse Practitioners</b>	583	625	7.20%

Occupation	2015	Projected 2017	% Change
<b>Nursing, Psychiatric, &amp; Home Health Aides</b>	7,684	8,058	4.87%
<b>Home Health Aides</b>	1,870	2,015	7.75%

*Table 6: Delaware Department of Labor Long-Term Occupation Projections*

Occupation	2012	2022	% Change
<b>Family &amp; General Practitioners</b>	610	619	1.48%
<b>Psychiatrists</b>	88	93	5.68%
<b>Dentists</b>	326	333	2.15%
<b>Dental Hygienists</b>	625	711	13.76%
<b>Physician Assistants</b>	340	424	24.71%
<b>Nurse Practitioners</b>	486	586	20.58%
<b>Home Health Aides</b>	2,350	3,130	33.19%

*Delaware Department of Health and Social Services, Division of Public Health Surveys:* The Division of Public Health (DPH), in conjunction with the Center for Applied Demography and Survey Research from the University of Delaware, publishes separate surveys of primary care physicians, dentists, and mental health professionals every 2-3 years. These surveys provide data on provider demographics, practice characteristics, and patient access to care. However, this information is only reported for three disciplines within the health care workforce. Similar data for the 35 health care professions which require licensure through the Delaware Division of Professional Regulation would go a long way towards the development of a framework for a sustainable workforce capacity assessment. The Workforce and Education Committee, along with the vendor chosen to develop and implement the assessment, will coordinate with DPH to ensure no duplicative efforts are undertaken while collecting provider data.

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*The U.S. Nursing Workforce: Trends in Supply and Education:* The Health Resources and Services Administration, Bureau of Health Professions and the National Center for Health Workforce Analysis published a 2013 report which presents data on the supply, distribution, and education/pipeline of the U.S. nursing workforce. The report indicates there are 1,163 registered nurses per 100,000 population and 188.3 licensed practical nurses per 100,000 population in Delaware. This information can be incorporated into the vendor and Committee's work regarding the determination of appropriate benchmark standards for a number of disciplines in order to analyze demand for particular provider services.

*Nursing Workforce in the State of Delaware: A Current Look 2014:* The Delaware Nurses Association and the Delaware Board of Nursing partnered in a joint research effort to examine the current composition of registered nurses licensed and practicing in Delaware. With the current aging nursing workforce, results from the study support the need for Delaware to recognize that the priority focus for the future of health care in the State must be placed on ensuring a sufficient nursing workforce.<sup>1</sup> This report provides data on nursing demographics, education, location, practice settings, and workplace satisfaction. This information, coupled with the DPH surveys discussed above, will be a helpful starting point for the vendor selected to develop and implement a sustainable workforce capacity assessment.

### **Current Provider Training Opportunities**

The Committee also analyzed the current capacity of state institutions to train health care providers and conducted a gap analysis against competencies from the health care workforce learning and re-learning training curriculum and against practice transformation services to predict future training needs across Delaware. There are a number of trainings in place which align well with a handful of curriculum learning and re-learning competencies such as Communication & Counseling Skills and Care Decisions & Transition of Care Planning, but very few incorporate Interprofessional Training into the content. This broad category of competencies includes varied skills such as fostering employee development, self-evaluating professional performance, and re-organizing roles and responsibilities to maximize provider efficiency. State institutions have the capacity to train Delaware's health care providers, but a renewed focus on Interprofessional Practice would assist providers in delivering accessible, effective, and well-coordinated care for all Delawareans.

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<sup>1</sup> <http://www.denurses.org/Doc-Vault/Workforce-Study-2014.pdf>

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## **Regional Medical School Relationships**

Another critical consideration for inclusion in the framework for a future workforce capacity assessment is Delaware's relationship with regional medical schools. Through the Delaware Institute of Medical Education and Research (DIMER), the State has established relationships with Sidney Kimmel Medical College at Thomas Jefferson University and the Philadelphia College of Osteopathic Medicine (PCOM) in an effort to reserve seats for Delaware residents within these medical schools. DIMER was created in 1969 as an alternative to a state-supported medical school in Delaware. Currently, the Sidney Kimmel Medical College reserves up to 20 places in each incoming class for Delaware residents. This number increased to 27 seats in the most recent incoming class. Meanwhile PCOM reserves up to 5 places in each incoming class for Delaware residents and admitted 19 students for the 2016 incoming class. Thanks to DIMER, there are nearly 200 doctors practicing in Delaware who have gone through the program.

The Delaware Institute for Dental Education and Research (DIDER), which was created in 1981, also established a similar relationship with the Maurice H. Kornberg School of Dentistry at Temple University to reserve up to 5 places in each incoming class for Delaware residents.

Both programs are essential to the State's efforts in the recruitment and retention of qualified health care providers. In the summer of 2016 the Delaware General Assembly's Joint Finance Committee proposed to eliminate all programmatic funding for both DIMER and DIDER. Funding for the current budget year was ultimately restored through an alternative arrangement, but there is now a moratorium on state funding for new programs due to budget shortfalls. Both DIMER and DIDER are now both classified as new programs despite their lengthy presence in Delaware. This proposed funding cut also directly impacts the State Loan Repayment Program, which was established to recruit providers to designated shortage areas in Delaware. The elimination of funding for these three programs would negatively impact Delaware's ability to recruit qualified providers to practice in designated shortage areas and deliver care to the State's most vulnerable populations.

The numerous data sources included in this section of the paper are meant to highlight the various, isolated resources in place across Delaware that could potentially be leveraged in the development of a sustainable workforce capacity assessment. In addition to analyzing population, demographic, and provider capacity data to anticipate future health care needs, the Committee recommends the development and implementation of a comprehensive provider repository to

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facilitate future workforce capacity planning initiatives. This data set, coupled with projected demand for certain health care professions, will allow policy makers and regulators to make informed decisions regarding the level of care to be provided in a transformed system of care.

## Framework for Developing a Sustainable Workforce Capacity Assessment

### Guiding Principles

The inclusion of the Workforce and Education Committee’s recommendations contained in the following sections of the paper are guided by a number of principles to ensure the initiative appropriately reflects the charge of the Committee and the work of DCHI in transforming Delaware’s health care delivery system. These include:

- 1) A Community-based perspective to reflect factors such as infrastructure, transportation, and competition in the workforce capacity planning decision making process;
- 2) Recognition of the broad social determinants of health (education, employment, social support, family stability and poverty) and an effort to include these dimensions when planning for the future health care needs of Delaware;
- 3) Multi-disciplinary involvement in health workforce planning and action;
- 4) Collaboration of local and state government, regulatory bodies, accrediting bodies, and professional health workforce organizations; private and non-profit sectors, and the entire educational continuum;
- 5) Alignment with Delaware’s “Triple Aim plus One” perspective of improved health, improved quality, reduction in costs, and an improved provider experience;
- 6) Recognition of Delaware’s diverse population and promotion of equal access to care and health outcomes; and
- 7) Mechanisms for accountability and evaluation within all workforce redesign activities.

### Health Care Workforce Supply

#### Data Elements

The Committee recommends the inclusion of the below data set in the development of a sustainable workforce capacity assessment to allow for a better

understanding of the supply of health care providers and a prediction of the workforce needed to best meet patient’s needs in a transformed system of care.

*Table 7: Proposed Workforce Capacity Assessment Data Elements*

Data	Description
Provider Demographics	Place of birth, age, gender, race, ethnicity, language(s) spoken, visa status, intention to retire within the next five years, etc.
Provider Background	DIMER/DIDER Alumni, if DIMER/DIDER Alumni: county they are practicing in, State Loan Repayment Program Alumni, works in HPSA designation, etc.
Provider Educational Information	Degrees, undergraduate educational institution, medical school, residency program and location, first year of certification/registration/licensing, first year practicing in Delaware, number of years practicing, employed or independent, if employed, by whom (hospital, contractor, physician group, etc.)
Practice Characteristics	Number of patient encounters per week, accepting new patients, insurance coverage accepted, geographic location, zip code, hours of operation, languages spoken within the practice, time to first appointment for new patient, amount of provider’s time at the practice, engagement with DCHI initiatives (practice transformation, workforce learning-re-learning curriculum), participation in value-based payment, distance to nearest public transportation center/stop, telehealth offerings, competing practices/systems, notable local employers, schools within practice service area, well-managed practice capacity; taking in medical students for training purposes?

The Committee’s literature review called for the inclusion of a handful of practice characteristics that align well with a number of the goals outlined in this paper. During a number of Committee meetings members discussed the propensity of medical residents to practice in close proximity to the location of their residency program. Data from the Association of American Medical College (AAMC) somewhat supports this assumption. Data from the AAMC from 2005-2014 indicate that 52.9% of individuals are practicing in the state of their residency training, while 47.1% are practice out of state. Delaware meanwhile retains only 32.6% of its residents to in-state practices.<sup>2</sup> The location of undergraduate institutions and medical school play a role in this decision as well. The percentage of physicians retained in state from undergraduate medical education was 39% in

<sup>2</sup> <https://www.aamc.org/data/448474/residentsreport.html>

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2014. The percentage of physicians retained in state from public undergraduate medical education was 44% in 2014.<sup>3</sup>

Literature on the impact of a state loan repayment program is also available and applicable to the Committee's goal of recruiting and retaining providers to Delaware. A 2009 study from the Josiah Macy, Jr. Foundation states that a physician is 7 times more likely to choose a primary care career if a loan repayment program is in place. Likewise, physicians are just over 5 times more likely to choose a career in family medicine if a state loan repayment program exists.<sup>4</sup> These findings align with Committee member findings that regional medical schools are not producing enough primary care providers and that programs such as the State Loan Repayment Program should be leveraged to recruit providers to practice in Delaware.

Finally, the Committee agreed to include a data point on a particular practice's ability to operate as a "well-managed" practice in the proposed data set above. While there is a lack of substantial literature on the definition of a well-managed practice, The Physician Foundation assigned the following characteristics to well-managed practices:

- Flexible support staffing
- Cross-trained staff
- Efficient deployment of midlevel health professionals
- Flexible patient schedule for primary care physicians
- Cost-sensitive procurement of materials (supplies, electronic health records, etc.)

A number of these characteristics also align with the desired primary care provider capabilities outlined in DCHI's consensus paper on primary care practice transformation. These capabilities are as follows:

- Panel management
- Access improvement
- Care management
- Team-based care coordination
- Patient engagement
- Performance management
- Business process improvement

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<sup>3</sup> [http://members.aamc.org/eweb/upload/2015StateDataBook%20\(revised\).pdf](http://members.aamc.org/eweb/upload/2015StateDataBook%20(revised).pdf)

<sup>4</sup> [http://macyfoundation.org/docs/macy\\_pubs/pub\\_grahamcenterstudy.pdf](http://macyfoundation.org/docs/macy_pubs/pub_grahamcenterstudy.pdf)

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- Referral network management
  - Health IT enablement

Standards such as enhance access and continuity, team-based care, population health management, plan and manage care, track and coordinate care, and measure and improve performance are also recognized as best practices by the National Committee for Quality Assurance.<sup>5</sup>

Portions of this data are currently collected for primary care physicians, dentists, and mental health professionals through DPH surveys. However, there are over 30 disciplines which require licensure through DPR in order to practice. To allow for a comprehensive understanding of Delaware's health care workforce supply, this information should be collected for a set of specific professions outside of primary care physicians, dentists, and mental health professionals as applicable. These professions include but are not limited to:

- Dental Hygienists
- General Counselors
- Medical Assistants
- Nurse Practitioners
- Occupational Therapists
- Pharmacists
- Physical Therapists
- Physician Assistants
- Registered Nurses
- Speech Pathologists

Similar to other DCHI initiatives, the initial focus on this comprehensive data collection will be on members of the primary care teams across Delaware before collecting data from partners of these primary care teams and practices. For example, these partners can include behavioral health providers and physical therapists. The Committee's literature review indicates that in addition to focusing on the primary care team, particular attention will need to be paid to integrated care structures around collaborative care models. The role of psychiatric mental

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<sup>5</sup><https://www.ncqa.org/Portals/0/Programs/Recognition/RPtraining/PCMH%202014%20Intro.%20Training%20Slides%20Part%201%20-%20Standards%201-3%20-%2011.26.pdf>

health registered nurses and care coordinators can be expanded to allow for follow up and coordination with primary care nurses.<sup>6</sup>

Stakeholders across Delaware such as DPH, DPR, the Board of Medical Licensure and Discipline, and the Delaware Department of Labor will all need to be consulted for this work to share information and ensure no duplicative efforts are undertaken. A recently developed source of information pertinent to this work is DPR’s online license verification service.

### **Provider Training**

A review of Delaware’s supply of health care workforce participants will also hinge on an analysis of current training opportunities available to providers and other health care disciplines within the delivery system. The Workforce and Education Committee recommends a recurring analysis of health care training opportunities available to providers and other members of the health care workforce through state institutions to better understand available resources and their alignment with the principles of a transformed system of care in Delaware. To do so, the Workforce and Education Committee recommends analyzing the curriculum of health care workforce training opportunities in Delaware against the below competencies identified as crucial for transformation by DCHI. This will allow for a better understanding of current capacity against predicted future needs:

*Table 8: Proposed Training Inventory Data Set*

Training Program			
Alignment with Learning/Re-Learning Training Curriculum Competencies		Alignment with Primary Care Practice Transformation Capabilities	
Communication and Counseling Skills	Y/N	Panel Management	Y/N
Collaborative Report Writing	Y/N	Access Improvement	Y/N
Interprofessional Practice	Y/N	Care Management	Y/N
Navigation and Access to Resources	Y/N	Team-Based Care Coordination	Y/N

<sup>6</sup> <http://www.chc1.com/News-and-Events/News-Releases/ArtMID/512/ArticleID/2208/Critical%20workforce%20issues%20for%20registered%20and%20advanced%20practice%20nurses%20in%20integrated%20care%20models>

Training Program			
Alignment with Learning/Re-Learning Training Curriculum Competencies		Alignment with Primary Care Practice Transformation Capabilities	
Care Decisions and Transition of Care Planning	Y/N	Patient Engagement	Y/N
Health Information Technology	Y/N	Performance Management	Y/N
		Business Process Improvement	Y/N
		Referral Network Management	Y/N
		Health IT Enablement	Y/N

Additionally, for each training program identified, the percentage of in-state and out-of-state trainees should be identified to understand Delaware’s pipeline of health care professionals.

### Health Care Workforce Demand

To fully understand Delaware’s health care workforce capacity, benchmarks or standards describing the demand for health care professions must also be reviewed in addition to health care workforce supply information. A number of national benchmarks were analyzed and it was determined that one of the last government-sponsored agencies to issue and estimate on health care workforce demand was the Graduate Medical Education National Advisory Committee (GMENAC) in 1980. GMENAC suggestions on the number of physicians per 100,000 population, along with suggestions from Hicks & Glenn’s publication in the Journal of Health Care Management in 1989 and Solucient Consulting’s findings in 2003, are as follows:

*Table 9: Recommended Physician to Population Benchmarks*

Specialty	GMENAC	Hicks & Glenn	Solucient
<b>Primary Care</b>			
<b>Family Practice</b>	25.2	16.2	22.53
<b>Internal Medicine</b>	28.8	11.3	19.01
<b>Pediatrics</b>	12.8	7.6	13.90

This information was summarized by Merritt Hawkins in their review of physician to population ratios.<sup>7</sup> While these ratios serve as useful starting points in assessing

<sup>7</sup> <http://www.merrithawkins.com/pdf/a-review-of-physician-to-population-ratios.pdf>

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community need for physicians, they alone do not allow for the development of a comprehensive workforce capacity planning strategy. Patient demographics, physician demographics, and payment systems vary from market to market. These ratios show the range of physicians needed per 100,000 population at a national level and may not be indicative of physician need in Delaware. Again, these benchmarks only apply to physicians and do not account for a number of key disciplines within the transformed system of care such as Nurse Practitioners, Physician Assistants, and Community Health Workers. The Workforce and Education Committee will work with the vendor chosen to develop and implement the workforce capacity assessment to review these existing benchmarks and determine the necessity of developing new benchmarks that account for quality of care in addition to volume.

### **Desired Analyses**

The framework for the workforce capacity assessment described above, which accounts for both the supply and demand of health care providers, should allow for an analysis of the following:

- provider full-time equivalent counts
- provider geographic reports
- vacancy rates
- length of provider service
- provider retention
- provider turnover
- provider retirement patterns
- provider surplus/shortage for particular service areas
- practice characteristics (bilingual services, insurance coverage accepted, etc.)

This list is not meant to be exhaustive and the Workforce and Education Committee will need to work in conjunction with the vendor chosen to develop and implement the assessment to determine additional analyses and reports as appropriate.

### **Timeline**

The Workforce and Education Committee recommends the health care workforce capacity planning strategy outlined above be implemented every three years. In order to achieve sustainable capacity planning capabilities across Delaware, the vendor chosen to develop and implement this assessment will need to dedicate significant time to training appropriate members of the Health Care Commission

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project team on how to collect the workforce data, which stakeholders to engage, and how to best leverage the provider benchmarks and supply data to determine the demand for services delivered by certain health care providers. The intent is for the vendor to leave behind a tool or model for appropriate stakeholders within the State to use on a regular basis moving forward. Additional leave behind tools for appropriate stakeholders could include data mapping and other dynamic features that can be used and updated on a continual basis moving forward.

## Anticipated Outcomes

The Workforce and Education Committee believes a sustainable and cost-effective health system delivered by an efficient, competent, and properly staffed workforce will be a direct result of the development and implementation of a sustainable health care workforce capacity assessment. Improved population and individual health outcomes will then be realized as a result of an improved distribution of Delaware's health care workforce across rural and underserved communities. The Committee also hopes to witness improved retention of the Delaware health care workforce through an increased ability to recruit and retain needed health care workers as a result of the information collected during the health care workforce assessment. Stakeholders such as hospitals, hospital systems, provider practices, and policy makers will be able to collaborate with the Health Care Commission to better understand the supply and distribution of the providers across Delaware in an effort to meet demand for health care services.

By including provider demographics in the proposed data set mentioned above, and continuing to monitor patient and population trends within Delaware, the Workforce and Education Committee expects to see a reduction of health disparities and improved population and individual health outcomes that cross cultural boundaries. With more robust data on the supply of the health care workforce, Delaware will be in a position to work with hospital systems and provider practices to recruit providers to designated shortage areas or other areas of need in an effort to address population or geographic-specific health disparities. The framework for this assessment incorporates additional patient-centric data by identifying providers and practices that are equipped to operate and thrive in a value-based environment. This emphasis on identifying relevant provider and practice characteristics should allow for improved patient satisfaction.

Finally, health care providers are also expected to benefit from the implementation of the framework proposed on this paper. Providers will realize improved role

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flexibility via a more efficient and ongoing training process. A culture of lifelong learning capabilities for all health care providers is also an anticipated outcome so that Delaware can be recognized as a Learning State.

## Monitoring and Evaluation

One of the key objectives of the framework for this sustainable workforce capacity assessment is to ensure that scarce resources are not wasted on poorly-performing initiatives or in areas where there is not a demonstrated need for health care services. As mentioned throughout this paper, a multi-pronged approach will need to be incorporated into all aspects of this initiative, including evaluation. The Workforce and Education Committee, along with the vendor chosen to develop and implement the assessment, will be charged with the continued review of existing provider benchmarks and the development of new benchmarks to ensure the assessment is up to date.

The proposed data set identified in this paper will also allow for the collection of current data to inform continuous process improvement. This will take the form of collecting data with an emphasis on access to care issues pertaining to Delaware's identified priority population (e.g., racial minorities, older Delawareans, and residents living with chronic diseases and/or mental health problems). The Committee will also stay abreast of new national and international health care workforce capacity planning initiatives to apply lessons learned from other states and nations to Delaware.

## Integration with Key Health Care Workforce Priority Areas

As previously mentioned in the discussion of the Merritt Hawkins review of provider to population ratios, there are a number of factors which need to be considered in workforce capacity decision making processes. This final section of the paper addresses five key health care workforce priority areas and potential integration with the proposed health care workforce planning assessment.

### **Key Priority Area 1: Health Workforce Reform**

The Workforce and Education Committee agrees that the objectives of transforming a state's health care workforce include improving productivity,

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supporting more effective, efficient, and accessible service delivery assessments, and addressing population health needs. The Committee developed the following strategies in developing the workforce capacity planning assessment to meet these objectives.

- 1) *Adopt a multi-disciplinary approach to identifying evidence-based workforce role redesign.* Provider benchmark data is currently only captured for physicians at the national level. There is a lack of benchmark data and demographic information for key providers in the health care workforce such as Nurse Practitioners, Dentists, and Physician Assistants. The Committee calls for the inclusion of these providers in the data set to be leveraged in the workforce capacity assessment.
- 2) *Increase retention of existing health workforce.* The Committee hopes to be able to analyze provider retention rates once the workforce capacity assessment is in place. The goal is to obtain this information across a number of professions and disciplines so that targeted plans for enhancing retention can be developed. Information on practice characteristics such as competing practices, local infrastructure, and local spousal employment opportunities will also inform the analysis of provider retention.
- 3) *Improve productivity of current workforce to work to their full scope of practice “at the top of their licenses”.* Provider surplus and/or shortage information from the proposed assessment will allow for informed decision making on any potential workforce redesign decisions to allow for maximum efficiency in provider productivity.

## **Key Priority Area 2: Health Workforce Capacity and Skills Development**

Developing the proper skills so that providers can effectively deliver care to meet the needs of patients in a transformed system of care is of the utmost importance. The Committee’s objectives in this key priority area include the development of a flexible health care workforce and the support of a workforce system redesign to foster team-based and collaborative health care delivery assessments. Portions of these objectives are also currently being addressed through the health care workforce learning and re-learning curriculum that will be rolled out to practices across Delaware. The Committee developed the following strategies in crafting the framework for a workforce capacity assessment to meet these objectives.

- 1) *Enhance recognition of prior learning skills and existing skills.* Through its research on the current capability of state institutions to train providers, the Committee recognized the need for a renewed focus on interprofessional

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training opportunities. While a number of trainings do align with the competencies contained within the learning and re-learning curriculum, this is an area with room for improvement.

- 2) *Increase the use of technologies designed to enhance workforce productivity.* A key aspect of this strategy is the identification of practices incorporating telehealth services through the data set previously proposed in this paper. This information will allow policy and decision makers the opportunity to analyze the pace of enhanced technological adoption.

### **Key Priority Area 3: Leadership for a Transformed System of Care**

The main objective of developing a sense of leadership for a transformed system stems from informed decision making with current data. The Workforce and Education Committee hopes that the data and information included in the proposed framework will provide Delaware's health care leadership with the information necessary to accurately assess the health care workforce and any possible workforce redesign initiatives.

### **Key Priority Area 4: Health Workforce Planning**

The data points included in the framework proposed in this paper should be revisited on a regular basis to ensure Delaware's health care workforce capacity planning is continuously improved by recognizing changing market trends, emerging technologies, and evolving assessments of care.

### **Key Priority Area 5: Health Workforce Policy, Funding, and Regulation**

The Workforce and Education Committee expects the workforce capacity assessment outputs to allow for the development and implementation of policies, regulations, funding opportunities, and employment arrangements needed to support health workforce reform. The information derived from the assessment will allow Delaware's health care leadership officials to better understand existing workforce arrangements and the potential need for revised assessments of health care delivery.

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## Next Steps

This paper will inform the development of a Request for Proposal issued by the Delaware Health Care Commission to procure vendor support regarding the development and implementation of the framework proposed in this paper. Stakeholders performing similar services in Delaware will be consulted to ensure no duplication of efforts occurs, including but not limited to the Delaware Department of Health and Social Services, Division of Public Health.

Moving forward a train-the-trainer approach will be implemented to ensure that appropriate stakeholders, such as the Health Care Commission, can conduct workforce capacity assessments on a recurring basis in the future in a sustainable manner.