Workforce Gap Analysis Report for Nassau Queens Performing Provider System

Delivery System Reform Incentive Payment Program (DSRIP)

Workforce Strategy Deliverable

Report Issued: November 29, 2016

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Exhibit List

Executive Summary

The goal of the Delivery System Reform Incentive Payment ("DSRIP") program is to reduce avoidable hospitalizations and Emergency Department ("ED") visits by the New York State ("NYS") Medicaid population by 25%. The DSRIP program aims to transform and redesign the existing healthcare system through the creation of integrated delivery systems across the care continuum, support the transition to a value-based payment system, and facilitate workforce realignment and training to support system transformation.

As part of the Nassau Queens Performing Provider System's ("NQP", or "the PPS") participation in the DSRIP program and completion of certain Workforce Strategy Milestones, NQP engaged BDO Consulting ("BDO") as its workforce vendor, to assist in the development of a detailed gap analysis between the current workforce state and the projected target workforce state. The gap analysis identifies gaps in workforce resources and informs the projection of workforce impacts as a result of system transformation and project implementation of clinically integrated programs related to the DSRIP program.

NQP's gap analysis was developed with input from key PPS stakeholders including DSRIP Hub Leads, Project Managers and Workforce Committee Members providing input regarding project implementation strategies. PPS stakeholders identified workforce that may be impacted and identified staffing needs for the DSRIP projects to inform the development of the PPS's gap analysis.

As detailed within this report, the gap analysis summarizes reported findings from the completed current workforce state assessment and the projected workforce impacts as part of the target workforce state, leveraging these findings to identify possible gaps between the PSS's current and target workforce states.

The NQP gap analysis will be leveraged to inform the development and implementation of the workforce transition roadmap to assist the PPS in reaching its target workforce state by the end of the five year program. The gap analysis will also assist the PPS in identifying challenges in the achievement and management of DSRIP workforce impacts including redeployment, retraining, and new hire needs to effectively implement the selected DSRIP projects.

Summary Gap Analysis Findings

Healthcare delivery is changing – because of value-based programs such as DSRIP – as well as from independent factors and trends. The impact is being felt by providers in NQP's network, and will continue to evolve over time. The impact of DSRIP on the workforce will likely include an expansion of the primary care and clinical social work workforce to meet the goals of Patient Centered Medical Home (PCMH) and Integrated Behavioral Health. It will also include re-training existing staff, for example teaching Skilled Nursing Facility staff and clinicians to utilize evidence-based quality improvement tools (Stop and Watch, SBAR). Lastly, the workforce impact will include redeployment of existing staff, such as inpatient registered nurses becoming ambulatory care managers or transitional care managers. In addition to this transformation of the existing workforce, NQP has identified a need for additional staff in its current state survey.

It is anticipated that the demand for primary care physicians in Nassau and Queens Counties will likely continue to grow primarily due to general population growth and aging. As a result, the workforce projections stated within this report suggest that any DSRIP-related changes in workforce demand should be considered in the context of broader trends affecting the demand for healthcare services and providers within NQP's service area.

Based on the available data as well as DSRIP inputs and assumptions provided by key PPS stakeholders, the projected workforce impact of the DSRIP program over the five years is expected to be less significant than the projected workforce impacts of trends external to the DSRIP program.

By 2020, the combined impact of the DSRIP program and demographic trends are expected to create demand for health care providers including primary care providers ("PCPs"), nursing positions, clinical support, and administrative support positions. This demand is due to the anticipated increase in demand for PCPs as patients receive more care in the community setting instead of the Emergency Department ("ED") through the combined impacts of the Patient Activation project (2.d.i) and the development of Behavioral Health Crisis Stabilization Services (Project 3.a.ii) and Co-Located Primary Care Services in the ED (Project 2.b.ii). Based on the NQP's reported current workforce state data, a vacancy rate of approximately 4.6% exists for PCPs, which is below the average vacancy rate of 5.2% reported for all job titles across the PPS.

Within the ED/inpatient settings, the PPS is projected to experience a decrease in demand for ED physicians as well as a decrease in demand for Nurse Practitioners ("NPs"), Physician Assistants ("PAs"), and Registered Nurses ("RNs") as patients receive more timely primary and preventive care because of the implementation of the DSRIP program. However, the projected decrease in demand for ED/inpatient workforce is likely to be offset by demographic factors unrelated to the DSRIP program such as population growth in Nassau and Queens and the aging population. For this reason, NQP does not anticipate a decline in RN positions.

An increase in demand for behavioral health positions, specifically Licensed Clinical Social Workers ("LCSWs"), is projected as primary care providers integrate behavioral health services into their practices. Additionally, based on the current workforce state data reported, there are significant vacancy rates for behavioral health positions currently within NQP's network. These gaps in NQP's behavioral health workforce are likely to be further increased as a result of DSRIP project impacts.

Additionally, with the anticipated increase in community-based care coordination services as a result of the Care Transitions project and self-management of chronic disease initiatives, demand for emerging titles such as care managers/coordinators and health coaches/educators is projected to increase. Based on the current workforce state data, vacancies already exist for some of these positions. Given this vacancy rate and the anticipated increase in utilization of care coordination services, the existing gap for care management and care coordination staff will likely expand further, and may potentially raise difficulties in recruitment for such positions.

I. Background & Purpose

A. Overview of the DSRIP Program

The goal of the DSRIP program is to encourage health care system redesign and promote collaboration across providers and community-level partners to reduce avoidable inpatient admissions and emergency room visits by 25% over the next five years for the Medicaid populations in NYS. In line with this goal, the transformation of the existing health care system and implementation of the chosen DSRIP projects will have implications on the PPS's workforce needs.

The DSRIP program, with a total of 25 performing provider systems ("PPS") across NYS, is highly collaborative; each PPS has developed a robust network comprised of health care providers and community-based organizations within its designated service areas. Each PPS has also selected projects that focus on systems transformation, clinical improvement and population health, including the creation of integrated delivery systems, the co-location of behavioral health and primary care, and the self-management of chronic conditions such as diabetes and asthma.

The DSRIP program will impact the health care workforce as the site of care shifts from inpatient to outpatient settings with a focus on care coordination and care management for high risk patients. It is anticipated that the workforce will expand to include more emerging job titles and positions, such as patient navigators, and providers will have a need to recruit new hires, and redeploy and retrain current staff.

B. Overview of the Performing Provider System

NQP is a network of health care organizations and CBOs geographically located in Nassau County and Eastern Queens County. The PPS's Lead Entity is Nassau University Medical Center (NuHealth), in alliance with Northwell Health's Long Island Jewish Medical Center and Catholic Health Services of Long Island. NuHealth serves as the overall driver and coordinator of the NQP's DSRIP implementation and projects, and is responsible for submitting quarterly reports of NQP's progress to the DOH and distributing DSRIP funds to partners.

NQP has over 8,400 partners that include major safety net providers, social service providers, housing agencies, community-based organizations, health plans, Medicaid Health Homes, physicians, and the regional health information exchanges. NQP partners collectively employ over 60,000 healthcare workers in the Queens and Long Island regions of New York State. The partner organizations work collaboratively to increase patient access, care quality, and efficiency in healthcare delivery. Through the 11 DSRIP projects undertaken by NQP, designed to meet the community's unique health needs, NQP is building a coordinated, community-based healthcare system focused on improving the health of their community.

C. Purpose of the Workforce Gap Analysis

The purpose of conducting a workforce gap analysis, as part of the DSRIP Workforce Strategy Milestones, is to identify and understand the gaps that exist within the NQP workforce by leveraging findings from the current workforce state and the projected target workforce state to inform the PPS's overall workforce strategy throughout the five year program.

NQP engaged BDO to identify workforce gaps that currently exist as well as workforce needs to inform the PPS's workforce strategy for achieving the target workforce state. The gap analysis was created in collaboration with NQP's Workforce Sub-Committee and included input from providers within NQP's network.

The gap analysis summarizes the current workforce state assessment and the projected target workforce state and then identifies gaps between the current and target workforce states. NQP will use the analysis to anticipate the need to redeploy and retrain current employees and to recruit new employees to effectively implement the selected DSRIP projects. It takes into consideration the needs of the current state of the workforce as well as the demand for health care services and providers within NQP's network as a result of the DSRIP program and demographic shifts by 2020.

NQP's gap analysis will be leveraged to inform the development and implementation of the workforce transition roadmap which will be used to assist the PPS in reaching its target workforce state by the end of the program.

II. Current Workforce State Overview

A. Current Workforce State Approach Summary

Participants provided information on the current workforce, including headcount and FTE by job category/title, and FTE vacancies through a workforce survey that was distributed to NQP's provider network. The survey was designed by NQP, and stakeholders provided input into the survey's design, distribution, and collection. The survey collected information by job title, including total headcount, full time equivalents ("FTEs"), number of vacancies, average hourly wages, fringe benefits (%), and collective bargaining agreements as well as data pertaining to temporary and agency staff including total headcount, hours, and FTEs. The survey included sections for participants to indicate minimum requirements for certain job titles pertaining to education and years of experience. The participants surveyed were asked to only provide relevant workforce data for individuals working within NQP's geographic region and serving the attributed Medicaid and uninsured population.

Along with the survey, NQP provided survey instructions, frequently asked questions ("FAQs") and DOH job title descriptions to facilitate completion of the current state survey. Organizations were requested to complete one survey per organization, per facility type for the facility types listed within *Exhibit 1*. Further, in an effort to maximize survey response rates, BDO provided multiple communication touch points including survey reminder emails

and a survey support hotline and email address to support recipients with the completion of the survey.

The survey was made available for completion on April 18, 2016, and submissions from the NQP's Partners were accepted through to May 13, 2016. A total of 71 surveys were completed and submitted by 54 organizations.

The following exhibit provides detail into the number of survey responses that were received by the various facility types within NQP. The highest respondents to the survey were those organizations that were identified as Private Provider Practices with 20 responses, followed by Nursing Home/SNF facility types with 18 responses and then "Other" facility types and Inpatient, which had 7 responses each. Organizations that were identified as being "Other" facility types were generally identified as agencies providing residential/housing services or other community services within the PPS's network.

Exhibit 1: Current State Workforce Survey Response by Facility Type

Facility Type	Number of Survey Responses
Private Provider Practice	20
Nursing Home/SNF	18
Other	7
Inpatient (Hospital/ED/ Inpatient Services Article 31 & Article 32)	7
Article 28 Diagnostic & Treatment Centers (FQHC)	6
Outpatient Behavioral Health (Article 31 & Article 32)	5
Hospital Article 28 Outpatient Clinics	4
Home Care Agency / Hospice	3
Non-licensed CBO	1
Total	**71**

BDO and the Center for Health Workforce Studies ("CHWS") aggregated the workforce data reported by the PPS Partners and reported current workforce state findings on an overall basis as well as by facility type and by job title which is highlighted in the Appendix.

B. Current Workforce State Survey Findings

The number of employees and position vacancies are displayed for most job titles across the various organization types. The purpose of this data is to allow NQP to develop baseline data for DSRIP workforce milestones such as the staff impact analysis and the new hire analysis. The survey data is also used to inform other workforce milestones that include defining the target workforce state, performing a workforce gap analysis, developing the workforce transition roadmap, and developing a training strategy.

Although participating organizations employ over 60,000 employees overall, only 40,649 employees were reported under the 65 job codes included in the survey, including 33,504

FTEs. Along with 1,175 reported FTE vacancies, the total number of budgeted positions within the reported 65 job titles across the PPS was 34,679 FTEs.

The PPS reported a 5.2% average vacancy rate for reported positions. *Exhibit 2* presents the job titles with above average vacancy rates. By identifying and examining positions with above-average vacancy rates, NQP will be able to focus its efforts on addressing recruitment, training, retraining, and redeployment strategies to meet the needs of the community, to support DSRIP project implementation, and to develop a more satisfied and stable workforce. This information will also be important to assist with employment retention issues.

Exhibit 2: Job Titles with Above-Average Vacancy Rates (>5.2%)

Job Category	Number of FTEs	Number of Vacancies	Vacancy Rate
Psychiatric Nurse Practitioners	15	5	33.2%
Midwives	5	1	21.8%
Health Coach	5	1	20.0%
Medical Interpreters	5	1	18.3%
Nurse Practitioners in Other Specialties (Except Psychiatric NPs)	343	45	13.1%
Physician Assistants in Primary Care	298	36	12.1%
Nurse Practitioners in Primary Care	323	38	11.8%
Psychologists	50	5	9.9%
Non-Licensed Care Manager/Coordinator	113	11	9.8%
Licensed Clinical Social Workers	77	7	9.1%
Health Educators	12	1	8.6%
Speech Language Pathologists	62	5	8.0%
Physical Therapists	371	29	7.8%
Medical Assistants	965	70	7.3%
Clinical Laboratory Technologists and Technicians	704	47	6.7%
Nutritionists/Dieticians	151	10	6.6%
RN Care Coordinators/Case Managers/Care Transitions	236	15	6.4%
Physician Assistants in Other Specialties	507	28	5.5%

Reviewing overall vacancy rates by organization type (*Exhibit 3*) can also help to direct workforce efforts toward those entities with above-average vacancy rates. Organizations reported a 3.6% average vacancy rate. The DOH facility types with vacancy rates above this average include Article 28 Diagnostic and Treatment Centers, Home Care Agencies, Inpatient, and Private Provider Practices.

Exhibit 3: Average Vacancy Rates by Organization Type

DOH Facility Types	FTEs	Number of Vacancies	Vacancy rate
Outpatient Behavioral Health (Art 31 & Art 32)	216	4	1.9%
Article 28 Diagnostic & Treatment Centers	638	53	8.3%
Article 16 Clinics (OPWDD)	0	0	0.0%
Home Care Agency	189	14	7.4%

DOH Facility Types	FTEs	Number of Vacancies	Vacancy rate
Hospital Article 28 Outpatient Clinics	1285	27	2.1%
Inpatient	20183	762	3.8%
Non-licensed CBO	60	0	0.0%
Nursing Home / SNF	4768	84	1.8%
Private Provider Practice	934	72	7.7%
Other	5231	159	3.0%
Total	33504	1175	3.6%

One might be tempted to view those positions with the highest whole number of vacancies as an area of high need. Although there may be large numbers of vacant positions within a job title, this is typically in direct relationship to the high number of FTEs reported under each job title. As shown below in *Exhibit 4*, there are only five job titles with more than 50 vacancies. These same five job titles have more than 1,000 FTEs reported. Though the total number of vacancies is high, the vacancy rate for these job titles is within 2.1 percentage points of the average rate.

Exhibit 4: Job Titles with Number of Vacancies > 50

Job Category	Number of FTEs	Number of Vacancies	Vacancy Rate
Staff Registered Nurses	8,270	255	3.1%
Nurse Aides / Assistants	2,560	104	4.1%
Office Clerks	1,896	75	4.0%
Secretaries and Administrative Assistants	1,810	65	3.6%
Patient Care Techs	1,696	52	3.1%

C. Reported Job Requirements

In addition to reporting on NQP's current workforce state regarding headcount, FTEs and FTE vacancies, the NQP partners were also asked to report on job requirements pertaining to minimum years of experience and degree requirements for job titles falling under the category of Emerging Titles, which includes Care Manager/Coordinator, Patient or Care Navigator, Community Health Worker, and Peer Support Worker. *Exhibit 5* provides a summary of the total reported workforce minimum years of experience and minimum degree requirements pertaining to these job titles. The summary tables provide details on job requirements aggregated across Article 31 Outpatient, Article 32 Inpatient, Article 32 Outpatient, Article 28 D&TCs, Article 16 Clinics, Home Care Agencies, Hospital/ED, Non-licensed CBOs, Nursing Homes/SNFs, Private Provider Practices, and "Other" Facility Types.

Exhibit 5: Total Reported Workforce Experience and Degree Requirements by Job Title (All Facility Types)

	Minimum Years of Experience Required					Minimum Degree Requirements			
Job Title	0-2 Years	3-5 Years	6-10 Years	11-15 Years	+15 Years	Associate	Bachelor	Master	Other
Emerging Titles									
Care Manager / Coordinator	44.44%	44.44%	11.11%	0.00%	0.00%	12.50%	75.00%	0.00%	12.50%
Patient or Care Navigator	42.86%	14.29%	14.29%	0.00%	28.57%	14.29%	85.71%	0.00%	0.00%
Community Health Worker	25.00%	50.00%	25.00%	0.00%	0.00%	33.33%	66.67%	0.00%	0.00%
Peer Support Worker	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

D. Current Workforce State Summary

The data reported throughout Section II provides an overview of the NQP current workforce state as reported by PPS partners that participated in the survey, and will be leveraged by the PPS to facilitate workforce planning throughout the DSRIP program. As previously described, NQP's total reported workforce state is 40,649 employees listed under the 65 DOH Job Categories, including 33,504 FTEs. Based on the data reported approximately 60% of the PPS's workforce is represented by staff employed by Inpatient facilities. Other major workforce employers include "Other" facility types, representing facility types outside of the DOH facility type categories (15.6%), and Nursing Home/SNFs (14.2%).

While Inpatient facilities represent the largest workforce employers in the PPS, based on the data reported, nursing job titles are the most represented jobs within the PPS, with 10,490 FTEs reported, followed by the clinical support, administrative support, and Allied Health jobs.

NQP's Partners also reported on FTE vacancies in the workforce. Based on the data provided, approximately 1,175 FTE vacancies exist across NQP, with the highest number of vacancies reported for staff RNs (255 FTEs) and nurse aides/assistants (104 FTEs). Among job titles with at least 15 FTEs employed, the highest vacancy rates were reported for Psychiatric NPs (33.2%), NPs in Other Specialties (13.1%), PAs in Primary Care (12.1%) and NPs in primary care (11.8%).

NQP also collected additional workforce data including minimum job requirements related to minimum years of experience and minimum degree requirements and CBA status for specific job titles to further inform the PPS's workforce planning efforts throughout the DSRIP program.

E. Other Factors Impacting Workforce & Overall Workforce Insights

This section describes NQP partners and resources that may impact workforce planning.

Current Resources and Workforce Partners

NQP is engaging several partners to support workforce training efforts such as 1199TEF and local community based organizations. In addition, recruitment programs are being supported by partners such as the Civil Service Employee Association (CSEA) and the New York State Nurses Association (NYSNA) for some PPS partners. The PPS is also working with individual partners to utilize their existing recruitment and training resources to support the goals of DSRIP.

Current Workforce State Strengths & Resources

NQP has assembled a network of providers each with existing resources and strengths that may be leveraged to support the successful implementation of DSRIP goals. Northwell Health is utilizing their Center for Learning & Innovation (CLI) which focuses on Organizational Development, Patient Safety Institute, Physician Leadership Institute, Scholar Pipeline, Emergency Medical Institute, Bioskills Education Center and Clinical Transformation. In addition, Northwell Health has a partnership with Hofstra University, and can leverage Hofstra's physician-assistant programs as well as two its M.S. programs for nurse practitioners (NPs) to develop the primary care workforce.

NuHealth is utilizing assets from its partnerships with the American College of the Caribbean, Touro College and the New York Osteopathic College of Medicine for Critical Care Nursing and LPN training through the Vocational Education Extension Bureau and NuHealth's Nursing Education Program. These programs as well as others serve as great strengths for the PPS as it works to prepare the workforce for archiving DSRIP goals.

Additionally, CHS is in the process of developing a relationship with the College of Osteopathic Medicine D.O. program at NYIT to strengthen its resources, and is leveraging its relationship with Molloy and Adelphi Colleges for RNs and Advanced Practice Nurse Practitioners. CHS also participates and supports the Long Island STEM Hub which advances career exploration in the health sciences and encourages high school students to pursue healthcare careers. The LI STEM program is collaborating with the Nassau Suffolk Hospital Council and the LIRACHE group on higher education to connect students with the healthcare industry to support the pipeline of future healthcare workers.

Current State of Training and Development

To combat the challenges identified in recruiting and retaining the existing workforce, NQP and partner organizations have implemented several programs to build capacity. These programs include partnering with local schools & universities and organizations such as the military, community organizations, nursing programs and other degree programs to recruit new hires. The programs will also provide ongoing training for existing staff, host internships

and clinical rotations, and build career pathways for staff. In addition, NQP aims to work with partner organizations on tuition reimbursement for employees pursing college or advanced degrees to further their career and support DSRIP programs. The PPS and hubs will offer training and education to engage clinical and administrative staff in professional and career development through instructor led, Train the Trainer and webinar training programs.

Current State of IT and how it relates to the Workforce

NQP is collaborating with Healthix to connect network providers to the RHIO. During the on-boarding process with PCPs and SNFs, each Hub is supporting and facilitating data sharing with Healthix. An integral piece of this process will be the training of network providers on the Healthix connection, especially those whose EMRs are not currently meeting Meaningful Use standards. Additionally, NQP is in the process of purchasing Cerner's population health management software that will support the implementation of the DSRIP program.

Existing State of Cultural Competency Workforce Programming/Planning

In an effort to ensure a systematic and sustainable implementation of cultural competency and health literacy strategies, NQP plans to deploy strategic interventions as part of its core programs. NQP has formed a Cultural Competency and Health Literacy (CCHL) workgroup that has developed a DSRIP 101 webinar and a Train the Trainer workshop. The Workgroup will collect data on the training practices and resources for clinicians and non-clinician segments to identify gaps in existing clinical and non-clinical segments and support development of training resources and plans. The CCHL Workgroup will also partner with the Clinical Oversight & Quality Sub-Committee, Practitioner Engagement, and project workgroups to identify overlapping training needs and will collaborate, as needed, to schedule and execute training sessions across the PPS.

Current Workforce State Weaknesses & Trends

The PPS partners identified a myriad of challenges in recruiting and sustaining the workforce at their organizations. Some of the top challenges included the ability to offer competitive salaries and benefits, geography, shift schedules, and recruitment of clinical RNs and behavioral health providers. Additionally, partners face recruitment challenges including bilingual employees, limited applicants for emerging job titles as outlined in the HANYS Doctor Shortage publication, and minimal current workforce development programs specific to DSRIP needs and emerging job titles. Areas of Eastern Queens, such as the Rockaways, have extensive recruitment challenges due to its network of small independent community practices and lack of centralization that causes difficulty in adapting existing services to support DSRIP needs.

Current/Existing Resource Shortages

NQP currently has identified challenges related to the recruitment and hiring of Nurse Practitioners, especially NPs who are fluent in Spanish, Korean, and/or Russian. Current gaps

in recruiting include shortages of care managers, which were identified in the current state survey to be in great need. The NQP workforce strategy will need to overcome these shortages in order to hire and retain staff to meet the workforce needs of the DSRIP programs.

III. Target Workforce State Assessment Overview

A. Target Workforce State Assessment Approach

The Target Workforce State report identifies NQP's projected workforce needs by the end of the DSRIP program in 2020. Findings and project impacts from the report are summarized within this section, and any existing workforce gaps between the current and target workforce state are detailed in the Gap Analysis report.

Similar to the current workforce assessment, as detailed above, development of the NQP target workforce state was conducted in collaboration with the PPS's Executive Committee ("Workforce Governance Body") and included input from multiple stakeholders within the PPS's partner network as well as external data sources. External data sources included local, state and national surveys, medical claims databases, published literature and IHS's Health Care Demand Microsimulation Model (HDMM).

In modeling and projecting the estimated workforce impacts of the DSRIP projects on NQP's workforce, the following key points were considered:

- The number of patients that will be affected by this intervention
- Current healthcare utilization patterns of affected patients, and how DSRIP may impact care utilization patterns
- Anticipated provider mix to implement the intervention and meet future patient demand for services
- The potential for DSRIP, as designed, to materially impact the region's healthcare delivery workforce

B. Target Workforce State Summary Findings

The demand for the healthcare workforce within Eastern Queens and Nassau will continue to evolve as DSRIP projects are implemented, the impacts of those projects are realized, and demographic trends (unrelated to DSRIP) accelerate. Although this analysis was conducted using best efforts and project implementation assumptions to model workforce impacts over the DSRIP program, the target workforce state described within this report is a projection intended to inform NQP's workforce planning and may need to be modified as the DSRIP program unfolds.

Exhibit 6 summarizes NQP's estimated target workforce state staffing impacts expected by 2020, taking into account the anticipated impact of the DSRIP program as well as anticipated demographic and healthcare coverage changes across the NQP provider care settings and key job categories. In some cases, non-DSRIP impacts offset or moderate the effects of the DSRIP program, while in other cases they magnify DSRIP workforce impacts.

Notable projected impacts for NQP include:

- By 2020, the combined impacts of a growing and aging population, expanded medical insurance coverage under ACA and DSRIP implementation will increase the modeled demand for health providers by approximately 1,560.5 FTEs:
    - **Non-DSRIP impacts:** Independent of DSRIP, demand in the workforce is projected to grow by approximately 1,400 FTEs.
    - **DSRIP impacts:** The projected impact of DSRIP implementation alone is estimated to increase demand for health providers modeled by approximately 160.5 FTEs.

- The largest workforce impacts of both DSRIP and changes independent of DSRIP, are projected to take place among registered nurses in the inpatient setting, and primary care providers and support staff in outpatient and community-based settings:
    - Net demand for registered nurses is estimated to increase by approximately 234.5 FTEs. DSRIP-related declines of approximately 167 FTEs, primarily in inpatient settings, are offset by increased demand for registered nurses due to non-DSRIP environmental factors (approximately 401.5 FTEs). Many of these anticipated FTE requirements may be fulfilled by redeployments of staff from one setting to another. *(Please note current RN vacancies and other existing workforce factors have not been taken into account in this analysis but will be addressed in the gap analysis and transition roadmap)*.
- An estimated additional 337.5 FTE administrative support staff and 438 FTE medical assistants are projected to be required in primary care settings to support primary care and other medical and behavioral health specialties to meet the requirements of DSRIP and address factors associated with population growth and aging.
- The need for primary care providers (physicians and mid-level practitioners) is estimated to increase by approximately 246 FTEs by 2020 due to both DSRIP and non-DSRIP factors.
- Approximately 41.5 FTE licensed clinical social workers are estimated to be required by 2020 to implement DSRIP projects.

Exhibit 6: NQP PPS Summary of Projected DSRIP Staffing Impacts (DY2 to DY5)

Setting and Job Category	Non-DSRIP Impacts	DSRIP-related Impacts	Total Impacts
Primary and Community-Based Settings			
Primary Care Providers (MD, DO, NP, PA)	187	59	246
Nurse Practitioners (OBGYN)	0	5.5	5.5
Cardiologists	17.5	0	17.5
Endocrinologists	5	4	9
Psychiatrists / Psychiatric NPs	8	6.5	14.5
Psychologists	5.5	2	7.5
Licensed clinical Social Workers	0	41.5	41.5
Addiction counselors	0	7.5	7.5
Registered Nurses	57	44.5	101.5
Licensed Practical Nurses	18	1	19
Nurse Aides / Assistants	18	0	18
Medical Assistants	327.5	110.5	438
Administrative Support Staff	244	93.5	337.5
Emergency Department			
Emergency Physicians	2.5	-23	-20.5
Nurse Practitioners & Physician Assistants	4.5	-1.5	3
Registered Nurses	23	-91	-68
Hospital Inpatient			
Hospitalists	7.5	-14	-6.5
Registered Nurses	289.5	-163	126.5
Licensed Practical Nurses	38	-7.5	30.5
Nurse Aides / Assistants	109.5	-41.5	68
Care Managers/Coordinators/Navigators/Health Coaches/CHWs			
RN care coordinators and managers	0	42.5	42.5
Care coordinators (non-RN)	0	10.5	10.5
Community liaisons	0	6	6
Peer support	0	5	5
Cardiovascular disease health coaches	0	12	12
Diabetes health coaches	0	23.5	23.5
Patient activation health coaches	0	21.5	21.5
Patient activation program director	0	3	3
Other			
Security guards	0	2.5	2.5
Pharmacists	6	0	6
Registered Nurse Total	**401.5**	**-167**	**234.5**
Total FTEs	**1,400**	**160.5**	**1,560.50**

C. Target Workforce State Summary Conclusions

The demand for healthcare services and providers within NQP's network will continue to evolve and is likely to change over time, independent of DSRIP. The impact on the workforce will likely include an expansion of the primary care and clinical social work workforce to meet the goals of Patient Centered Medical Home (PCMH) and Integrated Behavioral Health. It will also include re-training existing staff, for example teaching Skilled Nursing Facility staff and clinicians to utilize evidence-based quality improvement tools (Stop and Watch, SBAR). Lastly, the workforce impact will include redeployment of existing staff, such as inpatient registered nurses becoming ambulatory care managers or transitional care managers.

It is anticipated that the demand for primary care physicians in Nassau and Queens Counties will likely continue to grow due to general population growth and aging. As a result, the workforce projections stated within this report suggest that any DSRIP-related changes in workforce demand should be considered in the context of broader trends affecting the demand for healthcare services and providers within NQP's service area.

Based on the available data as well as DSRIP inputs and assumptions provided by key PPS stakeholders, the projected workforce impact of the DSRIP program over the five years will likely impact NQP's healthcare delivery workforce. However, in comparison to the projected workforce impacts of trends external to the DSRIP program, the DSRIP impact is projected to be less significant.

IV. Workforce Gap Analysis

A. Workforce Gap Analysis Overview

As described throughout this report, NQP's current workforce is projected to experience changes both as a result of the DSRIP program and demographic trends. The purpose for conducting a workforce gap analysis, as part of the DSRIP Workforce Strategy Milestones, is to identify and understand the gaps that exist within NQP's workforce by leveraging the findings described within this report from the current workforce state as well as projected workforce impacts as described within NQP's Target Workforce State Report to inform the PPS's overall workforce strategy.

The gap analysis will be used to identify workforce needs in terms of redeployment, retraining, and new hire needs. Further, the gap analysis will be leveraged to inform the development and implementation of the workforce transition roadmap, which will be used to assist NQP with workforce planning to reach its target workforce state by the end of the program.

The following sections detail identified workforce gaps, through leveraging projected impacts from the Target Workforce State Report, and describes factors that are responsible for workforce gaps.

B. Non-DSRIP Related Workforce Impacts

The demand for healthcare services and providers within NQP's network will change over time, independent of the anticipated DSRIP impact. An aging population with chronic conditions will increase utilization of healthcare services.

Using the HDMM, the projected change in demand for physician specialties and other health occupations was simulated based on projected population characteristics, independent of DSRIP across all patients and regardless of insurance status. These projections were then scaled to the PPS based on its estimated market share of Nassau and Queens' utilization by payer (*Exhibit 7 and Exhibit 8*).

Much of the change in utilization is driven by the aging of the population and increased number of Medicare beneficiaries. In Long Island, the population of people over 55 is growing by about 2% per year, more than six times the overall rate of population growth. In 2013, 29% of Nassau and Suffolk residents were over 55, up from 25% in 2007.[1] While the trend of an aging population is happening across New York State, Long Island has a much higher share of over 55 year olds than New York City.

[1] Available at: http://www.longislandindex.org/data_posts/long-islands-changing-population/

The projections illustrate that physician demand in Nassau and Queens is projected to grow approximately 4% between 2015 and 2020, independent of the impact of DSRIP. This is the equivalent of an increase of approximately 260 FTEs, of which 30 percent (or 78 FTEs) are primary care physicians. These projections suggest that the impact of the DSRIP program and the gaps that may be created in the workforce needs to be understood in the context of broader trends affecting healthcare utilization.

Exhibit 7: Projected Impact of Changing Demographics on Physician Demand, 2015 to 2020[2]

		Total PPS		
	Specialty	Queens	Nassau	Total
Primary Care	Total primary care	50	27.5	77.5
	Family medicine	13.5	7	20.5
	Internal medicine	30.5	19.5	50
	Pediatrics	5.5	1	6.5
	Geriatrics	0.5	0	0.5
	Hospitalists (primary care trained)	5	2.5	7.5
Medical Specialties	Allergy and immunology	1.5	1	2.5
	Cardiology	10.5	7	17.5
	Critical care/pulmonology	2.5	1.5	4
	Dermatology	3.5	2.5	6
	Endocrinology	3	2	5
	Gastroenterology	4.5	3	7.5
	Infectious disease	1	0.5	1.5
	Hematology and oncology	4	2.5	6.5
	Nephrology	3.5	2	5.5
	Pediatric subspecialty	1	0	1
	Rheumatology	1.5	1.5	3
Surgery	General surgery	4.5	2.5	7
	Colorectal surgery	0	0	0
	Neurological surgery	1	0.5	1.5
	Ophthalmology	6	5	11
	Orthopedic surgery	5	3.5	8.5
	Otolaryngology	2.5	2	4.5
	Plastic surgery	1.5	1	2.5
	Thoracic surgery	1	1	2
	Urology	3	2	5
	Vascular surgery	0.5	0	0.5
	Obstetrics and gynecology	5.5	4	9.5
Other	Anesthesiology	7	6	13
	Emergency medicine	2.5	0	2.5
	Neurology	3.5	2.5	6
	Other medical specialties	5.5	2.5	8
	Pathology	1	0	1
	Physical med and rehab.	3	1.5	4.5
	Psychiatry	7.5	0	7.5
	Radiology	12.5	8.5	21
	Total	164.5	96	260.5

[2] Not all specialties and occupations are anticipated to be impacted by DSRIP and hence may not be included in the summary tables and executive summary tables

Exhibit 7 summarizes projected growth in Nassau and Queens's FTE demand between 2015 and 2020 for select health professions, as well as the growth in demand for providers in NQP's network. Similar to the approach for developing PPS-specific physician FTE demand projections, these estimates were also scaled to NQP based on its estimated market share.[3] Detailed information for Nassau and Queens by care setting is provided in the appendix.

Independent of the effects of DSRIP, demand for RNs in Nassau and Queens is projected to grow by approximately 401.5 FTEs between 2015 and 2020. The growth in demand for nurses and other types of providers working in hospital settings may potentially be offset by reduced demand anticipated as DSRIP initiatives begin to reduce unnecessary hospital utilization, which is detailed in the sections below.

[3] Inpatient market share was used as a proxy for total market share, as the PPS outpatient and ED market share of borough-wide utilization were unavailable.

Exhibit 8: Projected NQP Network Growth in Demand for Select Health Workers Between 2015 to 2020 Based on Changing Demographics and Expanded Insurance Coverage[4]

Health Profession	NQP PPS Network: Total				
	Inpatient	Emergency	Ambulatory	Home Health	Total
Registered nurse	289.5	23	57	32	401.5
Licensed practical nurse	38	0	18	8	64
Nurse aide	66	0	18	6	90
Home health aide	0	0	0	83.5	83.5
Pharmacist	0	8	23.5	0	31.5
Pharmacy technician	0	7	31.5	0	38.5
Pharmacy aide	0	0	4.5	0	4.5
Psychologist	0	0	-7.5	0	-7.5
Chiropractor	0	0	6.5	0	6.5
Podiatrist	0	0	4	0	4
Dietitian	4.5	0	2.5	0	7
Optician	0	0	2.5	0	2.5
Optometrist	0	0	1.5	0	1.5
Occupational therapist	63	0	10	2.5	75.5
Occupational therapist aide	10.5	0	2.5	0	13
Occupational therapy assistant	10.5	0	6.5	0.5	17.5
Radiation therapist	3	0	0.5	0	3.5
Radiological technologist	0	3.5	14	0	17.5
Respiratory therapist	6	0.5	3	0	9.5
Respiratory therapy technician	0.5	0	0.5	0	1
Medical clinical technician	0	1	5.5	0	6.5
Medical clinical lab technologist	21.5	0	5.5	0	27
Medical sonographer	22	0	4.5	0	26.5
Nuclear medicine technologist	6	43.5	1.5	0	51

It should be noted that the projected demand in healthcare workers shown in *Exhibit 8* does not factor in current vacancies within the NQP PPS. Organizations that submitted current state workforce surveys to NQP reported a total of 1,175 vacancies. The greatest vacancies were reported for staff registered nurses (255), nurse aides/assistants (104), and office clerks (75).

D. Project 2.b.ii: Develop Co-located Primary Care Services in the Emergency Department

Many patients who visit the emergency department have non-urgent conditions which could have been treated in an ambulatory setting. A lack of provider continuity and poor handoffs from the ED to community-based physicians may result in poor implementation of treatment plans, potentially leading to avoidable hospitalizations and readmissions. The project will

[4] Not all specialties reported in this table are expected to be impacted by DSRIP and therefore may be absent in the summary and executive summary tables.

provide screening and facilitated access to co-located Primary Care Practices and promote effective patient engagement for improved care continuity. This will interrupt current patterns of inappropriate utilization and reliance on the ED.

The Primary Care Practices that are co-located with the ED will need to have care coordinators who can address the complex psychosocial needs of individuals with complex conditions and who can educate patients on self-management, including how to respond to symptoms.

By 2020 the net projected NQP PPS impact associated with achieving this modeled co-location of primary care in the ED may be the following:

- An additional 26,220 primary care visits as a result of redirected care
- **In Primary Care Setting**: An estimated increase of 55.5 FTEs including primary care providers, direct medical and administrative support, mid-level practitioners, RNs, LPNs and clinical social workers
- **Emergency Department setting**: Potential decreases in FTEs associated with emergency physicians (11.5 FTEs), NPs, physician assistants, and RNs (44.5 combined FTEs)

Exhibit 9: Co-location of Primary Care in Emergency Department: Projected Impact

Workforce Impacts by Care Setting and Job Title	Total Workforce Impacts
Primary Care Office	
Primary care providers	6
Nurse practitioners (OBGYN)	3
NPs (nurse managers/supervisors)	2.5
Clinical social workers	3
Registered nurses	9
Medical assistants	9
LPNs (care coordinators/case managers)	3
Secretary	3
Registration staff (admin)	15
Patient navigators	2
Emergency Department	
Emergency physicians	-11.5
Nurse practitioners	0
Physician assistants	-1.5
Staff registered nurses	-43
Direct admin support	-15

The analysis suggests that project 2.b.ii's may have a modest impact on NQP workforce, particularly on RNs in the ED setting. The decline in demand for RNs in the ED setting is

slightly offset by increased demand for RNs in primary care office settings. Additionally, this analysis does not take into account potential existing RN capacity shortfalls in the ED setting.

Primary Care / Outpatient Workforce Gaps

The co-location of Primary Care in the ED department may result in an increase in demand for various care providers in the outpatient setting, including PCPs. The demand for PCPs due to changing demographics is also expected to increase by approximately 78 FTEs by the year 2020. There is currently a lower than average vacancy rate of 4.6% reported for PCPs across the PPS, which may aid recruitment efforts. In addition to PCPs, there will be greater need for clinical support including medical assistants and administrative support. There is currently a high vacancy rate of 7.3% reported for medical assistants across the PPS. The combination of increased demand and high vacancies will likely create a shortage of medical assistants across the PPS.

ED / Inpatient Workforce Gaps

The introduction of Primary Care Practices into the ED setting is in support of an overarching goal of reducing avoidable ED admissions by 25%, and is projected to result in a moderate decrease in demand for emergency physicians (12 FTEs) and a significant decrease in demand for ED nurses (approximately 43 FTEs). However, the projected decrease in demand for nursing positions as a result of this initiative may be offset by market changes as well as the number of reported nursing vacancies across the PPS.

Within the PPS, there are 255 reported RN FTE vacancies. Further, the non-DSRIP impact on demand for RNs is estimated at an increase of 23 FTEs in the ED setting. Thus, the anticipated decline in the demand for ED nurses as a result of DSRIP projects may be balanced by combined opportunities of vacant positions and increased demand due to non-DSRIP related impacts such as population growth.

E. Project 2.b.iv: Care Transitions to Reduce 30 Day Readmissions

Poor care transitions are a major contributor to readmissions. In 2014, 57,592 Medicaid beneficiaries in Nassau and Eastern Queens were either hospitalized or treated in the ED for a chronic condition. Of that population, 4,555, or 7.9%, were readmitted within 30 days. Common reasons for readmission included psychiatric (22%), circulatory (11%) and digestive (9%) disorders. The objective of this DSRIP project is to reduce Potentially Preventable Readmissions (PPRs) to hospitals by providing a 30-day supported transition period after a hospitalization by patients at high risk of readmission due to lack of effective patient education, engagement in follow-up care and other risk factors.

Throughout NQP, expanded use of transition care managers will provide support to patients and their families for 30 days post discharge, ensuring that follow-up care occurs within 7 days and that such a lack of engagement with the PCP and medication access issues and reconciliation concerns are addressed. Within the initial phase, the PPS will focus on patients

with two or more chronic conditions who are assessed to be at moderate to high risk for readmission using a standardized risk assessment tool.

Exhibit 10 details the potential impact of this program, upon complete implementation, by 2020

- Care management staff will increase by an estimated 25.5 FTEs, including RNs (12 FTEs), social workers (5 FTEs), and non-licensed care coordinators (5 FTEs)
- **In the ED setting**: Small expected impact in the ED setting
- **In the inpatient setting:** RN FTEs are expected to decrease by approximately 46 FTEs and nurse aides by 11.5 FTEs

Exhibit 10: Impact of Care Transitions to Reduce 30 Day Readmissions: Projected Impact

Workforce Impacts by Care Setting and Job Title	Total Workforce Impacts
Emergency Department	
Emergency physicians	0
Nurse practitioners and physician assistants	0
Registered nurses	-1.5
Inpatient	
Hospitalists	-4
Registered nurses	-46
Licensed practical nurses	-2.5
Nurse aides	-11.5
Total care coordinators	
Transitional care managers (RNs)	12
Health coaches	2.5
Care coordinator	5
Licensed practical nurses	1
Social Workers	5

The analysis suggests that the greatest impact of this project will be a potential decline in need for RNs and nurse aides in inpatient settings, reflective of decreasing readmissions. The impact on the ED is expected to be minimal, while care coordination efforts will require a combined 25-26 FTEs associated with care coordinators, nurse coordinators, and social workers.

Inpatient Workforce Gaps

Although the PPS vacancy rates reported for RNs and nurse aides/assistants (3.1% and 4.1%, respectively) is lower than average for all reported job titles, these two positions have the highest volume of vacancies available across the PPS. In addition to the reported needs for nursing positions, the PPS is likely to experience an increased demand for these positions due

to population growth, expanded insurance coverage, and an aging population. Non-DSRIP related impacts are expected to increase the demand for inpatient RNs by approximately 290 FTEs and inpatient nurse aides/assistants by 66 FTEs by the year 2020. Thus, even with the projected decline in the number of inpatient RNs and nurse aides due to project impacts, the PPS can still expect to have vacant positions to fill among the nursing workforce.

Care Management Workforce Gaps

In contrast to the inpatient setting, Project 2.b.iv requires increased staffing for RNs and LPNs in the care management setting, along with increases in health coaches, social work, and care coordinator positions. Based on current workforce data, there are already shortages for some of these positions, including a 9.8% vacancy rate for care coordinators and 20% vacancy rate for health coaches. An emerging need for providers trained in care coordination will likely cause the PPS to experience a gap in staffing needs when the project becomes fully implemented between DY3 and DY4.

F. Project 2.b.vii: Implementing the INTERACT project

The INTERACT project is one of several evidence-based models aimed at improving care and care transitions for older residents of Skill Nursing Facility's ("SNF"). The potentially avoidable hospitalization rate for patients residing in SNF's in Nassau and Queens Counties is 5.2 hospitalizations per 10,000 long-stay episode days, which represents the highest rate in NYS. 66 of the region's 95 SNFs will participate in the INTERACT model. These SNF's account for about 13,758 beds, or 70% of beds in the region. Participation of this magnitude will enable PPS to rapidly reduce the SNF readmission rates by an estimated 25% within the DSRIP program five year period.

Readmissions from SNFs are often the result of inadequate clinical coverage. Many SNFs rely primarily on LPN staff for clinical coverage. Yet LPN staffs are not permitted to perform clinical assessments and in the absence of consultation resources, a SNF must transfer a patient to the ED for a consult. The INTERACT project and related payment incentives will help SNFs to adopt standardized evidence-based protocols and the DSRIP program will encourage sites to increase RN staffing.

Changes in utilization as a result of program implementation by 2020 include the following:

- An estimated 350 fewer readmissions
- A projected 1,820 fewer inpatient days

Exhibit 11: Implementing the INTERACT Project: Projected Impact

Workforce Impacts by Care Setting and Job Title	Total Workforce Impacts
Emergency Department	
Emergency physicians	0
Nurse practitioners and physician assistants	0

Registered nurses	0
Inpatient	
Hospitalists	-1
Registered nurses	-11
Licensed practical nurses	0
Nurse aides	-2.5

Based on modeling results summarized above (**Error! Reference source not found.**), by 2020 the net projected PPS-wide workforce impact associated with this DSRIP initiative will likely include:

- **In the inpatient setting**: RN FTEs in this setting may be reduced by 11 FTEs

Overall, analysis results suggest that Project 2.b.vii's impact on the workforce may be minimal, with no estimated effect seen in the ED setting and a slight reduction in RN and nurse aide FTEs in the inpatient setting.

Inpatient Workforce Gaps

The INTERACT project may have moderate workforce impacts for nursing positions in the inpatient setting including a projected decrease in demand for RNs (11 FTEs) and nurse aides/assistants (2-3 FTEs). The PPS vacancy rates reported for RNs and nurse aides/assistants are relatively low, but the number of vacancies for both positions is among the highest for all reported DOH Job Categories across the PPS. NQP reported 255 FTE vacancies for staff RNs and 104 FTE vacancies for nurse aides. Additionally, the PPS is likely to experience an increased demand for these positions due to population growth, expanded insurance coverage, and an aging population. Non-DSRIP related impacts are expected to increase the demand for inpatient RNs and nurse aides by a combined 356 FTEs by the year 2020. The combination of increased demand due to population growth and current vacancies will likely mitigate the expected decline in inpatient nursing positions due to project impacts.

G. Project 2.d.i: Implementation of Patient Activation Activities

Project 2.d.i focuses on uninsured and Medicaid persons not utilizing or underutilizing the health care system and works to engage and activate those individuals to utilize primary and preventive care services. Core project components with workforce demand implications include the impact of newly activated enrollment in healthcare coverage by an estimated 41,013 uninsured and Medicaid recipients previously not utilizing or underutilizing the healthcare system. New access will likely increase service demand for primary care and preventive services and some specialty care and reduce inappropriate ED use and hospitalizations. In the short term (1-5 years) this initiative will likely increase use of health care services. In the long term the goal is to reduce avoidable disease onset and the associated use of health care services associated with such disease. Projected project effects by care setting include:

- **Ambulatory care settings (Health Homes, FQHCs, other)**: Staffing among PCPs, PCMH care managers, behavioral health counselors and other care coordinators likely will rise to accommodate increased numbers of enrolled uninsured and Medicaid patients at PCMHs, Health Homes and other ambulatory care settings.
- **Primary care physician settings**: Increased numbers of referrals due to better care management will require staffing increases among PCP providers to accommodate increased numbers of new patients.
- **Emergency department settings**: Outreach to establish a usual source of care with a primary care provider can help reduce avoidable emergency visits.
- **Inpatient care settings**: In the longer term, prevention has the potential to reduce or delay onset of chronic disease and the associated use of health care services associated with such disease

Exhibit 12 below summarizes modeling results and projected impacts. By 2020 the net projected annual impact on utilization associated with this DSRIP clinical initiative includes the following:

- 1,310 fewer inpatient days
- 1,220 fewer ED visits
- 43,620 additional urgent (unscheduled) primary care visits

The projected workforce impact includes:

- An increase of 19 health coach FTEs, 4 community outreach worker FTEs and 4.5 administrative staff FTEs to implement the intervention
- **Primary Care setting:** a potential increase of 18.5 more PCP FTES, 56 additional direct medical and administrative support staff FTEs and 9.5 additional staff RN FTEs
- **Emergency Department setting**: A minimal impact on emergency department staff
- **Inpatient setting:** a possible minimal decrease in demand for hospital inpatient staff—including approximately 7.5 fewer RN FTEs

Exhibit 12: Patient Activation: Projected Workforce Impact

Workforce Impacts by Care Setting and Job Title	Total Workforce Impacts
Primary Care Office	
Primary care providers	18.5
Direct medical support	32.5
Direct admin support	23.5
Staff registered nurses	9.5
Emergency Department	
Emergency physicians	0
NPs and PAs	0
Staff registered nurses	-2.5
Inpatient	
Hospitalists	-0.5

Staff registered nurses	-7.5
Licensed practical nurses	0
Nurse aides/assistants	-2
Intervention staff	
Health coaches	19
Community outreach workers	4
Program director	3
Admin assistant	1.5

In terms of workforce implications, analysis suggests that the greatest impacts of this project on workforce are likely in outpatient primary care settings. When the additional FTE requirements associated with primary care providers, direct medical and administrative support staff and staff RNS are combined, approximately 84 FTEs may be needed.

Primary Care / Outpatient Workforce Gaps

In primary care / outpatient settings, the PPS will experience increases in demand for PCPs as well as for medical and administrative support, assuming full project implementation. There is already a high vacancy rate of 7.3% for medical assistants throughout the PPS, and non-DSRIP impacts are also expected to increase the demand for primary care workforce with an expected need for 77-78 additional PCP FTEs and an additional 57 ambulatory RNs. Workforce gaps in the primary care / outpatient setting are therefore likely to increase throughout the term of this project.

ED / Inpatient Workforce Gaps

Workforce impacts in the ED / inpatient setting may be minimal overall; however there is an expected decrease of approximately 10 staff RNs. As with other DSRIP initiatives, the Patient Activation project serves to reduce the number of patient visits to the hospital ED. Although there will be less need for nursing staff in the inpatient setting, this decline may be offset by the additional 9-10 staff RNs needed in the outpatient setting. The PPS can therefore focus their effort on retraining existing workforce to meet the RN staffing requirements for this project.

Care Management Workforce Gaps

In order to support increased patient engagement and connections to primary care, an increase in the demand for health coaches and community outreach workers is anticipated. Demand will likely increase by DY4, when 100% active engagement is expected to occur. Based on the current state data reported, the PPS's network includes just 5 health coaches, with one vacancy reported. The anticipated need for an additional 19 health coaches due to project impacts will likely create a greater workforce gap for care management positions.

H. Project 3.a.i: Integration of Primary Care and Behavioral Health Services

To address the needs of individuals with co-morbid physical and behavioral health needs, NQP PPS intends to better integrate behavioral health and primary care services by addressing gaps in available resources and coordination of care. Supporting the achievement of this goal, the PPS is implementing Model 1:Integration of behavioral health specialists into primary care clinics using the collaborative care model and supporting the PCMH model; and Model 2: Integration of primary care services into established behavioral health sites such as clinics and Crisis Centers.

The PPS's goal is to support Safety-Net Primary Care Practices achieve NCQA's PCMH Level 3 or Advanced PC Model standards by the conclusion of DY3. The standards require that practices have access to evidence-based care including behavioral health services. NQP also proposes to improve the quality of physical health care received by people with SMI and substance use disorders by embedding PC clinicians and care managers in behavioral health clinics.

The target population includes Medicaid beneficiaries in Nassau and Eastern Queens with mild to moderate behavioral health disorders.

Exhibit 13 summarizes modeling results and projected target state impacts of this DSRIP clinical improvement project across the entire NQP PPS. By 2020 the net projected annual utilization impact associated with this DSRIP clinical initiative is the following:

- 830 fewer ED visits
- 1,350 fewer inpatient days

The projected workforce overall impact by 2020 may include:

- **Emergency Department setting**: Minimal changes in demand for emergency department staff FTEs
- **Inpatient setting**: A small decline in demand for RNs (8 FTEs) and other hospital inpatient staff FTEs

Exhibit 13: Integration of Behavioral Health into Primary Care: Projected Impact

Workforce Impacts by Care Setting and Job Title	Total Workforce Impacts
Office setting	
Total licensed behavioral health providers	37
Licensed clinical social worker	25.5
Psychiatrists/psych NP	2
Addiction counselors	7.5
Psychologists	2
Data analyst	0
Primary care providers	2.5
Direct medical support	5
Direct admin support	23.5
Staff registered nurses	1.5

Emergency Department	
Emergency physicians	0
Nurse practitioners or physician assistants	0
Staff registered nurses	-1.5
Inpatient	
Hospitalists	-1
Staff registered nurses	-8
Licensed practical nurses	0
Nurse aides/assistants	-2.5

The project goals will increase access to behavioral health services and the results indicate a corresponding rise in BH care providers and associated support staff FTEs. While a reduction in workforce FTEs in the ED and inpatient settings is also anticipated, the projected impact is in these settings is small, supporting the project goal that most of the care will be received in a primary care setting.

Primary Care / Behavioral Health Workforce Gaps

Based on the projected workforce impacts, the PPS is likely to experience an increased demand in LCSWs, counselors, and administrative support to facilitate the shift to community-based care. The increase in demand is projected to start in DY3 with the greatest impacts anticipated in DY4. The current vacancy rate for administrative support workforce within the PPS is less than 5%, but increased demand for these positions as a result of DSRIP project impacts will likely widen this gap.

The current workforce state data reported high vacancy rates of 9.1% for LCSWs and 33.2% for Psychiatric NPs. In addition to the reported vacancy rates for these positions across the PPS, the supply of psychiatrists in NYS is forecasted to decline between 11.6% - 17.5%, while state-wide demand is projected to increase between 4.1% - 28% by 2030.[5] These external factors both impacting the supply and demand for psychiatrists are likely to further increase the PPS's workforce gaps and create challenges in recruiting the necessary workforce to address project impacts. Recruitment challenges are likely to primarily impact Article 31 outpatient and Article 32 outpatient facilities' behavioral health workforce during DY4 as a result of the projected impacts for this project.

I. Project 3.a.ii: Behavioral Health Community Crisis Stabilization Services

The PPS will implement an intervention program that will integrate and develop outreach, mobile crisis teams, and community based intensive crisis services, following successful models that have been demonstrated in other areas of the state. The PPS will work with health homes, PCMHs, and EDs to develop a centralized triage that, when appropriate, will divert patients from the ED to less intensive settings by leveraging new and existing resources

[5] Center for Health Workforce Studies, The Health Care Workforce in New York
See: http://chws.albany.edu/archive/uploads/2014/08/nytracking2014.pdf

such as outreach, mobile crisis intervention and intensive crisis services, as well as written protocols to ensure that patients are treated in the most appropriate setting.

This project will target all Medicaid beneficiaries, from pre-adolescent to geriatric, who have mental health (e.g., depression, bipolar disorder, psychosis) and/or substance use disorders and experience a BH crisis, such as suicidality, psychosis, agitation, interpersonal conflict, or due to caregiver burnout. It is anticipated that this project will serve patients with behavioral health diagnoses who need crisis stabilization services that could be delivered in settings other than the ED or inpatient settings.

Exhibit 14 summarizes the potential effects on service utilization and PPS workforce requirements of this DSRIP initiative intended to strengthen community crisis stabilization services and capabilities:

- Approximately 9,390 additional behavioral health outpatient visits
- Approximately 19,420 fewer emergency visits
- Approximately 400 fewer hospitalizations and 2,920 fewer inpatient days

Exhibit 14: Crisis Stabilization Services: Projected Impact

Workforce Impacts by Care Setting and Job Title	Total Workforce Impacts
Crisis Stabilization Center	
Psychiatrists/psychiatric NPs	4.5
Licensed clinical social workers	8
Registered nurses	2.5
Peer counselors	5
Security guards	2.5
Administrative staff	2.5
Emergency Department	
Emergency physicians	-9
Nurse practitioners and physician assistants	0
Staff registered nurses	-31.5
Inpatient/psychiatric	
Hospitalists	-1.5
Staff registered nurses	-17.5
Licensed practical nurses	-1
Nurse aides/assistants	-4.5

The projected workforce impact by 2020 overall may include:

- **Emergency Department setting**: We project a decline in the demand for staff RNs of about 31.5 FTEs and a decline of 9 emergency physicians
- **Inpatient setting**: Potential decreases in provider FTEs in this setting include an estimated decrease of 17.5 FTE RNs and 4.5 fewer nurse aides, along with FTE decreases of 1.5 hospitalists and 1 LPN.

ED / Inpatient Workforce Gaps

The introduction of behavioral health crisis stabilization services to divert patients from the ED will aid in the PPS's overall goal of reducing avoidable ED admissions by 25%, and is projected to result in a moderate decrease in demand for emergency physicians (9 FTEs) and a significant decrease in demand for ED nurses (31-32 FTEs). However, the projected decrease in demand for nursing positions as a result of this initiative may be offset by market changes as well as the number of reported nursing vacancies across the PPS.

As previously indicated, there are 255 reported RN FTE vacancies and the non-DSRIP impact on demand for RNs is estimated at an increase of 23 FTEs in the ED setting. Thus, the expected decline in the demand for ED nurses as a result of this initiative may be negated by the combined opportunities of vacant positions and increased demand due to non-DSRIP related impacts.

Behavioral Health Workforce Gaps

The development of crisis stabilization sites to provide behavioral health services will create additional demand for several behavioral health positions across the PPS. The most significant impacts predicted to occur are for LCSWs, psychiatrists/psychiatric NPs, and peer counselors. An additional 8 LCSWs may be needed to staff the new crisis stabilization centers and mobile units, and demand for nursing, including psychiatric nurses, will likely grow as mental and behavioral health services shift from the ED to outpatient settings.

As mentioned previously, the PPS already faces vacancies within the Psychiatric NP position, which has the highest reported vacancy rate among all job titles in the PPS. Further, and as noted in the analysis for Project 3.a.i, the supply of Psychiatrists in NYS is forecasted to decline while state-wide demand is projected to increase by 2030. We can therefore expect to see gaps in workforce providing mental health services, which the PPS will need to address during implementation of DSRIP projects targeting behavioral health. Additionally, there are already 7 reported vacancies for LCSWs, for a vacancy rate of 9.1%. Implementation of this project may further this gap as the workforce for this position will need to be doubled in order to meet project requirements.

J. Project 3.b.i: Evidence-based strategies to Improve Management of CVD

The NQP PPS will implement evidence-based strategies to address cardiovascular disease, which is the number one reason for hospital admissions for Medicaid beneficiaries in Nassau County. Disease educators, Health Coaches, and/or Care Managers will work with primary care practices to identify high risk patients with cardiovascular disease and support these patients in the management of their illness. The target patient population includes all Medicaid patients over the age of 18 with a diagnosis of Hypertension, Coronary Artery Disease, Hyperlipidemia, and Congestive Heart Failure.

Exhibit 15 summarizes modeling results and projected target state impacts of this DSRIP clinical improvement project. By 2020 the net projected annual utilization impact associated with this DSRIP clinical initiative is potentially the following:

- Emergency visits may decline by approximately 610
- Inpatient days may drop by approximately 1,570 days
- 24,300 additional visits to primary care providers is estimated
- 12,160 more visits to cardiologists may occur

Exhibit 15: CVD Management: Projected Workforce Impact

Workforce Impacts by Care Setting and Job Title	Total Workforce Impacts
Primary Care setting	
Primary care providers	11.5
Direct medical support	19
Direct admin support	14
Staff registered nurses	8.5
Specialists (cardiologist)	0
Emergency Department	
Emergency physicians	0
Nurse practitioners and physician assistants	0
Staff registered nurses	-1
Inpatient	
Hospitalists	-1
Staff registered nurses	-9
Licensed practical nurses	0
Nurse aides/assistants	-2.5
Health Coaches 1:2,000 patients	12

The projected workforce impact by 2020 overall is projected to include:

- 12 additional health coach FTEs
- **Primary Care Setting:** an increase of 11.5 FTE primary care providers supported by approximately 33 FTE direct medical and administrative support staff and 8.5 RN FTEs
- **Emergency Department setting**: A nominal impact on emergency department RN staff
- **Inpatient settings:** a slight decrease in demand for hospital inpatient staff—including approximately 9 FTE fewer RNs

In terms of workforce implications, the analysis suggests that the greatest impact of this project on workforce will be in outpatient primary care settings. The project also has a small impact in the inpatient setting, with a projected staff RN FTE reduction of 9.

Primary Care / Outpatient Workforce Gaps

The most significant impacts to occur from the CVD Management initiative are within the outpatient setting. According to current workforce state data, the reported vacancy rates for PCPs and administrative staff are relatively low (<5%), however there are currently 70 reported vacancies for medical assistants across the PPS, a vacancy rate of 7.3%. Additionally, by 2020, the anticipated growth in demand for PCPs due to changing demographics and expanded insurance coverage is 77-78 FTEs based on the PPS's current market share; the growth in RNS is approximately 400 FTEs, including 57 FTEs in the outpatient setting. The

combination of both DSRIP and non-DSRIP related increases in demand are expected to create a gap in staffing needs for these primary care / outpatient positions.

Community Health Workforce Gaps

Other workforce impacts expected to occur are for health coaches, where there is an expected increase in demand by 12 FTEs. The PPS currently has only 5 reported health coaches, with one vacancy reported for the position. As employment for this position within the PPS is expected to double from project implementation, it is possible that the PPS may experience a workforce shortage due to recruitment challenges.

K. Project 3.c.i: Evidence-based strategies to Improve Management of Diabetes

The PPS partners will provide care to patients with diabetes through the consistent use of evidence-based care. Care coordination teams including diabetes educators, nursing staff, behavioral health providers, pharmacists, and community health workers will engage high risk patients to help them manage their disease. The care coordination teams will also work with Health Homes to coordinate care for patients with multiple chronic conditions.

By 2020 the projected annual health care use impacts associated with this initiative may include the following:

- Approximately 10,710 fewer inpatient days
- Approximately 6,220 fewer emergency visits (relative to no change in care use patterns)
- Approximately 46,930 additional primary care visits

Exhibit 16: Diabetes Management: Projected Workforce Impact

Workforce Impacts by Care Setting and Job Title	Total Workforce Impacts
Primary Care setting	
Primary care providers	20.5
Direct medical support	35
Direct admin support	25.5
Staff registered nurses	13.5
Specialists (endocrinologist)	4
Emergency Department	
Emergency physicians	-2.5
Nurse practitioners and physician assistants	0
Staff registered nurses	-10.5
Inpatient	
Hospitalists	-5
Staff registered nurses	-64
Licensed practical nurses	-4

Nurse aides/assistants	-16
Health Coaches 1:2,000 patients	23.5
Diabetes coordinator	1
Nurse care manager	0.5

The projected workforce impact by 2020 may include:

- An increase of 23.5 FTE health coaches
- **Primary Care setting:** a projected increase of 20.5 additional PCP FTEs and 60.5 direct medical and administrative support staff FTEs
- **Emergency Department setting**: a decrease in emergency department staff, including an approximately 10.5 FTE reduction in RN FTEs
- **Inpatient settings:** a decrease in demand for hospital inpatient staff—including approximately 64 fewer RN FTEs and 16 fewer nurse aides/assistants FTEs

In terms of workforce implications, outpatient primary care settings will likely experience large workforce additions, while inpatient settings are projected to incur decreases in FTE demand associated with nursing staff at all levels.

Primary Care / Outpatient Workforce Gaps

Assuming full project implementation, the PPS will experience increases from DY2 to DY4 for the demand of PCPs as well as medical and administrative support in the primary care / outpatient settings. Although the PPS currently has a relatively low reported vacancy rate of 4.6% for PCPs, a projected shortage of PCPs across NYS may create a challenge in recruiting the workforce necessary for implementing this project. High vacancy rates are reported for medical and administrative support, and these positions may similarly experience a gap in staffing.

As a result of project implementation and the provision of increased diabetes self-management services, an increase in the demand for Certified Diabetes Educators is anticipated. This increase in demand may occur initially in DY2 but will increase in DY4 and DY5. Based on the current state data reported, the PPS's network includes 11 Certified Diabetes Educators with 0 vacancies reported. Although workforce gaps for this position do not currently exits, this is likely to change as demand increases twofold throughout the project's implementation.

ED / Inpatient Workforce Gaps

Workforce impacts in the ED / inpatient setting are expected to be significant, particularly with a decreased demand of approximately 75 staff RNs due to an estimated reduction of more than 6,000 ED visits. Although this is a high volume of staff reductions, the reported number of vacancies for staff RNs across the PPS is 255 FTEs. Further, non-DSRIP related impacts include a projected need for an additional 300+ RNs. As a result, the estimated decrease in demand for nursing positions due to project impacts will likely be offset by

population growth as well as the PPS's existing workforce need. Additionally, some of the nursing workforce may be redirected to the outpatient setting for this project.

J. Other DSRIP Projects where Workforce Impacts were Not Projected

1. Project 2.a.i: Creation of an Integrated Delivery System

The PPS has committed to implementing an Integrated Delivery System ("IDS") and transforming healthcare delivery through an organized and collaborative network of primary, behavioral, specialty, long-term and post-acute care providers as well as through social service and community-based providers.

A review of the literature on this topic suggests that better integration can allow some services currently performed by specialists to instead be performed by generalists, some services currently performed by physicians to migrate to non-physicians, and also reduce duplication of tests.[6] In addition, IDS can facilitate shifting non-emergent care from the ED towards primary care settings. For purposes of projecting target workforce needs, it was assumed that improved integration of the delivery system does not have an independent effect on health workforce needs, outside of the staff that the PPS intends to hire (30 RNs and 10 medical assistants), to convert some settings into a patient centered medical home in order to support the creation of the IDS.

2. Domain 4 Projects: Strengthen Mental Health and Substance Abuse Infrastructure and Increase Early Access to, and Retention in, HIV Care

The analysis within this report does not separately address the workforce gaps that may be created by the two population-wide prevention projects which pertain to strengthening mental health and substance abuse infrastructure and promoting tobacco use cessation. The goals and impacts of this project are closely aligned with other clinical improvement projects already discussed and the workforce impacts have been captured in the projects detailed above.

3. Other Identified Workforce Gaps

Within the Current Workforce State section of the report, certain gaps in staff training as well as cultural competency and health literacy needs were identified within the PPS's workforce. In addition, current barriers in recruitment and retention of bilingual, culturally competent staff to address the needs of the PPS's diverse patient population where identified.

Also in line with the PPS's plans to create an integrated delivery system and ensure consistent coordination of care across clinical as well as community-based workforce, training programs are needed to ensure that PPS Partners are well connected through utilization of the RHIO platform.

[6] Weiner, JP, Blumenthal, D, Yeh, S. The Impact of Health Information Technology and e-Health on the Future Demand for Physician Services. Health Affairs. November 2013. 32:11
http://www.michigan.gov/documents/mdch/The_Impact_of_Health_Information_Technology_and_e-Health_on_the_Future_Demand_for_Physician_Services_441001_7.pdf

V. Conclusion

As detailed throughout the gap analysis, overall DSRIP project workforce impacts are projected to occur mainly for primary care providers, medical assistants, nurses, behavioral health providers and the care management workforce. However, in specific instances where high workforce vacancies are reported that already impact the PPS's provider community, the impacts of DSRIP projects can work to either minimize or increase gaps that currently exist within the PPS's workforce. Assuming that DSRIP projects are implemented successfully and that actively engaged goals are met, the NQP PPS is likely to experience overall the greatest workforce impacts during DY4 of the DSRIP program. In addition, due to the combined impact of the program as well as non-DSRIP related impacts, the PPS's workforce is projected to experience a potential increase in demand for health care providers in non-clinical based positions such as administrative support.

As a result of the DSRIP projects within the primary care / outpatient settings, NQP is anticipated to experience an increase in demand for PCPs as patients are redirected to seek care from providers outside of the ED setting due to combined impacts of the Patient Activation Project, development of behavioral health crisis stabilization services, and increased referrals through the co-location of primary care and behavioral health services. In addition to increasing the demand for PCPs, project impacts are estimated to result in the increase in demand for medical and administrative positions to support the projected increase in utilization of primary care and outpatient services.

For the anticipated project impacts of the co-location of primary care and behavioral health services, an increase in demand for behavioral health positions is projected, specifically for LCSWs and administrative support positions. As a result of the existing identified behavioral health workforce gaps within the PPS, the projected impacts of this project are likely to further enhance these identified gaps.

Within the ED/inpatient settings, the PPS's workforce is anticipated to experience a decrease in demand for ED physicians as well as for nursing positions as DSRIP project impacts are potentially realized and patients seek care outside of the ED and inpatient settings. However, in certain instances, given the vacancy rates reported both across the PPS as well as in the ED/inpatient setting, the projected reduction in demand for nursing positions is likely to be offset by the existing reported gaps within the PPS's workforce.

Additionally, the NQP PPS also anticipates a significant increase in utilization of care coordination services as a result of the PPS's implementation of projects to manage chronic diseases such as CVD and diabetes. As a result, workforce demands for care managers/coordinators and health coaches/educators are projected to increase. Given the vacancy rates reported for these positions currently, the existing gap for care management and care coordination staff is likely to increase as NQP successfully implements the DSRIP projects proposed above.

VI. Appendix

Exhibit A-1: Demographics by Job Type

Job Category	Number of CBA	Number of Individuals Employed	FTEs	FTE Vacancies/ Intend to fill	Vacancy Rate
Physicians	10	2135	1619	22	1.4%
Primary Care	4	549	372	17	
Other Specialties (Except Psychiatrists)	6	1586	1248	5	
Physician Assistants	2	1012	804	64	8.0%
Primary Care	1	364	298	36	
Other Specialties	1	648	507	28	
Nurse Practitioners	4	793	665	83	12.5%
Primary Care	3	387	323	38	
Other Specialties (Except Psychiatric NPs)	1	406	343	45	
Midwives	1	8	5	1	21.8%
Midwives	1	8	5	1	
Nursing	54	12026	10490	315.5	3.0%
Nurse Managers/Supervisors	7	999	897	28	
Staff Registered Nurses	15	9388	8270	255	
Other Registered Nurses (Utilization Review, Staff Development, etc.)	4	411	353	10	
Licensed Practical Nurses (LPNs)	26	1045	803	22.5	
Other	2	183	167	0	
Clinical Support	55	8188	6508	276	4.2%
Medical Assistants	10	1043	965	70	
Nurse Aides/Assistants (CNAs)	21	3362	2560	104	

Patient Care Techs	7	2156	1696	52	
Clinical Laboratory Technologists and Technicians	8	841	704	47	
Other	9	786	584	3	
Behavioral Health (Except Social Workers providing Case/Care Management, etc.)	23	1064	829	24	2.9%
Psychiatrists	3	167	129	2	
Psychologists	2	64	50	5	
Psychiatric Nurse Practitioners	0	20	15	5	
Licensed Clinical Social Workers	6	83	77	7	
Substance Abuse and Behavioral Disorder Counselors	2	41	34	1	
Other Mental Health/Substance Abuse Titles Requiring Certification	2	44	32	0	
Social and Human Service Assistants	1	176	102	0	
Psychiatric Aides/Techs	2	352	310	4	
Other	5	117	81	0	
Nursing Care Managers/ Coordinators/Navigators/Coaches	5	273	256	15	5.9%
RN Care Coordinators/Case Managers/Care Transitions	5	253	236	15	
LPN Care Coordinators/Case Managers	0	20	20	0	
Social Worker Case Management/ Care Management	10	572	506	16	3.2%
Bachelors Social Work	1	47	40	2	
Licensed Masters Social Workers	7	364	312	13	
Social Worker Care Coordinators/Case Managers/Care Transition	1	138	132	1	

Other	1	23	22	0	
Patient Education	3	64	37	3	8.1%
Certified Asthma Educators	0	0	0	1	
Certified Diabetes Educators	1	16	11	0	
Health Coach	0	5	5	1	
Health Educators	1	16	12	1	
Other	1	27	9	0	
Non-licensed Care Coordination/Case Management/Care Management/Patient Navigators/Community Health Workers (Except RNs, LPNs, and Social Workers)	7	168	156	11	7.0%
Care Manager/Coordinator	2	116	113	11	
Patient or Care Navigator	2	25	22	0	
Community Health Worker	2	9	7	0	
Peer Support Worker	1	18	14	0	
Administrative Staff -- All Titles	11	1196	1137	14	1.2%
Executive Staff	2	583	564	2	
Financial	4	293	280	4	
Human Resources	2	118	116	4	
Other	3	202	177	4	
Administrative Support -- All Titles	108	8474	7318	246	3.4%
Office Clerks	17	2178	1896	75	
Secretaries and Administrative Assistants	13	2006	1810	65	
Coders/Billers	9	398	386	15	
Dietary/Food Service	20	773	603	12	
Financial Service Representatives	8	508	490	2	
Housekeeping	17	1128	968	35	
Medical Interpreters	3	22	5	1	

Patient Service Representatives	2	280	235	10	
Transportation	6	440	341	18	
Other	13	741	584	13	
Janitors and cleaners	13	485	403	4	1.0%
Janitors and cleaners	13	485	403	4	
Health Information Technology	13	433	418	3	0.7%
Health Information Technology Managers	2	65	63	1	
Hardware Maintenance	5	78	76	0	
Software Programmers	3	60	59	0	
Technical Support	3	174	171	2	
Other	0	56	50	0	
Home Health Care	2	341	101	0	0.0%
Certified Home Health Aides	0	112	68	0	
Personal Care Aides	2	210	22	0	
Other	0	19	11	0	
Other Allied Health	66	3417	2251	77	3.4%
Nutritionists/Dieticians	9	214	151	10	
Occupational Therapists	7	218	145	6	
Occupational Therapy Assistants/Aides	5	271	59	0	
Pharmacists	6	474	385	13	
Pharmacy Technicians	8	263	194	7	
Physical Therapists	7	557	371	29	
Physical Therapy Assistants/Aides	10	169	138	6	
Respiratory Therapists	6	548	414	1	
Speech Language Pathologists	2	100	62	5	
Other	6	603	332	0	