



Take the Pressure Off, NYC!

INAUGURAL PLAN

NYC's First Citywide High Blood Pressure Initiative





Executive Summary

More than one in four New Yorkers report having hypertension, also known as high blood pressure, and many do not know they have it.

High blood pressure is a key contributor to heart disease and stroke, two conditions that make up more than one in five premature deaths among adults in NYC.^A In addition to early death, uncontrolled high blood pressure can lead to many health complications, including kidney disease, sexual dysfunction and vision loss.¹ Despite gains in other chronic disease-related areas — such as reductions in smoking rate — high blood pressure prevalence and control rates have stayed the same.^{B,C}

Common risk factors that cause high blood pressure, such as poor diet, inadequate physical activity and excess alcohol use, are influenced by the conditions in which people are born, live, learn, work, play and age. While all New Yorkers are at high risk for high blood pressure, certain populations are more heavily impacted, including Black and Latino New Yorkers and those in high-poverty neighborhoods.^B These populations bear a disproportionate burden of disease due to conditions caused by unjust social and structural systems. Underresourced and low-income neighborhoods may have environments that create unhealthy conditions, such as limited access to healthy foods and safe opportunities for physical activity, further increasing risk for high blood pressure. As a result, many New Yorkers are on an accelerated trajectory toward poor health.

High blood pressure also places an avoidable and substantial strain on the health care system. High blood pressure costs the United States \$53 billion each year in health care services, medications and missed days of work.² In 2014 alone, New Yorkers spent half a million days in the hospital due to high blood pressure, heart disease and stroke.^D

All New Yorkers, including institutions and organizations, must work together to effectively address high blood pressure and its related inequities. Toward this end, the NYC Health Department launched the first citywide, multisector high blood pressure initiative, Take the Pressure Off, NYC! (TPO, NYC!). This initiative brings together a coalition of more than 100 stakeholders from faith- and community-based organizations, employers, health care systems, pharmacies, organized labor, health insurance payers, government and many other sectors. The coalition's recommendations outlined in Pages 28–34 of this report lay the foundation for NYC's first coordinated response to high blood pressure, and focus on collaborating in three key areas:

- Raising New Yorkers' awareness of high blood pressure, understanding of the disease and individual risk
- Creating environments that promote heart-healthy behaviors
- Supporting treatment adherence, including medication and health behavior modification

TPO, NYC! Coalition members will advance these recommendations with a unified vision of reducing premature mortality from heart disease and stroke, while eliminating persistent health inequities.

The Citywide, Collaborative Plan to Take the Pressure Off, NYC!



Vision

Reduce premature mortality from heart disease and stroke, and eliminate related health inequities.



Mission

New Yorkers across all communities will come together to prevent and control high blood pressure.



Objective

Reduce raised blood pressure^E in NYC by 15% by 2022.

The vision, mission and objective will be advanced through three key areas and two intersecting work streams:

Key Areas:

- 1) High blood pressure awareness
- 2) Heart-healthy behaviors
- 3) Treatment adherence

Intersecting Work Streams:

- 4) Strategic payer initiative
- 5) Monitoring and metrics group

1. High Blood Pressure Awareness

Vision for Key Area

All New Yorkers will know and understand their blood pressure numbers, why high blood pressure is dangerous and how to get care for high blood pressure.

Strategies

1. Increase awareness among New Yorkers about why blood pressure matters and what to do about raised blood pressure numbers.
2. Empower New Yorkers to check their blood pressure and know their numbers.
3. Empower New Yorkers with high blood pressure to seek care.

Initial Activities	Sectors	Strategies
Coalition members will use existing internal and external communication channels to widely distribute high blood pressure messaging.	City agencies • Community-based organizations • Faith-based organizations • Health care systems • Pharmacies	1, 2, 3
Coalition members will increase opportunities for New Yorkers to check their blood pressure in the community by placing free-to-use kiosks or providing free blood pressure checks in the community.	City agencies • Foundations • Pharmacies • Professional societies and associations	2, 3



2. Heart-Healthy Behaviors

Vision for Key Area

All New Yorkers will live, work, learn and play in environments where preventing and managing high blood pressure is the easy choice.

Strategies

1. Increase New Yorkers' knowledge of heart-healthy behaviors that can help prevent high blood pressure.
2. Increase availability and access to healthy foods and decrease access to unhealthy foods, such as those high in sodium and sugary drinks.
3. Increase access to services that support heart healthy behaviors (Figure 4) by strengthening community and clinical linkages.

Initial Activities	Sectors	Strategies
Coalition members will promote healthier workplace food environments, which can include adopting standards for food served at meetings, events, and other places, or sold in vending machines.	City agencies • Community-based organizations • Employers	1, 2
Coalition members will promote farmers markets and incentivize and prescribe fruits and vegetables through programs such as Health Bucks.	City agencies • Community-based organizations • Foundations • Health care systems	1, 2, 3
Coalition members will promote Dietary Approaches to Stop Hypertension (DASH) practices as part of other activities, including nutrition education, food access programming and guidance on modifying health behaviors.	City agencies • Community-based organizations • Foundations • Health care systems • Pharmacies	1, 2, 3



3. Treatment Adherence

Vision for Key Area

All New Yorkers will have the right treatment, at the right time, to achieve and maintain their goal of optimal blood pressure.

Strategies

1. Build and improve infrastructure to create equitable access to treatment, medications and adherence support.
2. Ensure that New Yorkers can choose heart healthy behavior services in their preferred setting.
3. Ensure that New Yorkers understand and engage in their treatment plan, and feel comfortable communicating with their providers.
4. Build the ability of health care teams to overcome barriers to treatment adherence.

Initial Activities	Sectors	Strategies
Coalition members in clinical and community environments will use tools and data to better promote medication adherence for patients (e.g., reminder aids, language comprehension rules).	Academic Institutions • City agencies • Community-based organizations • Faith-based organizations • Health care systems • Pharmacies • Professional societies and associations	1, 2, 3
Coalition members will promote self-management programs in the clinical and community settings (e.g., chronic disease self-management programs, heart healthy behavior program referrals).	Academic Institutions • City agencies • Community-based organizations • Faith-based organizations • Health care systems • Pharmacies • Professional societies and association	2, 3, 4
Coalition members will facilitate clinical and community partnerships that enable community-based education and counseling (e.g., connecting community-based organizations with medical schools to administer blood pressure checks at community sites, referrals from clinical offices to community organizations and vice versa).	Academic Institutions • City agencies • Community-based organizations • Faith-based organizations • Health care systems • Pharmacies • Professional societies and associations	1, 2, 3, 4
Coalition members will use a standardized clinical protocol that includes a process for diagnosis, treatment and referring of hypertension patients.	Academic institutions • City agencies • Health care systems • Professional societies and associations • Pharmacies	1, 3, 4
Coalition members will design and disseminate a protocol for hypertension management, based on the clinical protocol model, that can be used in the community, non-clinical setting.	Academic institutions • City agencies • Community-based organizations • Faith-based organizations • Health care systems • Pharmacies • Professional societies and associations	1, 4
Coalition members will target providers with best-practice education and training to facilitate provision of optimal treatment and support.	City agencies • Health care systems • Pharmacies	1, 4

4. Strategic Payer Initiative

Key Contribution

To complement the work around the three key areas for collaboration, stakeholders highlighted the need for cross-sector coordination to improve health insurance benefits (medications, interventions and services) for prevention and control of high blood pressure. Although nearly 90% of New Yorkers with high blood pressure have health insurance, local data suggests that there are still one-third of individuals without controlled blood pressure.^c For these reasons, the TPO, NYC! Coalition will continue to evaluate which health insurance-related barriers exist and how to work toward a redesign of health insurance benefits to improve access to health behavior resources and medications for New Yorkers with high blood pressure.

Three types of benefits were identified for targeted efforts, based on evidence-based research, clinical best practices and alignment with national and local initiatives. These three benefits include: coverage of fully automated home blood pressure monitors, health behavior modification services and medication formulary enhancements.* By having the ability to remove barriers to benefits, payers have an opportunity to play a key role in improving access to resources and ultimately reducing blood pressure prevalence and increasing control.

BRIEF GLOSSARY:

- **Health insurance benefits:** The health care items or services covered under a health insurance plan.²⁷
- **Formulary:** A list of prescription drugs covered by a prescription drug plan or another insurance plan offering prescription drug benefits. Also called a drug list.²⁷
- **Payer:** In health care, an entity that assumes the risk of paying for medical treatments. This can include self-insured employers, health plans, unions and government agencies.²⁸

Initial Activities

Sectors

Implement strategies to increase and standardize key benefit coverage across all payers.

City agencies • Employers • Health care systems • Insurance companies • Pharmacies • Unions • Community-based organizations

Implement efforts to educate patients and providers about insurance coverage of key benefits.

City agencies • Employers • Health care systems • Insurance companies • Pharmacies • Unions • Community-based organizations

Key Benefits*

Fully automated home blood pressure monitors without a prior authorization and no cost share.

Health behavior modification services:

- Counseling and programs within and outside the clinical setting to support heart healthy behaviors (Figure 4): disease self-management; maintaining a healthy diet; weight management and physical activity

Medication formulary enhancements:

- All classes of antihypertension medications in no- or low-copay tiers
- Ninety-day supply of high blood pressure medications with at least one refill
- Once-a-day, combination medications (fixed-dose) for high blood pressure

*These key benefits are supported by and/or align with national and state level initiatives and recommendations. This includes American Medical Association, Centers for Disease Control and Prevention Million Hearts Initiative, Centers for Disease Control and Prevention 6118 Initiative, New York State Delivery System Reform Incentive Payment Program, and U.S. Preventive Services Task Force recommendations.

5. Monitoring and Metrics Group

Key Contribution

The multisector nature of the TPO, NYC! Coalition provides a unique opportunity to share data and knowledge to better understand causes of high blood pressure and evaluate the impact of the coalition. The Monitoring and Metrics Group's role is to create the framework for monitoring overall progress of the initiative. The framework will address measures related to coalition engagement and long-term outcomes, such as blood pressure control, hospitalizations and early death. In addition, the group will support development of activity-specific metrics to track implementation progress.

This evaluation will inform future coalition activities and annual TPO, NYC! progress reports, which will be created and disseminated to coalition members and key stakeholders. These progress reports will allow the coalition to track outcomes and set new goals for itself over time.

Activities

Propose metrics and new data sources (where applicable) for monitoring coalition engagement and reach, activity implementation and health outcomes.

Meet with activity groups as they develop their activity-specific metrics.

Advise on the format of reporting feedback.

Potential Sectors

Academic institutions • City agencies • Community-based organizations • Employers • Faith-based organizations • Foundations • Health care systems • Media, data and technology • Nonlocal government • Organized labor • Payers • Pharmacies • Professional societies and associations



Next Steps

The coalition has moved into implementation of activities. The Health Department has assembled activity groups for each key area, the strategic payer initiative, and monitoring and metrics to guide this process. The structure of the coalition (Figure 13) allows for multisector collaboration to advance activities across the key areas (awareness, heart-healthy behaviors, treatment adherence), with the Health Department serving as the convener and coordinator. To better understand the communities and neighborhoods served by the coalition and identify gaps in coverage, the Health Department is routinely assessing coalition composition. An open invitation and focused outreach to nonparticipating organizations, institutions and sectors continues to engage others in TPO, NYC! to maximize reach and impact.

The Health Department will offer technical support, foster relationship building and resource sharing by regularly convening the coalition, publishing annual progress reports and updating the citywide plan as the movement grows.

Conclusion

The TPO, NYC! Coalition is committed to decreasing prevalence and improving control of high blood pressure, and eliminating related health inequities for more than 8 million New Yorkers. By 2022, the TPO, NYC! Coalition aims to reduce raised blood pressure by 15% in NYC. The recommendations in this TPO, NYC! plan are a first step in achieving this goal.

High blood pressure is a leading risk factor for heart disease and stroke, and this plan is a key component of Mayor de Blasio's OneNYC vision to reduce premature mortality. TPO, NYC! not only aligns City priorities, it will influence and advance each of them. High blood pressure affects all New Yorkers at various levels, whether directly or indirectly. As we move closer to our TPO, NYC! goals, we help move the city toward improved health while supporting populations served by other city initiatives. For example, this citywide effort aligns across ThriveNYC, a comprehensive mental health initiative, as New Yorkers with a history of mental health problems are disproportionately affected by high blood pressure. The Health Department's initiatives directly link to the populations impacted by high blood pressure, including strategies for improving health equity and maternal and infant health outcomes and Take Care New York 2020 (TCNY). TCNY is focused on giving all New Yorkers the chance to live a healthier life.

The strategies outlined in this plan acknowledge that many New Yorkers have exposure to different risk factors at different levels. Stakeholders across all sectors must be involved in improving the environments where New Yorkers are born, live, learn, work, play and age.

Through this multisector effort, we will make a citywide impact.

We invite all New Yorkers and organizations to join in this collaborative effort to curtail the dangerous problem of high blood pressure in our communities, and to make NYC a fair and equitable city.

Let's Take the Pressure Off, NYC!



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References

Glossary of Terms

Blood Pressure. The force of blood pushing against the walls of your blood vessels, which carry blood from your heart to other parts of your body.⁶

Diastolic Blood Pressure. The second (bottom) number in your blood pressure measurement, which measures the pressure in your arteries when your heart rests between beats.³⁹

Cardiovascular Disease. Cardiovascular disease refers to a group of disorders of the heart and blood vessels. This includes: high blood pressure, heart attack, stroke, peripheral vascular disease, heart failure, rheumatic heart disease, congenital heart disease and cardiomyopathies.⁴⁰

Exposure. Having come into contact with a cause of, or possessing a characteristic that is a determinant of, a particular health problem.⁴¹

Formulary. A list of prescription drugs covered by a prescription drug plan or another insurance plan offering prescription drug benefits. Also called a drug list.²⁷

Health Disparity. Difference in the incidence, prevalence, mortality and burden of diseases and other adverse health conditions that exist among specific population groups.⁴²

Health Equity. When every person has the opportunity to realize their health potential — the highest level of health possible for that person — without limits imposed by structural inequities.⁴³

Health Inequity. Differences in health outcomes, rooted in social and structural inequities that are unfair and unjust.¹⁴

Health Insurance Benefits: The health care items or services covered under a health insurance plan.²⁷

Heart Disease. Heart disease describes a range of conditions that affect your heart. Diseases under the heart disease umbrella include blood vessel diseases, such as coronary artery disease; heart rhythm problems (arrhythmias); and heart defects you are born with (congenital heart defects), among others.⁴⁴

High Blood Pressure (Hypertension). When your blood pressure, the force of the blood flowing through your arteries, is consistently too high.^{5,6}

Payer: In health care, an entity that assumes the risk of paying for medical treatments. This can include self-insured employers, health plans, unions, government

agencies or uninsured patients.²⁸

Preeclampsia. A sudden increase in blood pressure after the 20th week of pregnancy.⁴⁵

Prevalence. The proportion of a population who have (or had) a specific characteristic in a given time period.⁴⁶

Rate. A measure of the frequency with which an event occurs in a defined population during a specified period of time.⁴⁷

Risk Factor. Any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or injury.⁴⁸

Self-Management. The ability of the individual (in conjunction with family, community and health care professionals) to manage symptoms, treatments, lifestyle changes, as well as psychosocial, cultural and spiritual consequences of health conditions.⁴⁹

Social Factors that Influence Health (also referred to as Social Determinants of Health). The conditions in which people are born, live, learn, work, play, and age. These conditions affect a wide range of health, functioning and quality-of-life outcomes and risks.¹³

Stroke. A condition that occurs when the blood supply to part of the brain is suddenly interrupted or when a blood vessel in the brain bursts, spilling blood into the spaces surrounding brain cells.⁵⁰

Structural Inequities. This refers to the systemic disadvantage of one social group compared to other groups with whom they coexist. The term encompasses policy, law, governance and culture. The term refers to race, ethnicity, gender or gender identity, class, sexual orientation and other domains.⁵¹

Structural Racism. Racial bias across institutions and society. It is the combination of ways in which racial bias and ideology are embedded and expressed through systems, policies and institutions.⁵²

Systolic Blood Pressure. The first (top) number in your blood pressure reading, measures the pressure in your arteries when your heart contracts to squeeze blood out.³⁹

Treatment Adherence. The extent to which a person's behavior — taking medications, following diet and/or executing lifestyle changes — corresponds with agreed upon recommendations from a health care provider.⁵³

Data Sources

A. NYC Vital Statistics: The Health Department's Bureau of Vital Statistics maintains administrative data on all births and deaths in NYC obtained from birth and death certificates. Indicators include preterm births, teen births (limited to births to women less than 20 years of age), prenatal care, leading causes of death and infant mortality. Mortality data on cause of death are defined by the International Classification of Diseases, Tenth Revision for heart disease (ICD10 = I00-I09, I11, I13, I20-I51) and for stroke (ICD10 = I60-69). In this report, mortality data are restricted to NYC residents. Unless otherwise noted, Vital Statistics data in this report is from 2016. For more information, visit: <https://www1.nyc.gov/site/doh/data/data-sets/vital-statistics-data.page>.

B. NYC Community Health Survey (CHS): The CHS is a telephone survey conducted annually by the Health Department with about 9,000 NYC residents ages 18 and older. Data are age-adjusted to the US 2000 standard population only when comparing groups. The CHS has included adults with landline phones since 2002 and, starting in 2009, has included adults who can be reached by cell phone. Unless otherwise noted, CHS data in this report is from 2016. For more information, visit: nyc.gov/health/survey.

Metric Definitions:

- **Insufficient physical activity:** Did not meet the recommendation of engaging in at least 150 minutes of moderate physical activity per week.
- **Excessive drinking:** Defined as either being a heavy drinker (more than two drinks per day for men or one drink per day for women) or a binge drinker (more than five drinks on one occasion for men or more than four drinks on one occasion for women).
- **Overweight:** Body mass index (BMI) is calculated based on respondent's self-reported weight and height. A BMI between 25.0 and 29.9 is classified as overweight.
- **Obese:** A BMI of 30 or greater is classified as obese.
- **Current depression:** Estimates of current depression were determined using the Patient Health Questionnaire, or PHQ-8, an eight item

screening instrument that assesses the frequency of depression symptoms over the past two weeks. A score of 10 to 24 points, indicative of moderate to severe depressive symptoms, was defined as current depression.

- **Insufficient Fruit and vegetable consumption:** Consumed less than five fruits and vegetables yesterday.
- **Average sugary drink consumption:** Consumed an average of one or more sodas plus sweetened drinks per day.
- **Serious psychological distress (2015):** Composite measure of six questions regarding symptoms of anxiety, depression, and other emotional problems in the past 30 days.
- **Smoking:** Smoking status is defined as being a current, former or never smoker (having smoked less than 100 cigarettes ever).
- **High blood pressure ever:** This is defined as having ever been told by a doctor, nurse or other health professional that they have hypertension, also called high blood pressure.

C. Hub Population Health System (Hub): The Hub is a distributed query network created in partnership between the eClinicalWorks Electronic Health Record vendor and the NYC Department of Health and Mental Hygiene's Primary Care Information Project (PCIP). The Hub allows PCIP to query aggregate data from more than 700 New York City ambulatory care practices that joined PCIP to receive Electronic Health Record implementation and quality improvement support. No patient-level or protected health information is obtained. For the measure of controlled high blood pressure, analysis was conducted among a subset of 300–400 primary care practices that serve ~1,000,000 patients age 18–85 that have had at least one visit for health care each year. Blood pressure control is defined as the proportion of adults age 18–85 who have a diagnosis of hypertension and had at least one visit in the measurement year with a blood pressure reading < 140/90 mmHg. For more information, visit: <https://www1.nyc.gov/site/doh/providers/resources/primary-care-information-project.page>.

Note: For the purpose of this publication, Latino includes people of Hispanic origin, regardless of reported race. Asian/Pacific Islander, Black, and White race categories do not include people categorized as Latino. There is variation in how information about race and ethnicity is gathered and reported across these data sources.

D. New York Statewide Planning and Research

Cooperative System (SPARCS): SPARCS is an administrative database of all hospital discharges reported by New York State (NYS) hospitals to the NYS Department of Health. Diagnoses were coded according to the International Statistical Classification of Diseases and Related Health Problems-9th Revision framework. For more information, visit: <https://www.health.ny.gov/statistics/sparcs/>.

E. NYC Youth Risk Behavior Survey (YRBS): The YRBS is a biennial self-administered, anonymous survey conducted in NYC public high schools by the Health Department and the NYC Department of Education. Indicators include smoking, tobacco and e-vapor product use, sugary drink consumption, fruit and vegetable consumption, physical activity, alcohol use, condom use, HIV testing, dental care, mental health and dating violence. YRBS data for this report is from 2015. For more information, visit: <https://www1.nyc.gov/site/doh/data/data-sets/nyc-youth-risk-behavior-survey.page>.

Metric Definitions:

- **Insufficient physical activity:** Not physically active for a total of at least 60 minutes per day on seven of the past seven days.
- **Insufficient Fruit and vegetable intake:** Consumed less than five fruits or vegetables per day over the last week.
- **Overweight:** \geq 85th percentile to $<$ 95th percentile for BMI, by age and sex (based on 2000 CDC Growth Charts).
- **Sugary drink consumption:** Consumed an average of one or more sugary drinks per day over the past week.
- **Obese:** \geq 95th percentile for BMI, by age and sex (based on 2000 CDC Growth Charts).

F. NYC Heart Follow Up Study (HFUS): The HFUS was a supplemental survey to the 2010 CHS among a subset of 1656 adults who agreed to provide additional self-reported health information, have their blood pressure measured and provide a 24-hour urine sample to determine sodium, potassium and creatinine values. For more information, visit: <https://www1.nyc.gov/assets/doh/downloads/pdf/cardio/hfus-clinical-protocol.pdf>.

Metric Definitions:

- **Raised blood pressure:** Reflects the proportion of individuals in a given population with an elevated blood pressure value, irrespective of previous diagnosis and medication use. It does not rely on health care-seeking behaviors or a diagnosis of hypertension and is a true population-based measure. HFUS 2018–2019 will be used as the baseline for this metric. Raised blood pressure is a core World Health Organization metric. For more information, visit: http://www.who.int/gho/ncd/risk_factors/blood_pressure_prevalence_text/en.
- **Sodium intake:** Proportion of adults who consumed $>$ 2300mg of sodium per day as measured by a 24-hour urine sample.

G. National Health and Nutrition Examination Survey

(NHANES): The NHANES is a program of studies designed to assess the health and nutritional status of adults and children in the United States. The survey is unique in that it combines interviews and physical examinations. Data used is from the NHANES, 2009–2012 survey for sodium consumption using 24-hour dietary recall, and was representative of US youth ages 14–18 years of age. For more information, visit: <https://www.cdc.gov/nchs/nhanes/index.htm>.

H. Salient New York State (NYS) Medicaid System

(Salient): The Salient interface allows users with a data sharing agreement with NYS Department of Health to query and download adjudicated claims for professional and institutional services provided to NYC Medicaid recipients, including data elements such as service date, rendering provider, diagnoses, procedures, and prescriptions filled. Medication adherence was calculated using proportion of days covered (weighted mean) for Medicaid recipients in NYC with hypertension on antihypertensive medications in 2015. For more information, visit: https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/performance_data/salient_performance_data.htm.

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