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Commission on Health Care for Our Neighborhoods Issue Brief:

Reenvisioning Clinical Infrastructure

Recommendations on NYC Health + Hospitals' Transformation

March 2017

Summary

Today our vital public health care system is at a critical juncture. NYC Health + Hospitals faces a looming $1.8 billion deficit that threatens its ability to fulfill the critical mission of caring for all New Yorkers, including the most underserved and vulnerable residents of our city. Anticipated policy changes as a result of the federal elections are likely to compound this financial crisis, and city funding alone cannot close the gap. As the largest safety-net health system in New York City, NYC Health + Hospitals' diverse and multicultural staff provides a wide range of essential health care services. From preventive care such as diabetes monitoring, to lifesaving services such as emergency care for the homeless when temperatures drop, NYC Health + Hospitals is committed to delivering the best in modern medicine to anyone who walks through its doors.

Addressing this financial challenge is an opportunity to modernize the system's ability to provide high-quality health care services. Building off the strategic goals outlined in NYC Health + Hospitals' Vision 2020, New York City's public health care system has begun to implement a number of transformative strategies to stabilize funding, expand community-based care, consolidate hospital services, improve operational efficiency, and achieve excellence in care. NYC Health + Hospitals has already embarked on organizational alignment by launching service lines to strengthen coordination of hospital, ambulatory, and post-acute care across the system's continuum of care and recruited new facility CEOs. In addition, NYC Health + Hospitals is making significant investments in the best-in-class technology infrastructure necessary to support a seamless and integrated health system. NYC Health + Hospitals is also focusing on the people who are NYC Health + Hospitals – the workers and the patients. A new Chief People Officer will implement a workforce development and engagement strategy. Additionally, patient experience measures and process improvement, started under Vision 2020, will continue as a foundation for system transformation.

Transforming the City's largest essential safety-net provider into a modern delivery system, led by ambulatory care with a focus on care management and population health, will ensure that the City's largest safety-net health system remains viable to provide the highest quality care to all New Yorkers. Doing so requires engaging patients and communities. It also requires appropriately preparing the workforce—both clinical and non-clinical—to meet the demands of a transformed system through a productive partnership with organized labor.

This brief outlines:

1. The Current State of Clinical Services at NYC Health + Hospitals

- Inpatient utilization is declining, and most inpatient service use at NYC Health + Hospitals is low-acuity. The resulting low reimbursement is inadequate to cover NYC Health + Hospitals' cost structure, which is more expensive than other health systems in New York City.
- Ambulatory care volume is declining overall, and there is extreme variation in outpatient utilization among existing ambulatory care sites. Some sites have high volumes and long wait times, and many others operate significantly below capacity, unable to attract patients.
- NYC Health + Hospitals provides high-quality post-acute services for Medicaid and uninsured patients, but these services are not fully integrated with the larger NYC Health + Hospitals system.

2. Commission Recommendations

- **Restructure Inpatient Services**
  Given consistent declines in inpatient use, the current inpatient configuration is too large and can be consolidated and reduced substantially without undermining access and quality. This will improve the system's financial sustainability and improve the quality of care and the patient experience.

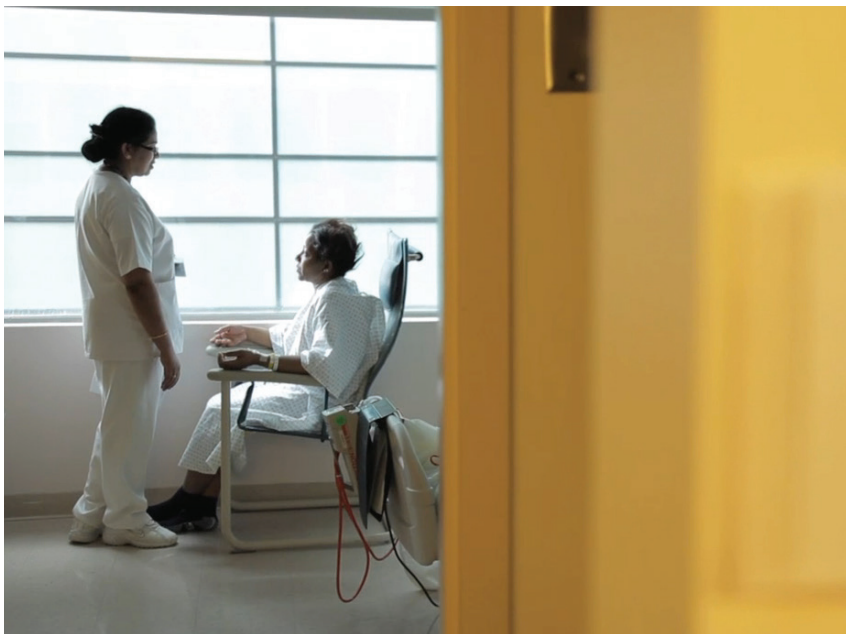
- **Redesigning Ambulatory Care Services**
  In order to meet the community need for expanded access to ambulatory care, NYC Health + Hospitals must redirect its limited health care resources to provide more appropriate, convenient and coordinated care in efficient outpatient settings accessible to patients, and at volumes that ensure high quality.

- **Achieve Financial Stability**
  While safety-net systems will always rely on government support, NYC Health + Hospitals must implement operational efficiency initiatives and aggressively reconfigure services where volumes are low, quality is subpar, or facilities are inadequate to ensure its limited resources provide efficient and high-quality care.

- **Address Population Health Management and Social Determinants of Health**
  Given the shift underway to value-based payment and its safety-net mission, NYC Health + Hospitals needs effective clinical population health management and strategies that address the social determinants of health to improve patient care and outcomes.

- **Establish Long-Term Partnerships**
  NYC Health + Hospitals must strengthen partnerships with other health and social service providers so that patients can seamlessly move across health care settings and receive needed supports to address the social determinants of health.

- **Decision Framework to Support Transformation Planning**
  Created with the public health care system's leadership and the City, the decision framework seeks to balance a range of factors including efficiency, the patient experience, and the health of communities.



The Current State of Clinical Services at NYC Health + Hospitals

As part of its comprehensive transformation planning process, New York City's public health care system is engaged in a thorough analysis to examine the current and future demand for health care services across the current system. While not yet finalized, this analysis examines community health needs, inpatient and outpatient utilization data, NYC Health + Hospitals' quality, workforce, service cost, and revenue data. The analysis also includes targeted interviews with NYC Health + Hospitals staff at all levels. The objective of this "current state" analysis is to inform a data-driven roadmap for NYC Health + Hospitals transformation that responds to community needs for care across the City and simultaneously improves and modernizes how NYC Health + Hospitals delivers vital health care services for all New Yorkers. A summary of the current state of clinical services broken down by setting – ambulatory, inpatient, and post-acute care – as presented by NYC Health + Hospitals to the Commission, is detailed below.

NYC Health + Hospitals' key findings from its current state assessment include the following:

- **The public health care system has excess inpatient bed capacity**. As is true across most health systems, inpatient utilization is declining. For NYC Health + Hospitals the decline exists for all service lines, with the exception of inpatient psychiatry,[1] and is projected to continue, even with an aging population and pockets of population growth. Some facilities within the system are seeing steeper declines than others, creating opportunity to rationalize services both on a regional basis and in moving care closer to home. The low volume of some services in some sites could make it more difficult to maintain service quality and has implications for health equity.
- **Investment is needed in community-based ambulatory care with integrated social service supports to better serve patients in their neighborhoods**. Busy emergency departments with low admission rates, and high rates of low-acuity, ambulatory care-sensitive inpatient admissions indicate patient needs could be better addressed in lower-cost, community-based settings. In addition, at least six percent of NYC Health + Hospitals' inpatient occupants are clinically able to be discharged but do not have adequate transitional care or stable home care options. These patients could be better supported through enhanced linkages to community-based services, including those provided by community-based organizations and other city agencies. All New Yorkers deserve to be cared for in the least-intensive setting that allows them to best participate in home and community life.
- **Ambulatory care volume is declining overall and many NYC Health + Hospitals facilities are underutilized, indicating the need for significant restructuring to rebalance across sites of care**. While the bulk of patient encounters in hospital-based clinics remains steady, overall outpatient encounters have decreased and utilization of satellite clinics is declining and varies widely.[2] Currently, many patients are receiving ambulatory care in hospital-based outpatient facilities that are not in their neighborhoods, even though there may be neighborhood clinics they can access. Underutilization and lack of standardized organizational care and care management across clinic sites undermine efficiency and the ability to offer a positive patient experience, and may be encouraging patients to bypass clinics closer to their homes in favor of hospital clinics.

1 Analysis of New York State Department of Health SPARCS 2012 – 2015 data. Trend lines are inclusive of pediatrics.

2 Analysis of NYC Health + Hospitals Encounters Data Extract, August 2016.

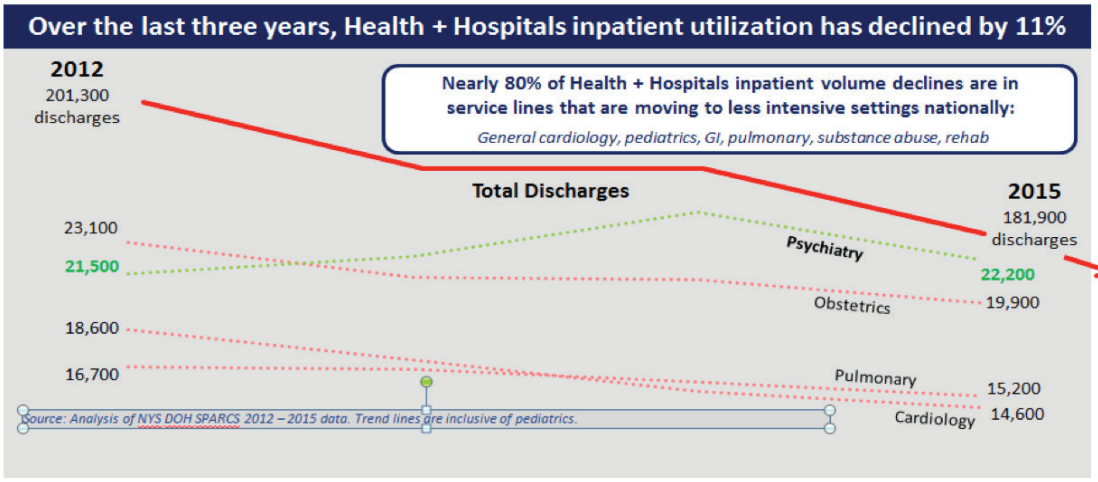
- **NYC Health + Hospitals plays a vital role in supporting patients with mental and behavioral health (including substance abuse) needs**. The public health care system serves more than one-third of all behavioral health patients (inpatient and outpatient hospital services) in New York City,[3] and is likely to continue to see high demand for these services. As emphasized in Thrive NYC, a comprehensive blueprint for mental health in New York City, all New Yorkers deserve access to mental and behavioral health care as a key component of primary care.
- **NYC Health + Hospitals' post-acute facilities provide high quality care, but do not receive a large percentage of inpatient discharges from within the system itself**. Some NYC Health + Hospitals skilled nursing facilities, while highly rated on quality indicators, lag behind industry standards in providing higher-acuity clinical services.
- **NYC Health + Hospitals' care management and clinical population health management capabilities are still emerging**. NYC Health + Hospitals has begun building these capabilities through its wholly owned subsidiary, OneCity Health. Given the shift underway to value-based payment, the success of this endeavor is critical both to improving patient care, and NYC Health + Hospitals' long-term financial viability. All New Yorkers deserve to have their health care coordinated in ways that make it convenient and easy to access the right care in the right time at the right place.
- **NYC Health + Hospitals facilities have strong connections to the communities they serve, including through local community advisory boards**. The system's many service sites have the potential to serve as hubs for community engagement and development in ways that improve health outcomes in communities.

As our essential public health care system, NYC Health + Hospitals has a responsibility to make critical decisions and transform the system, including large-scale system-wide restructuring that improves access to high-quality care in the right setting for all New Yorkers, especially the most vulnerable. If NYC Health + Hospitals does not improve its fiscal sustainability, upgrade its aging physical infrastructure, and modernize care delivery, it will not fulfill its mission.

3 Analysis of SPARCS CY 2015 data.

NYC Health + Hospital Findings: Inpatient Services

Declining Inpatient Utilization. Over the last three years, NYC Health + Hospitals' inpatient utilization declined by 11 percent, which is consistent, on average, with national and New York City trends. However, volume declines vary greatly among facilities. While some facilities have remained fairly stable, others have seen a reduced demand for inpatient services.



Declining inpatient utilization is projected to continue, even with an aging population and pockets of population growth, creating an excess inpatient capacity in a city that already has an over-abundance of inpatient beds.[4] Nearly 80 percent of NYC Health + Hospitals' inpatient volume declines are in service lines that are moving towards less intensive settings nationally, including cardiology, pediatrics, gastroenterology, pulmonary, substance abuse treatment and rehabilitation services.[5] Two of the public system's high volume service lines—pulmonary and cardiology—are declining at faster rates than the average of all NYC Health + Hospitals services. Inpatient psychiatry is NYC Health + Hospitals' only service line that had high inpatient volume and showed growth over three years, illustrating NYC Health + Hospitals critical role in providing behavioral health services. The trend of declining inpatient utilization suggests the need for NYC Health + Hospitals to restructure its focus of care delivery from acute care settings to more appropriate ambulatory care neighborhood-based settings that will better meet the needs of patients and communities.

Low Acuity Inpatient Services. NYC Health + Hospitals provides more low-acuity inpatient services than any other New York City hospital system.[6] This means that the clinical complexity of the services that patients receive at NYC Health + Hospitals is less intense than the clinical complexity delivered in other hospitals. For example, care provided to a patient with pneumonia has a lower-acuity level than care provided to an organ transplant recipient. More than 50 percent of patients with a low case mix index[7] are admitted for services that have comparatively high volumes at NYC Health + Hospitals (e.g., chronic condition care, substance use and psychiatry, and obstetrics). Many of these services are ambulatory care-sensitive conditions – meaning that the need for the admission is likely to be decreased if the patient receives high-quality care in the community. Lower-acuity inpatient services translate into lower reimbursement for the care NYC Health + Hospitals provides.

4 American Hospital Association (AHA) Annual Hospital Survey data, 2010-2013.

5 Analysis of New York State Department of Health SPARCS data, 2012-2015. Trends analysis are inclusive of pediatrics.

6 Analysis based on New York State Department of Health SPARCS data, 2012-2015.

7 Case mix index (CMI) is a relative value assigned to a diagnosis-related group of patients in a medical care environment. The CMI value is used in determining the allocation of resources to care for and/or treat the patients in the group.

Current measures of acuity for reimbursement purposes do not fully measure the *overall complexity* of a patient's needs – economic and social needs are not considered when determining patient acuity, though such needs clearly impact the intensity of services required. A patient facing homelessness, for example, is likely to require more intensive supports to enable his or her discharge. Given the disproportionate number of low-income and uninsured patients served by NYC Health + Hospitals, it is likely that the public health care system is serving a patient population with more complex social and economic needs. Unfortunately, this is not currently compensated in health care service reimbursement methodologies.

Bellevue, Jacobi and Kings have higher relative acuity for select service lines

Bellevue

High Volume Service	Discharges 2015	Average CMI 2015
Electrophysiology	154	4.56
Invasive Cardiology	659	1.76
Orthopedics	757	1.56
Vascular Surgery	69	3.21

Jacobi

High Volume Service	Discharges 2015	Average CMI 2015
General Cardiology	1,094	0.78
General Surgery	840	1.69
Orthopedics	880	1.51

Kings

High Volume Service	Discharges 2015	Average CMI 2015
General Cardiology	1,796	0.79
General Surgery	873	1.91
Oncology	415	1.68
Thoracic Surgery	81	1.66

Metropolitan, NCB and Lincoln have lower relative acuity in high volume services

Lincoln

High Volume Service	Discharges 2015	Average CMI 2015
General Surgery	945	1.19
General Cardiology	2,107	0.67
Thoracic Surgery	66	1.32
Gastroenterology	1,378	0.73

Metropolitan

High Volume Service	Discharges 2015	Average CMI 2015
General Surgery	328	1.37
General Cardiology	1,006	0.69
Pediatrics	1,060	0.58

NCB

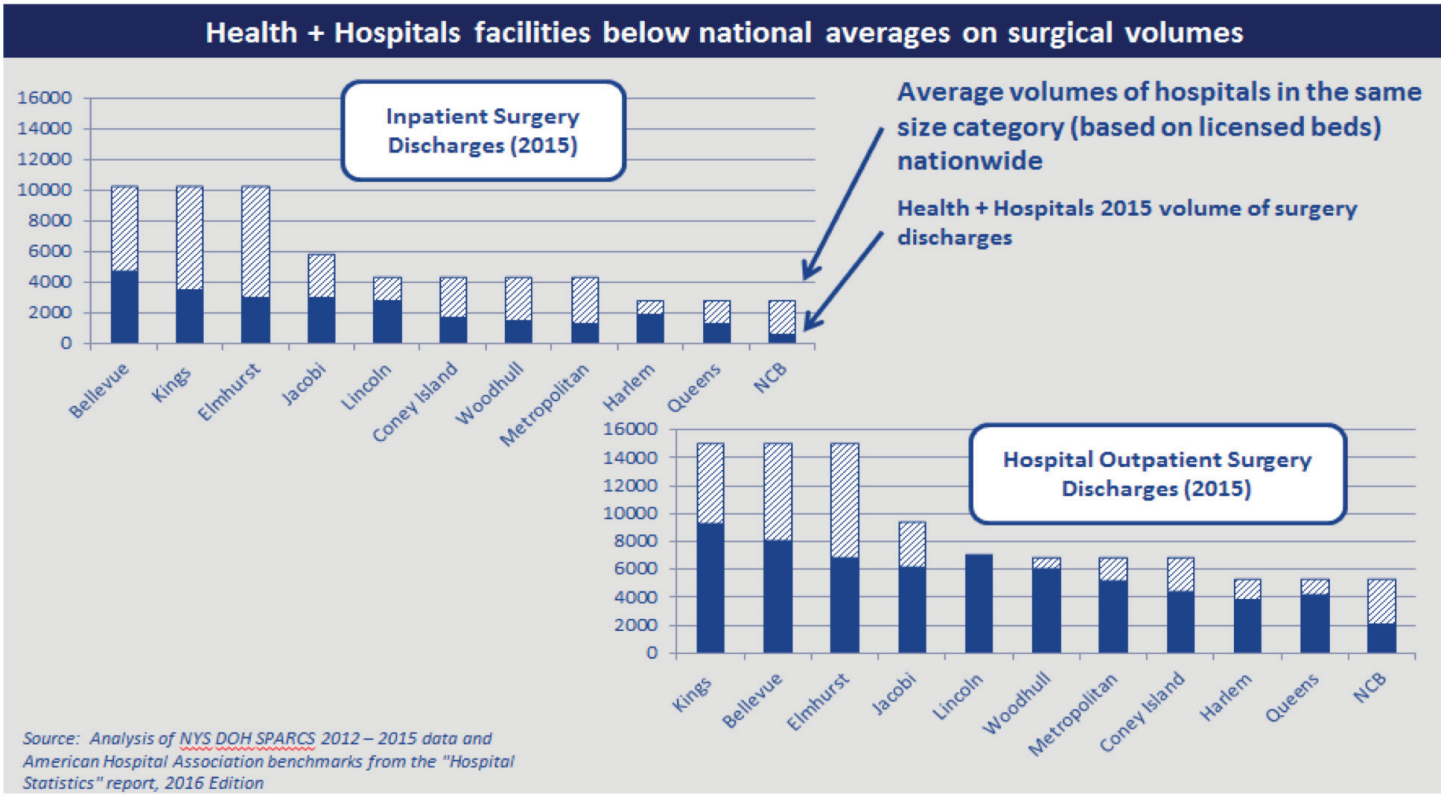
High Volume Service	Discharges 2015	Average CMI 2015
General Surgery	148	1.31
General Cardiology	699	0.65
Pediatrics	32	0.58
Orthopedics	103	0.90

Source: Analysis of NYS DOH SPARCS 2012–2015 data; average Case Mix Index and number of discharges by service line. Service lines organized under HANYS SPARCS grouper. United Hospital Fund, "Drop in Severity of Illness Further Strains Hospital Finances"

Decreased Surgical Volume. Much of the higher-acuity care that NYC Health + Hospitals does provide is spread in low volumes across the health care system, resulting in the public system's facilities having below national averages on surgical volumes. This declining trend has the potential to impact the quality of services being offered by NYC Health + Hospitals. Volume and frequency of service provision are critical in promoting a culture of high-quality health care for patients.[8]

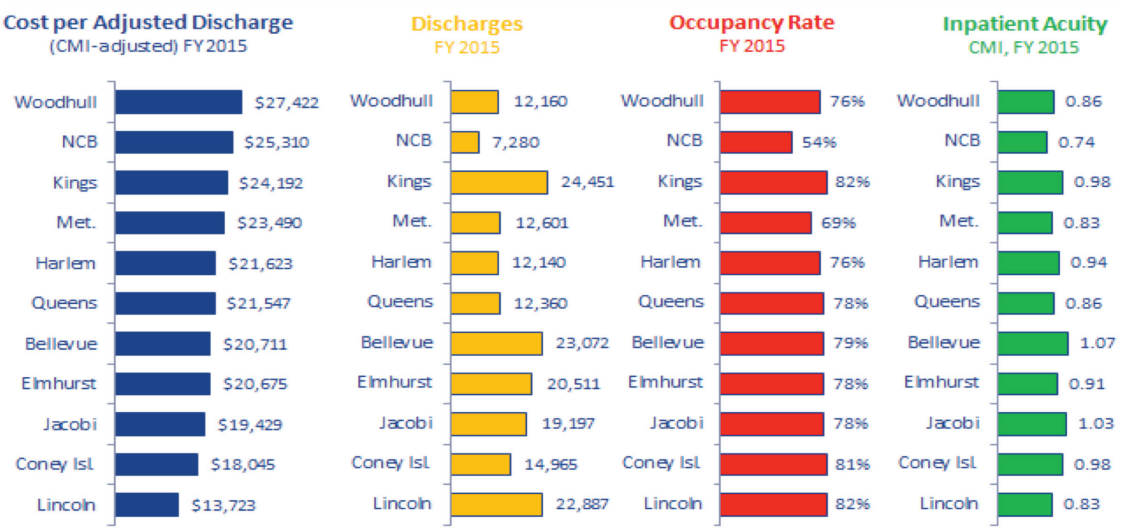
Further, the majority of NYC Health + Hospitals' inpatient surgical procedures are driven by emergency department visits rather than elective referrals from surgical programs. In line with national trends and advances in medicine, many common procedures are moving to ambulatory, same-day settings. Expanded managed care, increased care management and sophisticated consumer expectations are likely to continue to drive services to outpatient settings.

8 National industry standards such as the Dartmouth/Johns Hopkins "Volume Pledge" (which sets minimum volume thresholds for certain surgical procedures that apply to individual surgeons and to entire hospital-based teams that support surgery) and the Leapfrog Group's metrics can serve as guides to measuring low-volume services. In addition, medical professional associations, the ACGME (the accreditation body for medical teaching programs) and other qualified organizations set guidelines for the minimum volumes needed to maintain effective practice of medicine.



Hospitals Operating Under Capacity. Based on a preliminary analysis of discharge and case mix data, hospital occupancy rate, and the costs of providing care, NYC Health + Hospitals' inpatient facilities are operating under capacity. All of NYC Health + Hospitals' inpatient facilities are operating below the national industry standard rate of 85 percent, with some facilities far below that target.[9] Hospitals with low occupancy rates are typically not able to leverage infrastructure and cover fixed costs, usually operating at a deficit.

9 Analysis based on NYC Health + Hospitals' 2015 cost per adjusted discharge, discharge, and inpatient acuity data.



Sources described on previous slides related to discharges, cost/discharge and acuity. Occupancy calculated against staffed beds using internal Health + Hospitals data.

High Cost Services. NYC Health + Hospitals has a comparatively higher cost structure for inpatient care when measured by case-mix adjusted costs per discharge. An analysis of citywide hospital data found that the public system's average cost per discharge is $20,170, as compared to $16,458 for all other New York City hospitals' discharges, a 22.6 percent difference.[10] This analysis, which uses an industry-standard methodology, is directional; the underlying data is self-reported and many factors may contribute to this differential, including patient population[11] and measurement variation.[12] A third factor may relate to cost-effectiveness caused by inefficiencies in utilization,[13] productivity, labor costs and the prices of purchased goods and services. The scale of the findings, however, is sufficient to conclude that this higher cost structure for inpatient care undermines NYC Health + Hospitals' ability to sustain its operations and ultimately to fulfill its mission at a time of shrinking resources.

10 Costs adjusted for CMI; analysis based on cost benchmarking of NYC Acute Care Hospitals Assessments Results, FY 2015; the most commonly used metric for overall hospital cost effectiveness is cost per adjusted discharge. The American Hospital Association, Council of Teaching Hospitals, and other industry organizations use this metric to compare and rank hospitals on their relative cost effectiveness. Under this method total hospital expenses are divided by an activity measure called adjusted discharges (hospital discharges adjusted for average acuity and outpatient volume), which enables comparison of hospitals of different size and patient mix. This cost-benchmark assessment calculated cost per adjusted discharge for each of the 11 acute care hospitals in the NYC Health + Hospitals system, and 25 other hospitals in New York City. The comparison group represents all acute care hospitals in the city with at least 200 beds, measuring acute care costs against case-mix weighted, outpatient-adjusted discharges. NYC Health + Hospitals acute care activity exhibits lower patient acuity, somewhat offset by a higher proportion of outpatient care. While this metric is an industry-standard measure – in part due to the standardization of the data within Medicare Cost Reports – which identifies the magnitude to which costs differ across facilities, it lacks specificity into drivers of costs across hospitals.

11 Although the adjusted discharge figure accounts for acuity differences, there are other differences in patient populations that could result in more or less cost.

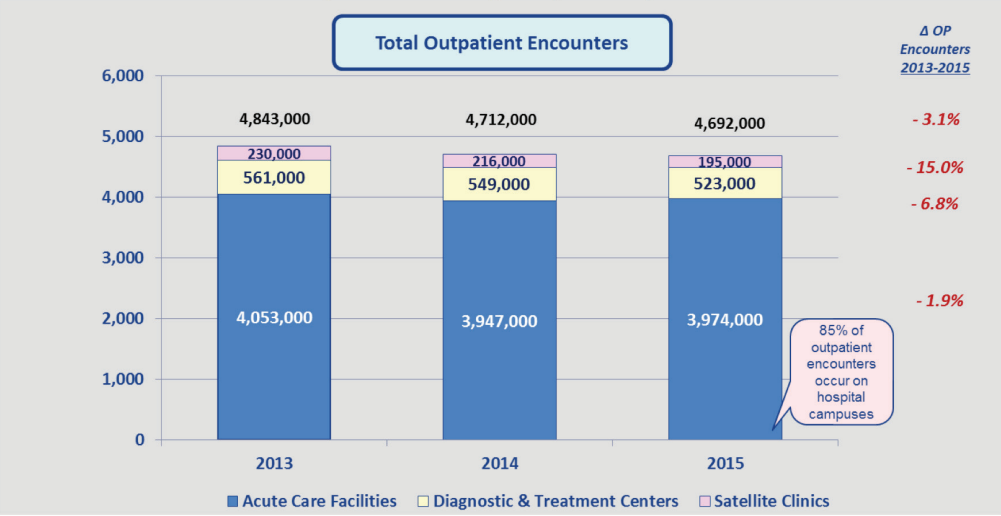
12 There are differences from hospital to hospital in the degree of consistency in setting charges, which may impact the accuaracy of the outpatient factor. Also, the case mix index is based on national averages, and there may be variations in patient complexity that case mix does not capture. Consequently, some of the difference may be due to imprecision in the measure.

13 Number of patient days (ALOS), diagnostic tests, selection of treatment, selection of supplies and pharmaceuticals.

Outpatient Services

The cumulative findings of the inpatient utilization point to a strong need for ambulatory care and care management in the community. This is consistent with Community Needs Assessments conducted in the areas NYC Health + Hospitals serves, in which community members have underscored the need for improved access to and increased capacity of primary care, integration of primary and behavioral health needs, and better care management and care coordination for high-need patients.[14] At the same time, findings from the assessment of NYC Health + Hospitals' outpatient services indicate extreme variation in utilization among existing ambulatory care sites, with some sites experiencing high volumes and long wait times, and many others operating significantly below capacity and unable to attract patients.

Decline and Variation in Outpatient Utilization. Despite the need for ambulatory services, NYC Health + Hospitals experienced a decline in outpatient encounters from 2013 to 2015 driven by lower use of satellite clinics.[15] Although encounters at the system's hospital-based outpatient clinics remained steady, its satellite clinics experienced a 25 percent decrease in outpatient encounters. Its diagnostic and treatment centers (DTC) also experienced a decrease of 6.8 percent.[16]



Outpatient care is unevenly distributed across NYC Health + Hospitals' facilities with a concentration in hospital-based clinics: 88 percent of ambulatory care services are delivered by hospital clinics or satellites, 11 percent delivered by DTCs and only two percent are delivered by 20 Gotham Health satellite clinics.[17] This trend suggests that some patients are receiving ambulatory care in facilities that are not immediately adjacent to their homes.

14 NYC Health + Hospitals One City Community Needs Assessments available at http://www.onecityhealth.org/community-needs-assessments/.

15 Analysis of NYC Health + Hospitals Encounter Data Extract, August 2016. Analysis excludes ED visits.

16 The majority of outpatient encounters are in a few core service lines—primary care, pediatrics, behavioral health, women's health and dental care—which yield disproportionately smaller revenues.

17 Analysis of NYC Health + Hospitals outpatient encounters data including: behavioral health: psychiatry, substance abuse, partial hospitalization; target specialties: asthma specialty clinic, cardiology, endocrinology, hospice, infectious diseases, optometry/ophthalmology, palliative care/pain management, podiatry/orthotics, and pulmonology.

Outpatient encounters have decreased from 2013-2015, but remain vital component of care delivery

Service Lines	Hospital	Hospital: Satellite	Hospital: School	DTC	DTC Satellite	DTC School	Total	% of Total	% Change, 2013-15
Primary Care/Gen Med	579,892	49,162	809	151,455	14,067	117	**795,502**	17%	-5.1%
Pediatrics	532,744	38,976	10,887	95,467	30,578	5,965	**714,617**	15%	-3.8%
Behavioral Health[1]	619,094	10,481	27	61,143	26,893	-	**717,638**	15%	-3.2%
Women's Health	398,606	16,261	185	54,414	1,008	-	**470,474**	10%	-1.1%
Ambulatory Surgery	240,362	1	1	7,988	-	-	**248,352**	5%	-0.3%
Target Specialties[2]	468,822	3,377	-	56,310	131	-	**528,640**	11%	-23.6%
Other Specialties	814,694	705	1	17,135	-	-	**832,535**	18%	1.1%
Dental	184,520	2,434	-	52,417	-	-	**239,371**	5%	10.4%
Lab	121,529	-	-	8,685	-	-	**130,214**	3%	211.0%
Unknown	14,177	-	-	593	12	-	**14,782**	0%	-33.2%
Total	3,974,440	121,397	11,910	505,607	72,689	6,082	**4,692,125**	100%	-3.1%
Percent of Total	85%	3%	0%	11%	2%	0%	100%		
Percent Change, '13-'15	-1.9%	-11.9%	6.5%	-5.8%	-25.2%	-18.3%	-3.1%		

Hospital Total
4,107,747 visits, 88% total
-2.3% change

DTC / Gotham Total
584,378 visits, 12% total
-8.9% change

1. Behavioral Health: Psychiatry, Substance Abuse, Partial Hospitalization. 2. Target Specialties: Asthma Specialty Clinic, Cardiology, Endocrinology, Hospice, Infectious Diseases, Optometry/ Ophthalmology, Palliative Care/Pain Management, Podiatry/Orthotics, Pulmonology. Source: H+H Encounter Data

The preliminary analysis also finds there are a significant number of underutilized satellite clinics that are not operating at efficient volumes. For example, within the adult primary care and pediatric service lines, about 50 outpatient clinics do not have sufficient volume to cover the minimum staffing costs of one physician assistant/nurse practitioner and one nurse.[18] Minimally staffed sites require at least around 3,000 or more visits per year to break even on primary care and pediatric visits. Only 14 sites have sufficient volume to cover minimum staffing costs. Underutilization and a lack of standardized organization, health care, and care management across the satellite clinics limits efficiency and productivity and impedes the ability to provide a consistently positive patient experience.

Critical Provider of Behavioral Health Services. NYC Health + Hospitals plays a vital role in supporting patients with mental and behavioral health (including substance abuse) needs in both inpatient and ambulatory settings. The system serves more than one-third of all behavioral health patients (inpatient and outpatient hospital services) in New York City.[19] This includes 45 percent of all New York City patients who received treatment for a diagnosis of severe mental illness.[20] NYC Health + Hospitals also provided 41 percent of outpatient visits in the City (or over 560,000 visits) for patients with behavioral health diagnoses.[21]

Low Member Capture of MetroPlus Patients. MetroPlus is NYC Health + Hospitals' wholly owned Medicaid managed care plan. Due to limited capacity, more than half of MetroPlus members are assigned to a primary care physician who is outside of NYC Health + Hospitals due to limited capacity. Assignment to outside primary care physicians results in significant revenue losses to the system. For example, $265 million was paid to other providers as a result of the assignment to a non-NYC Health + Hospital primary care physician. Ensuring adequate primary care capacity to accommodate MetroPlus members within the public system will increase revenue for NYC Health + Hospitals.

18 Analysis of NYC Health + Hospitals visit data per encounter database. Break-even primary care visits per physician is 4,607 visits per year; break-even primary care visits per provider (if NP/PA is used) is 2,981 visits per year.

19 Analysis of SPARCS CY 2015 data.

20 Analysis of SPARCS CY2015 data. Behavioral health patients are identified based on an ICD diagnosis code appearing in any position on any 2015 inpatient or outpatient utilization encounter at a hospital in New York City. For the diagnosis specific utilization, utilization counts were limited by APR-DRG (inpatient) and primary diagnosis ICD code (outpatient).

21 Id.

Emerging Care Management and Population Health Capabilities. To meet patients' health and social needs, NYC Health + Hospitals is developing deeper care management capabilities through its wholly owned subsidiary, OneCity Health. NYC Health + Hospitals' care management approach includes implementing strategies and interventions to care for all patients across the continuum of care. To this end, NYC Health + Hospitals is expanding its care management infrastructure to address social service needs within traditional clinical care settings, integrating behavioral health and primary care, and scaling up chronic disease management and prevention efforts. NYC Health + Hospitals is also engaging in outreach efforts to serve patients within a team-based primary care model. In addition, NYC Health + Hospitals is harnessing technology and data analytics to support care, communication, health monitoring and care planning. Given the shift underway to value-based payment, the success of this endeavor is critical to improving patient care, and central to NYC Health + Hospitals' long-term financial viability.

Post-Acute Care Services

NYC Health + Hospitals provides post-acute care in the following settings:

- Five skilled nursing facilities with 2,300 beds provide advance nursing care, medical management and therapy services on a 24-hour basis. These skilled nursing facilities, while ranked highly on quality, provide lower-intensity services than those that are provided at long-term acute care or inpatient rehabilitation care settings.
- Three adult day health centers provide supervised daytime programs offering skilled nursing, rehabilitative therapy and personal care services for adults with medical or disabling conditions.
- One long-term acute care hospital–NYC Health + Hospitals/Carter, the only one so designated in New York City, which serves high acuity, medically fragile patients, many of whom require ventilator support. Carter also serves patients with multiple chronic medical conditions that significantly impact life functioning such as respiratory failure, congestive heart failure, uncontrolled diabetes, complex infections and complex wounds.
- Palliative care and related hospital services across the NYC Health + Hospitals delivery system.
- A certified home health agency that provides services in Manhattan, Queens, Brooklyn, and the Bronx for individuals needing special care and support after a hospital stay or help with managing a chronic health condition at home.

NYC Health + Hospitals' post-acute care facilities provide high-quality services for Medicaid and uninsured patients. These post-acute care facilities receive high quality ratings from the Centers for Medicare & Medicaid Services (CMS): four facilities are 5-star rated (the highest rate possible) and one is four-star rated.

Despite this high rating, NYC Health + Hospitals' post-acute facilities do not receive a large percentage of NYC Health + Hospitals' inpatient discharges. While approximately 9,000 annual inpatient discharges from NYC Health + Hospitals facilities are referred to post-acute care facilities, only 28 percent of those referrals were to NYC Health + Hospitals' skilled nursing facilities. These trends indicate the strong need to strengthen patient linkages and referrals across the public health care system.

NYC Health + Hospitals' skilled nursing facilities also do not provide some enhanced clinical services such as hemodialysis, blood infusions and total parenteral nutrition programs that are now often standard across the industry. As a result, the system's skilled nursing facilities generally have lower-acuity patients resulting in lower reimbursement for the care provided.

Commission Recommendations

The Commission believes New York City's public health care system has long demonstrated a unique commitment to its patients and their diverse communities. Large-scale modernization and structural change are now needed to ensure that NYC Health + Hospitals continues to accomplish its mission – providing high-quality care for all New Yorkers, especially the most vulnerable, and being responsible stewards of the public dollars that support this critical mission. Given the direction of health care reforms and the shifting health care landscape in New York City, incremental cuts or minor consolidations will not be sufficient to meet the system's challenges, address the needs of the patients and communities, and achieve the vision of becoming a high-performing health system.

The data above underscores the need to shift NYC Health + Hospitals' operating model from hospital-centric, acute care to a fully integrated, high-performing system offering:

- Robust access to community-based ambulatory care
- Coordinated access to urgent, emergent and tertiary care services
- A holistic approach to meeting patients' health, behavioral health, and social needs.

Specifically, the Commission offers the following recommendations to guide NYC Health + Hospitals' transformation efforts from a system that is predominantly focused on inpatient services to one that emphasizes state-of-the-art, community-based ambulatory care that best serves patients and communities. These recommendations are closely tied to the principles laid out in the decision framework described in the final section of this issue brief. The recommendations and principles should together inform decision-making on the transformation of the NYC Health + Hospitals system.

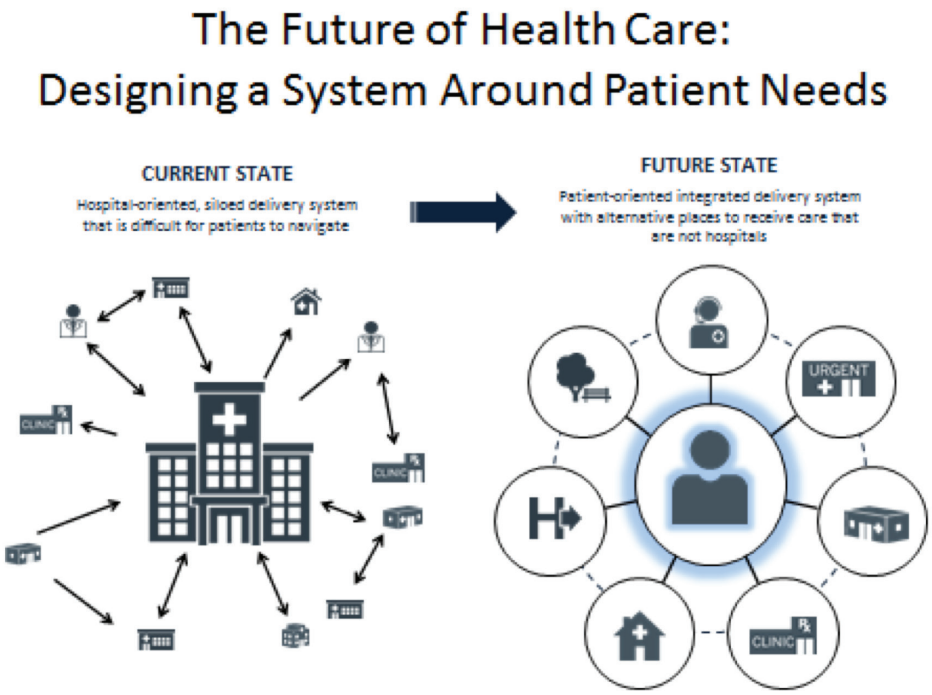
Lessons Learned from Other High-Performing Health Systems

Best in class health care systems around the country are organized and operate differently from the current NYC Health + Hospitals system.

One such system is Kaiser Permanente in California, the largest integrated nonprofit health care delivery system in the United States; others include University of Pittsburgh Medical Center (UPMC) in Pennsylvania, Oschner Health System in southeast Louisiana, and Jackson Health System in Florida. These high-performing systems rely on comprehensive health information systems with electronic health records, patient portals and care management tools to support physicians in delivering evidence-based clinical protocols.

Locally, the St. Barnabas Community Wellness Project in the Bronx is addressing medical and non-medical community needs through an emphasis on ambulatory care and a mind-body center, as well as mixed-use affordable housing and commercial space located in close proximity to health care services.

These systems utilize strong care management infrastructures that focus on driving care to its most effective and efficient setting. They emphasize improving health conditions and managing the health of the populations they serve. Many are also engaged in creating healthier communities outside the walls of their facilities. For example, physical and behavioral health integration in primary care is strengthened by referrals and partnerships with community behavioral health providers and related social supports.



Restructure Inpatient Services

NYC Health + Hospitals needs to make hard decisions to consolidate and devise alternative ways to ensure currently underutilized and under-performing services are accessible to patients in a high-quality fashion. The current inpatient configuration of NYC Health + Hospitals is far too large and should be consolidated and reduced substantially both for patient quality and financial sustainability. Occupancy rates are already extremely low at many facilities and an ongoing decline is likely to continue as market competition and advances in technology reduce the need for inpatient care and increase the demand for convenient, high-quality outpatient services. Just as significantly, some NYC Health + Hospitals' facilities are providing services at extremely low volumes.

It is not the role of the Commission to make specific inpatient consolidation recommendations. Consistent with other high-performing health systems, NYC Health + Hospitals should endeavor to transform into a health system with significantly expanded ambulatory services and ambulatory patient capacity across the city that is anchored by a smaller number of inpatient beds in each of the four boroughs. Moving forward with consolidating inpatient services should pave the way for considerable cost savings that generate resources necessary for investment in ambulatory and community-based services, the hallmark of today's

best-in-class health care systems. Consolidation should also address the quality concerns raised by current low volumes in particular service lines.

The Commission recommends replacing aging infrastructure wherever possible with new state-of-the-art facilities that better meet the future needs of NYC Health + Hospitals and its patients. In some cases, it may make sense for hospitals to have an emergency room with a smaller number of inpatient beds to stabilize patients, ensuring access to 24/7 emergency services until they can be safely cared for at the system's centers of excellence where complex procedures are performed at adequate volumes to ensure high quality. This issue needs to be carefully evaluated in the context of specific community needs including access to transportation and the availability of alternative locations for emergency services.

Metrics, as outlined below, and data, including the findings outlined in these briefs, must inform this planning and are critical to ensuring that a transformed NYC Health + Hospitals meets its mission and community needs. For example, one framework metric states that by 2020, each of NYC Health + Hospitals inpatient facilities should have an inpatient occupancy rate that is greater than 85 percent, an industry accepted benchmark for the volume necessary to break-even on fixed operating costs. Another framework metric seeks to eliminate and/or consolidate low volume clinical services according to industry measures such as the Leapfrog Group and the Dartmouth "Volume Pledge," in order to ensure high-quality services at NYC Health + Hospitals.

In keeping with its safety-net mission, campuses with a reduced inpatient footprint should be reimagined as sites that offer a full range of health care and social services including outpatient programs that support chronic disease management in the home and in the community, better coordinated and enhanced access to substance abuse and behavioral health services, and integration of programs addressing the social determinants of health.[22] NYC Health + Hospitals should make fundamental system changes that include ensuring access to comprehensive and best practice services in the ambulatory care setting and guaranteeing that patients will have access to the services they need, regardless of their entry point into the system. Advancing this vision will require capital investments above and beyond what is normally budgeted.

Decisions on campus modernization must take into account community need and demand for services. Access to services must be considered at the neighborhood level and should take into account other facilities and NYC Health + Hospitals locations nearby, patients' willingness and ability to travel for health care services, and opportunities to meet health care needs through lower cost, less intensive primary care settings. Community engagement, which has begun, will be critical to continue as NYC Health + Hospital refines restructuring decisions. The system must develop a community engagement plan and in accordance with that plan, put into place a bi-directional and robust stakeholder engagement process. Stakeholders engaged in this process should include patients, communities, clinicians, and NYC Health + Hospitals' workforce.

Redesigning Ambulatory Care Services

To implement a high-performing health system, the Commission believes it is imperative that NYC Health + Hospitals redirect its health care resources to provide more appropriate, convenient and coordinated care in more efficient outpatient settings as close to patients as possible, and at volumes appropriate to support high-quality care. Currently, the system's outpatient care is unevenly distributed across facilities with a concentration in hospital-based clinics, and a significant number of satellite clinics are not operating at efficient capacity.

To meet patients' needs, NYC Health + Hospitals should redesign ambulatory sites to offer a combination of primary and behavioral health care, urgent and after-hours care, and dental care; specialty services and

22 NYC Health + Hospitals One City Community Needs Assessments available at http://www.onecityhealth.org/community-needs-assessments/.

health and wellness services focused on addressing the key chronic diseases prevalent in the neighboring communities; lab services, imaging, pharmacy, telehealth, and in some cases ambulatory surgery. Ambulatory surgery in particular should be considered a growth opportunity for NYC Health + Hospitals because its revenue can help subsidize primary and preventive services. Transformed ambulatory settings should improve patient access, especially to critical primary care services, and upgrade patient experience. Lower operating costs, standardized best practices including enhanced post-discharge planning, and improve ambulatory safety and quality outcomes are additional goals for ambulatory transformation. Redesigned ambulatory care facilities should also, where possible, promote health and wellness through convenient access to non-clinical services, for example by co-locating critical social services and by providing space for nutrition education, exercise facilities, or parenting classes.

Health systems across the country are implementing strategies to expand ambulatory access and promote patient convenience through high-performing ambulatory centers. In New York City, for example, Montefiore Health System recently opened one of the region's largest ambulatory specialty care centers, calling it a "hospital without beds" for interdisciplinary primary, specialty, and outpatient surgery care. Harris Health System, the public hospital system in Houston, opened a new three-story outpatient center, with more than 100 exam rooms and five same-day surgery suites, housing the majority of diagnostic and specialty clinics previously located at LBJ Hospital, in a setting more convenient for patients.

Metrics must inform ambulatory care transformation. NYC Health + Hospitals should consider potential steps like consolidating outpatient clinics that do not meet threshold factors such as less than 4,000 annual visits, geographic access and proximity to other nearby health care services, and drivers of patient utilization. To improve the patient's experience, the system should strive to decrease the number of days it takes to make an outpatient physician visit and fully implement clinical integration across the continuum of care. The system should also meet statewide and citywide access and integration measures related to behavioral health treatment. Input from the community will be critical for reshaping NYC Health + Hospitals' ambulatory network. NYC Health + Hospitals should leverage existing community engagement avenues, including its 21 Community Advisory Boards and Community Health Needs Assessment surveys, and continue to supplement with community forums, like the 12 community meetings held in the fall of 2016, to dialogue with community stakeholders and collect their feedback.

Achieve Financial Stability

NYC Health + Hospitals must also work to establish ongoing financial sustainability. The Commission recommends this effort include operational efficiency initiatives and aggressively reconfigured services where volumes are low, quality is subpar, or facilities are inadequate. NYC Health + Hospitals should continuously evaluate whether it is improving its financial position and should work to meet appropriate performance metrics related to its financial sustainability. These measures include increasing its collection of eligible revenue by more than five percent by 2020; increasing the percentage of eligible but uninsured who are enrolled in health insurance programs; and evaluating all restructuring opportunities against their impact on overall system net savings or improved operating margin.

While it is imperative that NYC Health + Hospitals take steps to maximize its financial performance, because it serves such a large volume of Medicaid and uninsured individuals, the system will nonetheless always require significant local, state and federal governmental support. It is essential that federal and state policy-makers direct disproportionate share and other funding streams in a targeted and fair manner to NYC Health + Hospitals, an institution that provides the lion's share of services to underserved low-income patients in New York City, and that lacks other sources of revenue to offset the costs of providing care. This imperative is further described in the Commission's companion issue brief, NYC Health + Hospitals' Transformation: Sustaining the Safety-Net.

Establish Long-Term Partnerships

The Commission believes sound partnerships with community-based organizations, city social services agencies, and other major New York health systems are an essential component of a high-performing NYC Health + Hospitals. Partnerships can enable care coordination and ensure patients receive care at the right place, at the right time and in the most efficient manner. A range of clinical partnership approaches is presented in a companion Commission issue brief, Building Clinical Partnerships.

To guide its partnership efforts, NYC Health + Hospitals should develop a prioritized "short list" of organizations with synergistic goals and joint targets with whom to meaningfully collaborate by 2020. Another partnership goal should be to implement at least one pilot with a currently non-affiliated health care provider organization aimed at improving the system's ability to care for patients, and its readiness for value-based payment. NYC Health + Hospitals should also work with federal and state policy-makers on continued state and federal efforts to transition from fee-based reimbursement to value-based reimbursement structures since flipping the reimbursement structure is critical to creating a financially sustainable system.

Address Clinical Population Health Management and Social Determinants of Health

NYC Health + Hospitals should make population health management a top priority across its entire system. Effective clinical population health management would require NYC Health + Hospitals to reorganize care horizontally: integrating services and sites of care across the continuum within the NYC Health + Hospitals system and that of its partners while simultaneously creating stronger bridges to social services and supports.

The Commission recommends that NYC Health + Hospitals continuously evaluate whether it is moving towards an effective population health management system by examining the use of technology to improve efficiency, enhance care delivery, improve patient engagement, and increase the use of system-wide clinical standards and evidence-based protocols. The system can measure its progress on these fronts by continuing to make progress on the Vision 2020 target for central-line-acquired infections, requiring the use of evidence-based care pathways for at least 60 percent of its patients, ensuring providers meet Meaningful Use Stage 3 measures, and achieving New York State Value-Based Payment Roadmap targets.

To enable clinical population health management, NYC Health + Hospitals should continue to redesign its workforce to emphasize culturally and linguistically competent team-based care and ambulatory medical home models that expand opportunities for community health workers, navigators, and peer wellness specialists, among others. Additional key components of a successful system that facilitates population health management and care management programs for addressing chronic conditions include IT systems, data analytics, hot-spotting capabilities and care management infrastructure to track and manage population-based metrics, such as reducing avoidable emergency department visits, potentially preventable hospitalizations and inpatient readmission rates. Promising examples of these types of team-based care focused on clinical population management are emerging across the nation including in the Camden Coalition in Camden, New Jersey and Advocate Physician Partners in Chicago, Illinois.

The Commission also recommends that NYC Health + Hospitals foster new partnerships with community-based organizations and city agencies to assist in addressing the social determinants of health on the individual level and at the community level. This would require, for example, the incorporation of social and supportive services into care improvement models and programs, including through increased integration of community-based organizations and city services. NYC Health + Hospitals should strengthen its relationships with city agencies to help connect its patients with opportunities for stable and affordable housing through such agencies as the New York City Housing Authority and New York City Housing and Preservation

Department; food access through services such as the Supplemental Nutrition Assistance Program; and economic support through such agencies as the New York City Human Resources Administration.

To better address the social determinants of health that affect the communities where NYC Health + Hospitals facilities are located and the patients who live in them, the Commission recommends that the public health care system seek to become an anchor institution participating in the economic development of its communities. National best practice models of anchor institutions include Bon Secours Hospital in Baltimore, the University of Texas MD Anderson Cancer Center in Houston, and Health Careers Collaborative of Greater Cincinnati, These anchor institutions seek to improve the socioeconomic health of the communities they serve by working to align their purchasing decisions and investments to promote the economic development needed to address poverty, housing, safety and economic stability, as well as promoting social and economic environments that support retail options and planning decisions that promote healthy choices for food, places for exercise and social engagement.

Performance measures to evaluate NYC Health + Hospitals' progress can include, for example, its success in addressing priorities identified in its Community Needs Assessment reports and, with other city agencies, addressing changes in the physical and social environment called for in One New York: The Plan for a Strong and Just City, which provides indicators and targets related to health and socioeconomic well-being. Of course, NYC Health + Hospitals cannot achieve this vision alone. The City must bring to bear multiple funding streams and agencies to realize this vision. NYC Health + Hospitals and its city agency partners should seek to be an industry leader for integrated supports addressing the health and social needs of patients and communities with the full support of city leadership.

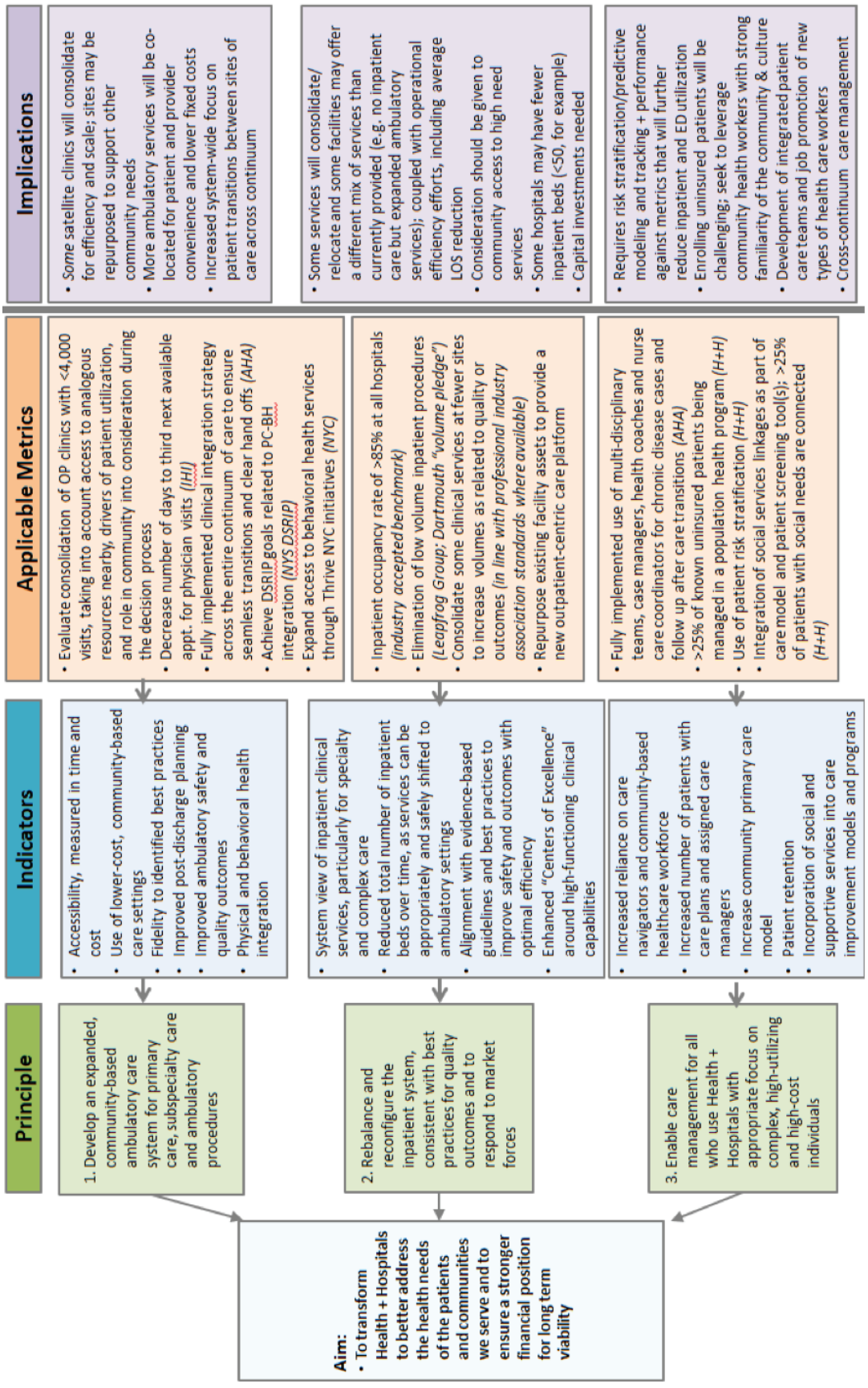
Decision Framework to Support Transformation Planning

Finally, the Commission recognizes that the process for translating these recommendations into systemic change is a task of enormous complexity. To help guide NYC Health + Hospitals as it makes the critical decisions necessary to transform into a high-performing health system, the Commission worked with NYC Health + Hospitals and city leadership to develop the following decision framework. The framework is composed of principles and associated indicators and metrics.

Principles are the foundational directions for transformation; they reflect the recommendations in the previous section and lay out the most essential components of a high-performing public health care system that NYC Health + Hospitals must implement to ensure its mission – providing high-quality care to all New Yorkers regardless of their ability to pay. Principles are further defined by their associated indicators, which provide qualitative guideposts, and metrics, select industry-recognized standards used to measure specific aspects of operational performance. Implications are preliminary observations by the Commission on how the framework can be applied.

Transforming NYC Health + Hospitals will have significant impact on the health system, patients, and the workforce. The decision framework can serve as a guide and help to assess critical decisions to ensure that NYC Health + Hospitals can stay true to its core mission – providing the best in modern medicine for all New Yorkers.

Decision Framework



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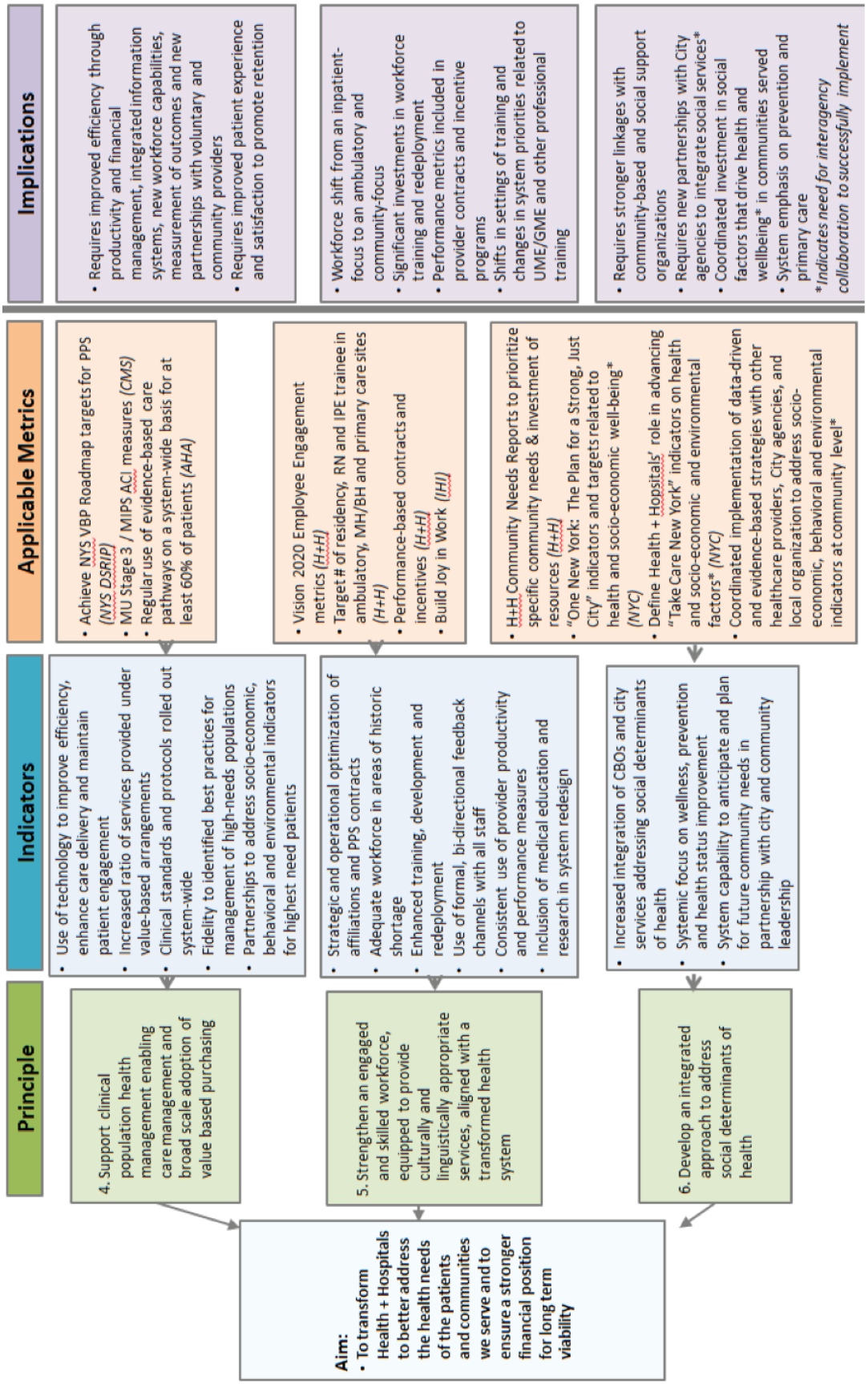

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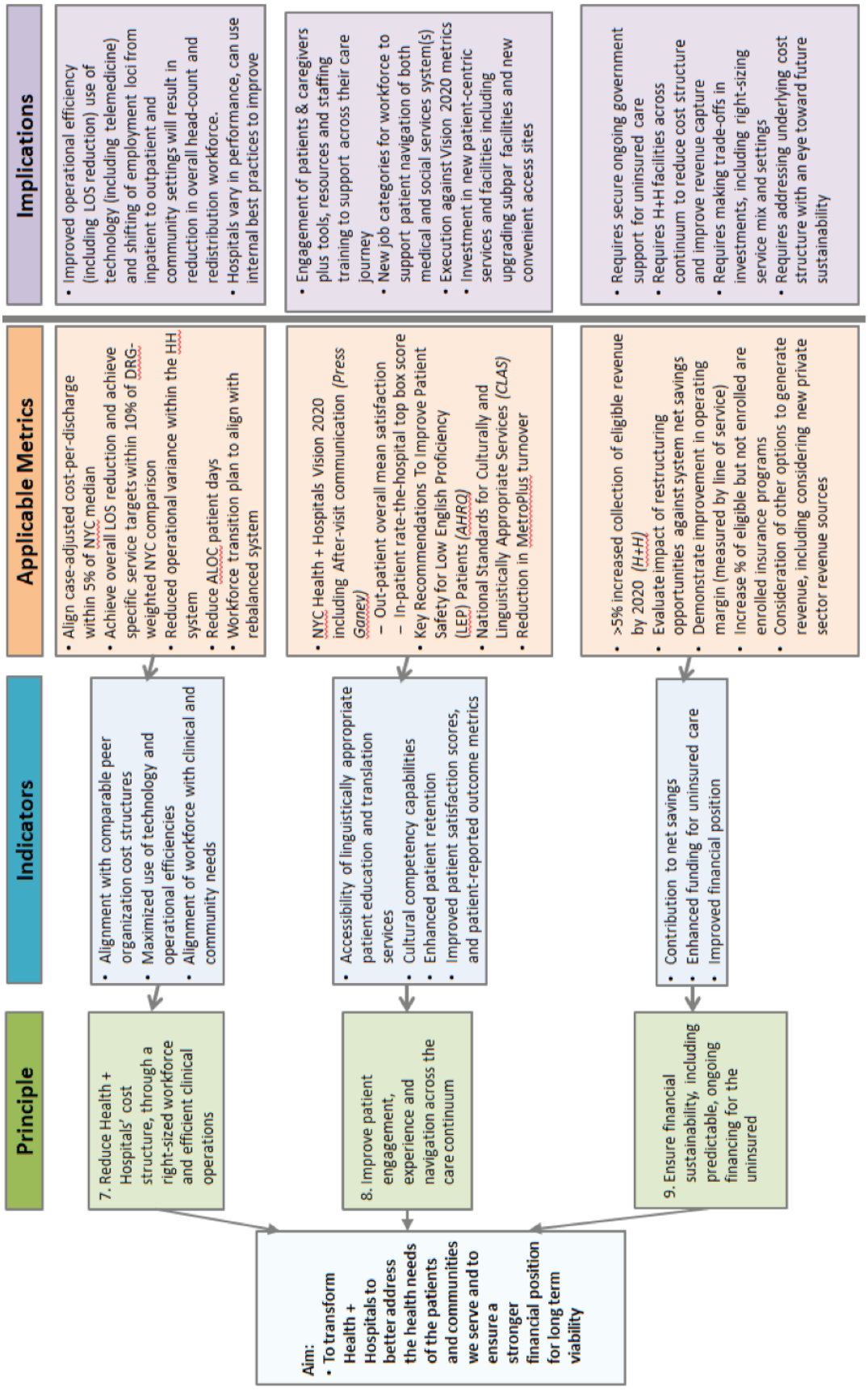

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