North Star Measures for Tracking the Opioid Epidemic and Accelerating the Response on Staten Island

Final Report

January 2019

Introduction

Overdose has become the leading cause of death in the nation, with over 70,000 lives lost to overdose in 2017.[1] New York City has been greatly affected by this epidemic: In 2017, there were 1,487 fatal overdoses in New York City, 82% of which involved an opioid..[2] Staten Island is among the boroughs hardest hit by the opioid crisis: In 2017, 101 Staten Island residents died of overdose with the second highest rate among boroughs.[2]

Emergency care and hospital visits related to overdose and other opioid harms are also at high levels in the borough.[3] An earlier phase of Staten Island's opioid related harms was driven primarily by opioid analgesics: From 2005 to 2011, the rate of overdose from opioid analgesics increased by 257% in Staten Island. And while public health efforts led to a reduction in deaths from opioid analgesics,[4] such deaths still persist, and heroin and fentanyl are now implicated in the majority of opioid related death on Staten Island.

Leaders and organizations across New York State, New York City and the borough of Staten Island have responded to this crisis by expanding efforts and interventions to save lives and connect persons to needed services and care. Governor Andrew Cuomo announced, at the State of the State address, that the state's investment in combatting the opioid epidemic has totaled $1.5 billion over 9 years. The state's Heroin and Opioid Task Force guides the allocation of those resources. At the recommendation of the Task Force, New York has expanded the availability of overdose prevention programs and practices—and requires data collection efforts to monitor opioid use and related problems across the state.[5] At a local level, in early 2016, New York City Mayor de Blasio's Office convened an opioid task force chaired by then-Commissioner Mary Bassett and Borough President Oddo. Subsequently, Mayor de Blasio established Healing NYC in 2017, focused on aggressively preventing opioid overdose deaths and related harms across New York City. This initiative has involved collaborative efforts by the Department of Health and Mental Hygiene (DOHMH), the New York Police Department (NYPD), and a range of other city agencies and organizations. In March 2018, New York City

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[1] Centers for Disease Control and Prevention. Drug Overdose Deaths in the United States, 1999-2017. November 2018. https://www.cdc.gov/nchs/products/databriefs/db329.htm

[2] New York City Department of Health and Mental Hygiene. Unintentional Drug Poisoning (Overdose) Deaths in New York City, 2000 to 2017. Epi Data Brief, No. 104. September 2018.

[3] Staten Island Performing Provider System (2018). *ED Visits.* Staten Island Drug Prevention Portal. Retrieved February 25, 2018 from: http://www.sidrugprevention.org/see-the-data/ed-visits-related-to/

[4] Paone, D., Tuazon, E., Kattan, J., Nolan, M. L., O'Brien, D. B., Dowell, D., ... & Kunins, H. V. (2015). Decrease in rate of opioid analgesic overdose deaths-Staten Island, New York City, 2011-2013. *MMWR. Morbidity and mortality weekly report*, *64*(18), 491-494.

[5] New York State Gov. (2016). Governor Cuomo Signs Legislation to Combat the Heroin and Opioid Crisis. https://www.governor.ny.gov/news/governor-cuomo-signs-legislation-combat-heroin-and-opioid-crisis

announced the program would receive additional funding to expand its reach and promote high impact programs to tackle the opioid epidemic.[6]

On Staten Island, the office of the District Attorney, the Police Department, the Staten Island Partnership for Community Wellness and the Staten Island Performing Provider System have launched concerted efforts to monitor opioid related harms, divert persons from unnecessary criminal justice involvement, and connect persons to needed services and treatment. These efforts have been strengthened by organizations working on the ground to prevent opioid related harms, such as the Staten Island Tackling Youth Substance Abuse coalition, the Community Health Action of Staten Island, the YMCA, and the and the rest of the borough's dedicated treatment providers. Simultaneously, new efforts by the primary hospital networks -- Staten Island University Hospital and Richmond University Medical Centers -- as well as by other providers and health organizations in Staten Island, have played a critical role in responding to the crisis and assisting families in need.

These efforts are beginning to show results. Data from DOHMH indicates that there was more than a 10% a reduction in overdose deaths on Staten Island in 2017 as compared to 2016.[2]

Developing a Data Strategy for Staten Island

To accelerate progress in response to the opioid epidemic, the Office of the Staten Island Borough President launched an effort to identify a core set of "North Star" measures to guide and align response efforts across Staten Island. The initiative has proceeded in three phases:

Phase 1: Public Comment. The first phase involved a 30-day public comment period, in which members of the public were asked to provide input on the measures they believed were most essential to tracking progress and planning efforts to address the opioid crisis. Nearly 100 public responses were received, and this phase allowed the report to take into account the priorities of residents of Staten Island, and learn from lived experiences in the community to understand current needs and gaps to be addressed.

Phase 2: Convening of Partners Working to Address Opioid Related Harms. The second phase involved the convening of multiple public agencies, organizations, and expert groups who already lead efforts to track and address opioid related harms on Staten Island. Given the impressive work that is taking place by multiple actors working on this front, this phase sought to collect and congregate information on the types of data that are being collected and that can become centralized to help coordinate a borough-wide effort to monitor needs and guide future directions.

Phase 3: An Opioid Data Working Group. The third phase involved consultation with nationally renowned experts on data strategies and best practices to address opioid related harms. This group helped gather final recommendations for the data strategy based on review of public

[6] The City of New York Office of the Mayor (2017). Healing NYC Report. http://www1.nyc.gov/assets/home/downloads/pdf/reports/2017/HealingNYC-Report.pdf

input, information from partners about the available data and efforts already taking place on Staten Island, and scientific evidence about what is known to be most effective at preventing and addressing opioid related morbidity and mortality.

The Opioid Data Working Group included:

- Anthony C. Ferreri, DBA (Chair). Dr. Ferreri is the former CEO of Staten Island University Hospital and served as Senior Advisor to the Borough President when this process began.
- Chinazo O. Cunningham, M.D., M.S. Dr. Cunningham is Professor and Associate Chief of General Internal Medicine at the Albert Einstein College of Medicine.
- Marc N. Gourevitch, MD, MPH. Dr. Gourevitch is Professor and Chair of the Department of Population Health at the NYU School of Medicine.
- Jonathan Morgenstern, PhD. Dr. Morgenstern is Assistant Vice President for Addiction Services at Northwell Health and Professor of Psychiatry at the Donald and Barbara Zucker School of Medicine.
- Nora Santiago, M.S. Ms. Santiago is Urban Policy Analyst and GIS Specialist at CUNY College of Staten Island.

The working group also consulted with Dr. Joseph Conte and other staff of the Staten Island Performing Provider System, with members of the Office of the District Attorney Michael McMahon, with President Michael Dowling and Senior Vice President Dr. Ram Raju of Northwell Health, and with Drs. Hillary Kunins and Denise Paone of the DOHMH. The working group received additional input and assistance from the New York State Department of Health and the New York State Office of Alcoholism and Substance Abuse Services (OASAS). The group received technical assistance from Noa Krawczyk, Dr. Joshua Sharfstein, and Dr. Amanda Latimore of the Bloomberg American Health Initiative at the Johns Hopkins Bloomberg School of Public Health.

The Office of the Borough President released the working group's draft report for public comment at the end of May 2018. After several additional comments were received and reviewed, the working group finalized this report, with recommendations for a core set of 15 measures.

The Office of the Borough President is deeply appreciative of the strong engagement in the process of developing this report by so many committed individuals and organizations on Staten Island.

Draft Recommendations for A Core Set of Measures

Through review of evidence, public comment, and dialogue with engaged individuals across the borough of Staten Island, the Opioid Data Working Group is recommending a specific set of "North Star" measures to accelerate progress on the opioid epidemic. For each measure,

this report provides background on why it was chosen, the specifics of the measure and the data source, and potential opportunities for future monitoring efforts and actions that can drive improvement. Of note, these measures apply to all Staten Island residents, regardless of source of payment.

I. Monitoring the Epidemic

"Real time data can be used to identify risks."

-Public Comment, Staten Island

Staying on top of the opioid epidemic requires meaningful, timely, and geographically specific data. Key measures can provide a shared understanding of whether the situation is improving or deteriorating, help identify areas of greater need for intervention, and create urgency for action.

Because of the unprecedented loss of life that has been driven by the opioid epidemic, the working group recommends **the number of fatal drug overdoses related to opioids** as the first core measure. The most timely data on overdose deaths is regularly collected by the Staten Island Office of the District Attorney from the NYPD and other sources. These data provide only a preliminary estimate of overdose deaths; all cases are later reviewed and confirmed by the Office of Chief Medical Examiner of the City of New York. Official data on the number of overdose deaths and the substances involved are available from DOHMH three months following the end of each quarter.

Measure 1	Number of fatal drug overdoses related to opioids
Source	Office of the District Attorney (preliminary data) DOHMH (confirmed data)
Presentation	Weekly table and map for preliminary data on overdose deaths, definitive table three months after each quarter (with summary of substances involved in overdoses as available)

Another core measure that the working group recommends as key to surveillance of opioid related harms on Staten Island are the **number of non-fatal drug overdoses related to opioids** that are addressed by first responders and Emergency Departments. Tracking the extent and location of suspected non-fatal opioid overdoses can yield important information about areas of high opioid use on Staten Island and risk of death among residents and lead to interventions such as targeted naloxone distribution. It can also shed light on the effectiveness of campaigns to make naloxone more accessible to first responders and members of the public.[7] All nonfatal overdoses known to NYPD are reported to the Office of the District Attorney on Staten Island each week.

[7] NYC Health. "I Saved a Life Awareness Campaign" https://www1.nyc.gov/assets/doh/downloads/pdf/basas/opioid-naloxone-subway-square.pdf

Measure 2	Number of identified non-fatal drug overdoses related to opioids
Source	Office of the District Attorney
Presentation	Weekly table and map

Existing data collection efforts will likely capture a large portion of non-fatal overdoses on Staten Island, and efforts to accurately track this measure can be improved by encouraging the RUMC and SIUH hospital systems to contribute information about non-fatal overdoses seen in Emergency Departments to a targeted surveillance system.

II. Prevention

"Impacting social norms, prevention education and community responsibility is critical."

-Public Comment, Staten Island

Preventing initial risky substance use and the development and progression of opioid use disorder are key to addressing the opioid epidemic in the long term. Prevention efforts can be implemented across various settings in order to comprehensively address multiple pathways that could lead to opioid related harms.

A. Youth Prevention

One important area of prevention involves the promotion of substance use educational programs for youth. Adolescence and young adulthood is a critical time for brain development and the formation of habits and decision-making processes.[8] Thus, programs and activities that promote healthy behaviors, positive coping strategies and safe and informed decision-making may go a long way to improve well-being overall and prevent risk behaviors related to substance use.[9] There are also evidence-based interventions in early school years, that are associated with positive behavioral outcomes and school success.[10] The New York State Office of Alcoholism and Substance Abuse Services (OASAS) certifies curricula for youth as evidence-based.[11]

[8] Lubman, D. I., Yücel, M., & Hall, W. D. (2007). Substance use and the adolescent brain: A toxic combination? *Journal of Psychopharmacology*, *21*(8), 792-794.

[9] Kim, B. E., Gloppen, K. M., Rhew, I. C., Oesterle, S., & Hawkins, J. D. (2015). Effects of the Communities That Care prevention system on youth reports of protective factors. *Prevention Science*, *16*(5), 652-662.

[10] Embry, D. D. (2002). The Good Behavior Game: A best practice candidate as a universal behavioral vaccine. *Clinical child and family psychology review*, *5*(4), 273-297.

[11] OASAS. Registry of Evidence-based Programs for Prevention. https://www.oasas.ny.gov/prevention/evidence/EBPSList.cfm

The working group recommends a measure that tracks the **proportion of schools on Staten Island that offer evidence-based substance use prevention programs,** based on the determination by OASAS. In addition, as noted by a public comment, it is important to include the number of "students within the school building that actually receive the programming." The Tackling Youth Substance Abuse (TYSA) coalition, which actively tracks the delivery of substance use prevention programs across Staten Island, can take the lead in working with OASAS and reporting these data on an annual basis.

Measure 3	Proportion of schools on Staten Island offering evidence-based substance use prevention programs
Source	TYSA OASAS
Presentation	Annual listing of schools and evidence-based programs, including the number of youth reached by school programs

The working group also recommends that the TYSA coalition identify an additional set of measures to guide youth prevention efforts. Such measures could include substance use risk behaviors and perceptions about drug use, based on local surveys, as well as measures of academic achievement, such as chronic absenteeism and graduation rates. In public comments, a number of potential measures have been suggested, from perception of peer disapproval of heroin use to school attendance. The coalition might also consider including a measure of the participation of individuals in recovery in school-based assemblies. Such a set of prevention measures could help key partners track their progress over time.

B. Responsible Opioid Prescribing

Another key area of prevention that is critical to halting the course of opioid misuse and overdose on Staten Island is continuing to curb the inappropriate prescribing of opioids and other risky medications. Much of the current opioid crisis across the United States can be traced to sharp increases in opioid prescribing over the past two decades.[12] Misperceptions about these substances—including underestimation of risks and overestimation of their long-term effectiveness for treating pain—led to large increases in prescribing across the U.S.[13]

In reviewing the many possible approaches to measuring opioid prescribing, the working group focused on two important pieces of evidence:

[12] Kolodny, A., Courtwright, D. T., Hwang, C. S., Kreiner, P., Eadie, J. L., Clark, T. W., & Alexander, G. C. (2015). The prescription opioid and heroin crisis: a public health approach to an epidemic of addiction. *Annual review of public health*, *36*, 559-574.

[13] Laxmaiah Manchikanti, M. D., Standiford Helm, I. I., MA, J. W. J., PhD, V. P., MSc, J. S. G., & DO, P. (2012). Opioid epidemic in the United States. *Pain physician*, *15*, 2150-1149.

- The risk of addiction increases with longer initial prescriptions of opioids.
- There is an increased risk of death as the opioid dose increases, with highest risk among those prescribed over 90 morphine milligram equivalents per day.[14]

In addition, the New York City Department of Health and Mental Hygiene recommends that for acute pain, "a 3-day supply [of opioids] is sufficient; do not prescribe more than a 7-day supply."[15]

Based on these findings, the working group recommends tracking **the proportion of first opioid prescriptions for the treatment of pain provided to Staten Island patients that are more than 3 days and more than 7 days** as well as the **proportion of individuals on Staten Island given a prescription for the treatment of pain of more than 90 morphine milligram equivalents per day**.[16] The purpose of tracking these measures is to assess progress in reducing risky opioid prescribing over time. In the case of the 90 morphine milligram equivalent measure, the working group emphasizes that it may be unnecessary and potentially ill-advised for providers to reduce dosages for longstanding patients, including patients with cancer and in palliative care. The purpose of tracking these measures is to assess opioid prescriptions at the population level, not to determine care for specific patients. Both of these measures are available through the DOHMH, using state data from the state prescription monitoring program.

Measure 4	Of all new patients treated with opioids for pain, the proportion given a prescription for more than 3 days and the proportion given a prescription for more than 7 days
Source	DOHMH, data from New York State prescription monitoring program
Presentation	Report, twice a year

Measure 5	Of all patients treated with opioids for pain, the proportion given a prescription for more than 90 morphine milligram equivalents per day
Source	DOHMH, data from New York State prescription monitoring program
Presentation	Report, twice a year

[14] Dowell, D., Haegerich, T. M., & Chou, R. (2016). CDC guideline for prescribing opioids for chronic pain—United States, 2016. *Jama*, *315*(15), 1624-1645.

[15] Paone, D., Dowell, D., & Heller, D. (2011). Preventing misuse of prescription opioid drugs. *City Health Information*, *30*(4), 23-30. https://www1.nyc.gov/assets/doh/downloads/pdf/chi/chi30-4.pdf

[16] Miller, M., Barber, C. W., Leatherman, S., Fonda, J., Hermos, J. A., Cho, K., & Gagnon, D. R. (2015). Prescription opioid duration of action and the risk of unintentional overdose among patients receiving opioid therapy. *JAMA internal medicine*, *175*(4), 608-615.

Another class of controlled medications that have been linked to many opioid related harms and deaths are benzodiazepines. These medications have respiratory depressive properties that can lead to risk of overdose, especially when combined with opioid medications. [17] In 2016, Staten Island had the highest rate of benzodiazepine prescriptions of all boroughs in NYC at nearly 300 prescriptions per 1,000 residents.[18] Some of these co-prescriptions are from the same clinician; others occur when multiple clinicians prescribe medications to the same patient. Because the concurrent use of these medications is generally not recommended, the expert group recommends measuring **rate of co-prescriptions of opioids and benzodiazepines among residents in Staten Island.** These data are available through the DOHMH, using data from the state prescription monitoring program. Highlighting this measure will encourage greater use of the prescription monitoring program and better coordination of care. Of note, FDA recommends that benzodiazepine use should not be a reason not to prescribe medication-assisted treatment.[19]

Measure 6	Rate of co-prescribing of opioids and benzodiazepines among residents in Staten Island
Source	DOHMH, data from New York State prescription monitoring program
Presentation	Report, twice a year

There are two additional points to note. First, there are some patients who do require initial opioid prescriptions of more than 3 days, others who require opioids of greater than 90 morphine milligram equivalents, and others who may, in rare circumstances, need both benzodiazepines and opioids. The purpose of the above measures is to track the substantial progress that needs to be made, but not to demand that physicians treat all patients the same way.

Second, health systems across Staten Island, including both hospital systems as well as smaller organizations of providers, can help support this effort to ensure appropriate use of these medications by establishing protocols for safe prescribing and monitoring adherence to these standards with a quality improvement process.

III. Reversal

"The most important challenge is to save lives."

-Public Comment, Staten Island

[17] Jones, C. M., & McAninch, J. K. (2015). Emergency department visits and overdose deaths from combined use of opioids and benzodiazepines. *American journal of preventive medicine*, *49*(4), 493-501.

[18] NYC Health. Epi Data Brief June 2016, No. 72: Benzodiazepines in NYC. https://www1.nyc.gov/assets/doh/downloads/pdf/epi/databrief72.pdf

[19] U.S. Food and Drug Administration. FDA Drug Safety Communication: FDA urges caution about withholding opioid addiction medications from patients taking benzodiazepines or CNS depressants: careful medication management can reduce risks. 20 September 2017. Accessed May 21, 2018 at https://www.fda.gov/Drugs/DrugSafety/ucm575307.htm.

Naloxone, an antagonist that blocks opioid receptors in the brain and can be administered to reverse opioid overdose, plays a critical role in saving lives. Communities that have made naloxone readily available and have trained persons to use it have been successful at saving many lives from opioid overdose.[20]

New York State, New York City, and the Borough of Staten Island, in particular, have already embarked on impressive efforts to make naloxone available to the community through organizing trainings for naloxone use and supplying naloxone kits via registered opioid overdose prevention programs, as well as through a standing order to make naloxone available without a prescription at all NYC pharmacies.[21]

To monitor the reach of these efforts, it is important to track the extent, locations and settings through which naloxone is being made available on Staten Island. This is especially critical to assure policy efforts on this front are being translated effectively into practice. Therefore, the working group recommends a measure to track the **number of naloxone kits dispensed to residents on Staten Island** (beyond those distributed to first responders). To assess the reach of these efforts and any gaps in accessibility to naloxone, this information can be aggregated by zipcode of persons to whom naloxone was dispensed as well as the type of setting where it was received (e.g., community-based organization, pharmacy). The proposed data related to naloxone kits dispensed is already being collected by DOHMH and includes information on any kits that were dispensed at any certified opioid prevention programs or qualified pharmacies across the borough.

Measure 7	Number of naloxone kits dispensed to residents on Staten Island
Source	DOHMH
Presentation	Quarterly report aggregated by setting where naloxone dispensed and residential zip code of those who received a kit

Information provided by DOHMH should be further supplemented by data that is collected by the Staten Island PPS on naloxone dispensing by partners in their networks and other organizations in the community that may not be captured by DOHMH monitoring efforts. Over time, it would be helpful to add more specific geographic data on the distribution of naloxone, in order to be able to map distribution against need in Staten Island.

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[20] Walley, A. Y., Xuan, Z., Hackman, H. H., Quinn, E., Doe-Simkins, M., Sorensen-Alawad, A., ... & Ozonoff, A. (2013). Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis. *British Medical Journal*, *346*, f174.

[21] NYC Health. Naloxone. http://www1.nyc.gov/site/doh/health/health-topics/naloxone.page. Overdose prevention efforts in Staten Island include programs at Staten Island University Hospital, Richmond University Medical Center, South Beach Psychiatric Center, and Community Health Action of Staten Island.

IV. Treatment

"It is important to monitor the number of people that accept and begin treatment when they have a new episode of opioid use disorder. Historically, a high proportion of people with substance use disorders are not willing to seek or accept treatment. This measure will enable the community to understand the trend in the number people getting treatment, the impact of efforts to engage more individuals to initiate treatment, as well as the opportunity to explore any gaps in services or resources to better engage more people in treatment."

- Public Comment, Staten Island

"Patients need access in the emergency rooms to these medications when they are ready to begin their path to recovery."

-Public Comment, Staten Island

According to a recent report from the U.S. Department of Health and Human Services, "addiction is a chronic treatable illness" that "often requires continuing care for effective treatment rather than an episodic…treatment approach."[22] In addition to counseling and social support, and residential care when necessary, experts recommend that medications such as methadone, buprenorphine, and depot naltrexone be offered to patients. "Ongoing medication treatment for [opioid use disorder] is linked to better retention and outcomes than treatment without medications." These outcomes, for methadone and buprenorphine, include substantially reduced overdose mortality,[23] less infectious disease,[24] and less criminal activity.[25]

By contrast, "detox"—otherwise known as medical withdrawal—does not offer the same benefits as treatment that includes medications. In a recent funding announcement, the Substance Abuse and Mental Health Services Administration of the Department of Health and Human Services stated, "Medical withdrawal (detoxification) is not the standard of care for opioid use

[22] Substance Abuse Mental Health Services Administration. Medications for Opioid Use Disorder: for healthcare and addiction professionals, policymakers, patients, and families. Treatment Improvement Protocol (TIP) 63. 18 February 2018. Accessed April 29, 2018 online at https://store.samhsa.gov/product/SMA18-5063FULLDOC.

[23] Sordo L, Barrio G, Bravo MJ, Indave BI, Degenhardt L, Wiessing L, Ferri M, Pastor-Barriuso R. Mortality risk during and after opioid substitution treatment: systematic review and meta-analysis of cohort studies. BMJ. 2017 Apr 26;357:j1550.

[24] Connery, H. S. (2015). Medication-assisted treatment of opioid use disorder: review of the evidence and future directions. *Harvard Review of Psychiatry*, *23*(2), 63–75.

[25] Vorma, H., Sokero, P., Aaltonen, M., Turtiainen, S., Hughes, L. A., & Savolainen, J. (2013). Participation in opioid substitution treatment reduces the rate of criminal convictions: Evidence from a community study. *Addictive Behaviors*, *38*(7), 2313–2316.

disorder, is associated with a very high relapse rate, and significantly increases an individual's risk for opioid overdose and death if opioid use is resumed."[26]

Unfortunately, access to care for opioid use disorder, in Staten Island and elsewhere, is limited. Key opportunities for short-term progress include:

- Expanding the number of physicians and nurse practitioners willing and able to prescribe buprenorphine for ongoing treatment
- Improving access to buprenorphine treatment at critical moments, including in the Emergency Department, hospital ward, and harm reduction programs
- Effectively transitioning new patients to stable medication-assisted treatment on an outpatient or residential basis

There is evidence that progress in these areas is quite possible. Staten Island has had the highest rate of total and new buprenorphine patients among boroughs in New York City.[27] Pilot programs at Richmond University Medical Center and Staten Island University Hospital have already started engaging individuals in buprenorphine treatment in the Emergency Department. For these reasons, the working group recommends tracking **the number of patients receiving buprenorphine or methadone** for addiction treatment on an ongoing basis (whether through community physicians or opioid treatment programs), and **the number of healthcare providers who are prescribing buprenorphine for at least 30 days to at least 5 patients**, as fundamental metrics of access to evidence-based treatment. If there is a source of information on use of depot naltrexone provided on an outpatient basis, this could be tracked along with buprenorphine in Measure 8 below. Tracking all patients in OASAS-funded or licensed treatment provides a birds-eye view of specialty addiction treatment as well as perspective on the number of patients receiving medication-assisted treatment.

Measure 8	Number of patients receiving buprenorphine by prescription for addiction treatment for at least 30 days
Source	DOHMH, Data from New York State prescription monitoring program
Presentation	Quarterly, with one quarter lag

[26] The guidance states that medical withdrawal is only appropriate when followed by injectable extended-release naltrexone. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. Funding Opportunity Announcement No. TI-18-105. June 2018.

[27] NYC Health. Epi Data Brief No. 96: November 2017
http://www1.nyc.gov/assets/doh/downloads/pdf/epi/databrief96.pdf

Measure 9	Number of physicians, nurse practitioners, and physician assistants who have prescribed buprenorphine for at least 30 days to at least 5 patients in the quarter
Source	DOHMH, from the New York State prescription monitoring program
Presentation	Twice yearly, with one quarter lag

Measure 10	Census of patients with opioid use disorder in different levels of addiction treatment programs—licensed, funded or operated by OASAS—for at least 30 days. This will include the number of patients in Opioid Treatment Programs receiving methadone or buprenorphine.
Source	OASAS
Presentation	Quarterly

In addition, as noted by the Staten Island Performing Provider System, the number of new treatment starts with effective transitions into care is critical. Therefore, another promising metric is **the number of individuals started on buprenorphine treatment in the Emergency Department or hospital ward and successfully engaged in treatment at 30 days**. As the borough's hospitals establish these programs, tracking this pathway will be an important opportunity to assess long-term success in linking persons to life-saving treatment. The Performing Provider System can help establish a protocol for tracking this measure, and it may be possible for OASAS to provide information to help support this metric.

Measure 11	Of the number of patients started on treatment with buprenorphine in the Emergency Department and hospital ward (denominator), the number engaged in treatment 30 days later (numerator). Report both numerator and denominator.
Source	Hospitals on Staten Island, OASAS
Presentation	Monthly with one month lag

Success on these metrics will require continued scale-up of access to medication-assisted treatment across Staten Island, with a focus on transition into and retention in care. Peers, social services, access to residential treatment when indicated, and other supports will be needed to assist individuals during periods of transition. It will also be necessary to tackle bias against the

use of effective medications, such as methadone and buprenorphine,[28] for addiction treatment. Therefore, measuring such bias through questions on borough-wide surveys should be considered in the future. Another possible future measure to consider is the number of individuals receiving residential treatment off of Staten Island in programs that, contrary to recommendations, do not offer or allow patients to use medications for opioid use disorder.

V. Recovery

"It's important to build people up in their recovery so they are better prepared to deal with a relapse."

-Public Comment, Staten Island

In addition to measuring progress on availability and utilization of effective treatments for opioid use disorder, it is essential to assess the extent of recovery supports that are available to persons either already engaged in care or who are in need of greater support to access treatment and/or other services. Given the chronic and relapsing nature of substance use disorders, recovery is often a life-long process that requires continuous support from health professionals, family members, and often the larger community. Substance use disorders often co-occur with other mental health and medical conditions, as well as with economic and social hardships including housing instability and unemployment.[29] Addressing these social needs supports long-term recovery.

One recovery support strategy that has been promoted by the substance use treatment community for many years, is the integration of persons with lived experience, often referred to as peer recovery coaches, to help guide and assist persons throughout the process of recovery. Peer recovery coaches have been shown to be helpful in both engaging persons in initial care, in settings such as hospitals,[30] as well as in helping persons stay engaged in treatment and connected to health services.[31] As persons with substance use disorders are often highly stigmatized, peers may help restore a sense of community among persons that may have largely been estranged from their communities or disconnected from health systems. As stated by a commenter in the public survey, "People in crisis are more likely going to listen to someone with similar experiences."

[28] Some of the public comments objected to the use of methadone and buprenorphine for addiction treatment on Staten Island. The working group's position is based on a track record of much lower risk of overdose death and other adverse outcomes among individuals receiving this treatment.

[29] Galea, S., Nandi, A., & Vlahov, D. (2004). The social epidemiology of substance use. *Epidemiologic reviews*, *26*(1), 36-52.

[30] Tracy, K., Burton, M., Nich, C., & Rounsaville, B. (2011). Utilizing peer mentorship to engage high recidivism substance-abusing patients in treatment. *The American journal of drug and alcohol abuse*, *37*(6), 525-531.

[31] Reif, S., Braude, L., Lyman, D. R., Dougherty, R. H., Daniels, A. S., Ghose, S. S., ... & Delphin-Rittmon, M. E. (2014). Peer recovery support for individuals with substance use disorders: Assessing the evidence. *Psychiatric Services*, *65*(7), 853-861.

Given the potential benefit of peers across the spectrum of treatment and recovery, the expert group recommends a measure to track the **number of certified peers working on Staten Island**. Currently, there are efforts on Staten Island to train and certify peer recovery coaches. In addition, peers are involved in emergency department programs, law enforcement diversion programs, and other locations on Staten Island. However, there is no central effort to track the number of certified peers actively working on Staten Island, or the number of programs that are incorporating peers into routine care. Such an effort may allow for improved measurement of progress in this area.

Measure 12	Number of certified peers working on Staten Island
Source	SIPCW/SI-PPS, OASAS
Presentation	Quarterly report

In written comments and at meetings with the working group, multiple commenters noted that safe and affordable housing is vital to combatting the opioid crisis in Staten Island. Indeed, as a basic human need, stable housing can make recovery possible.[32]

Given the large interest in tracking availability of housing programs, the working group recommends a measure to track the **number of OASAS-funded supportive housing units available on Staten Island.** These data, available from New York State, will allow for assessing the need and availability of programs that receive certification and meet evidence-based standards. [33]

Measure 13	Number of OASAS-funded supportive housing units by zip code
Source	OASAS
Presentation	Annual report

This total, unfortunately, is likely to be a small number. The working group therefore recommends that coalitions of providers and organizations in the substance use recovery community, such as TYSA, help complement efforts to understand the true extent of the availability and nature of existing housing programs and develop additional measures of

[32] Padgett, D. K., Stanhope, V., Henwood, B. F., & Stefancic, A. (2011). Substance use outcomes among homeless clients with serious mental illness: comparing housing first with treatment first programs. *Community Mental Health Journal*, *47*(2), 227-232.

[33] Hettema, J. E., & Sorensen, J. L. (2009). Access to care for methadone maintenance patients in the United States. *International Journal of Mental Health and Addiction*, *7*(3), 468–474.

progress. These might include the amount of funding to support critical housing efforts, and an assessment of the level of demand for housing, for example, by tracking waitlists.

VI. Law Enforcement Diversion

"We need to get those who are addicted help not jail time."

-Public Comment, Staten Island

For many years, substance use and addiction was largely viewed by society and authorities as a criminal justice issue: Illicit drug use was to be treated through punitive measures that aimed to deter people from substance misuse. However, greater understanding about addiction as a chronic brain disease, as well as growing evidence about the utility of treatment over punishment in reducing crime and substance use related harms,[34] have led to growing support for initiatives that aim to divert persons with substance use disorders from the criminal justice system into treatment. Indeed, many programs such a Law Enforcement Assisted Diversion, developed in Seattle and adopted in cities across the country, have shown to be successful at reducing substance use related harms and connecting persons in need with necessary services.[35]

Given the increasing rates of opioid use on Staten Island and the frequent criminal justice involvement of persons with addiction due to possession of illicit substances, the Office of the District Attorney has implemented an innovative program to divert persons with low-level drug offenses from arrest into support services. The Heroin Overdose Prevention & Education, or "HOPE" program, works in conjunction with recovery centers on Staten Island to execute individualized needs assessments and connect persons to needed recovery services.[36] This program has already begun to show success in connecting persons with services and avoiding future criminal justice involvement. Given the initial success of this program and efforts to expand this program both in Staten Island and other boroughs in NYC, the expert group recommends a measure of **the number of persons who participate in the HOPE program who are engaged in services after 30 days.** This data is continuously collected by the Office of the District Attorney and can be aggregated and made available on a quarterly basis. This can be presented with data from other law enforcement diversion programs.[37] As HOPE is working to

[34] Chandler, R. K., Fletcher, B. W., & Volkow, N. D. (2009). Treating drug abuse and addiction in the criminal justice system: improving public health and safety. *Journal of the American Medical Association*, *301*(2), 183-190.

[35] Clifasefi, S. L., Lonczak, H. S., & Collins, S. E. (2017). Seattle's Law Enforcement Assisted Diversion (LEAD) Program: Within-Subjects Changes on Housing, Employment, and Income/Benefits Outcomes and Associations With Recidivism. *Crime & Delinquency*, *63*(4), 429-445.

[36] Office of the District Attorney Richmond County. Press Release: Hope Program https://statenislandda.org/wp-content/uploads/2018/04/Heroin-Overdose-Prevention-Education-%E2%80%9CHOPE%E2%80%9D-Program.pdf

[37] See, for example, TASC https://eac-network.org/staten-island-tasc-mental-health diversion/ and Drug Treatments Alternatives to Prison (DTAP) https://www.oasas.ny.gov/cj/alternatives/dtap.cfm.

expand their diversion programs to include a greater number of persons who have justice involvement, this number should rise over time.

Measure 14	The number of persons in the HOPE program, Staten Island Drug Court, and other law enforcement directed diversion programs, and separately those who engage in treatment and other services after the completion of court-mandated involvement
Source	Office of the District Attorney, with assistance from recovery centers
Presentation	Monthly report

The goals of diversion programs are not just fewer charges and convictions, but also fewer arrests and less crime. An important attribute of the HOPE program is that individuals in Staten Island do not need to be arrested to access the services of recovery centers. Indeed, the more people can access care and receive help for their addiction without an arrest, the fewer will likely be arrested in the first place. Therefore, the expert group recommends tracking the **number of engagements at recovery centers for services of different kinds, as well as the number of referrals made by recovery centers to evidence-based treatment, and the number of these who are actively engaged in treatment after 30 days**. This measure will focus attention on a critical access point to care.

Measure 15	Of the number of people who receive services at recovery centers, the number of individuals referred by recovery centers to evidence-based treatment (denominator), and the number who are actively engaged in treatment after 30 days (numerator). Report all three numbers.
Source	Substance Use Disorder Resource Centers
Presentation	Monthly report

Next Steps

The Office of the Borough President has been working closely with New York State and the Performing Provider System, in coordination with the NYC Department of Health and Mental Hygiene, local coalitions, local hospitals and physicians, and others, to stand up a data dashboard with the recommended measures. It is recognized that data for some of these measures is not currently available, and others will require special calculation by city and state agencies for Staten Island. Over time, as these measures do become available, Staten Island will be better able to align and advance critical initiatives to fight the opioid epidemic.