Measures of Community and Neighborhood Health in Manchester

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The City’s Health, Police and Fire Departments will be celebrating their 180th Anniversary this year:

“During the summer of 1839 the number of people and houses had largely increased on account of the Amoskeag Company's first sale, and prices at the second, which occurred October 8, 1839, were much higher. The land sold was included between Elm, Hanover, Union and Merrimack streets. After this second sale the village assumed such proportions that it soon became patent that the old regulations were ill adapted to existing needs, and at a special meeting, October 26, 1839, it was voted to establish a system of police and a board of health, and to take measures for protection against fire. The "new village," as the settlement upon the Company's land was now called, was allowed to nominate the firewards. The latter organized and bought a fire-engine called "Merrimack No. 1," and the first engine-house was built on Vine street. There was already in town an engine which was owned by the Stark Mills, and, as early as 1818, one had been bought by Piscataquog village, then a part of Bedford. In 1839 was established by John Caldwell "The Representative," the first newspaper published in Manchester. It was a Democratic paper and its first number was issued October 18, and it appeared on subsequent Fridays till 1842, when it was sold and merged with "The Manchester Democrat." In this year the first police officers were appointed, four in number.”
“Every child and resident deserves a champion – someone who will never give up on them, who understands the power of connection and insists that they become the best they can possibly be.” – Dr. Rita Pierson
In 2012, our community knew that it need to work differently – it was the year that we become a majority child impoverished community – and while many organizations have stood up outstanding programs to serve those who need us most, we were failing to systemically change our conditions and outcomes to scale. We worked together to create a roadmap for change known today as Manchester’s Neighborhood Health Improvement Strategy. Through gifting from the Robert Wood Johnson Foundation, Granite United Way, Cogswell Benevolent Trust, the NH Charitable Foundation and the Endowment for Health, we planned for and implemented community schools to hyper-focus our attention and resources on center-city neighborhoods on both the East and West sides of the City. This has leveraged millions of dollars in investments and has elevated our community’s understanding of the drivers of good health and quality of life as well as the evidence-based practices designed to measurably improve the trajectory for all of our children, families and residents.
The County Health Rankings and Roadmaps are based on a model of population health that emphasizes the many factors that, if improved, can help make communities healthier places to live, learn, work and play. Please find a more descriptive document in your packets which provides the weights for the County Health Rankings 2019 health outcomes and health factors, as well as for the health factor focus areas and all individual ranked measures. Of note, 40% of an individual’s health status is determined by social and economic factors while only 20% is determined by their access to quality clinical care.

https://www.countyhealthrankings.org/
Adverse childhood experiences (ACEs) are traumatic events occurring before age 18 that increase the risk for poor health and behavioral outcomes later in life. As the number of ACEs increases, so does the risk for adverse outcomes. It is a combination of experiences and environments that shape us and our opportunity for healthy outcomes.

https://publichealth.gwu.edu/sites/default/files/downloads/Redstone-Center/BCR%20Pair%20of%20ACEs%20Webinar%20Slides.pdf
In 2016, the City of Manchester was one of seven communities nationally that was recognized by the Robert Wood Johnson Foundation, the largest U.S. philanthropy solely focused on health, for its Culture of Health Prize Award. RWJF gave $25,000 toward Manchester’s health improvement efforts and the Endowment for Health and NH Charitable Foundation matched this award with an additional $50,000.
The population living in poverty is on the rise in Manchester; in 2016 there were 15,700 Manchester residents living in poverty, up 81% since 1990. Also, Manchester’s areas of high and extreme poverty have increased since 1990 as well with 7,826 people living in high or extreme poverty tracts. In fact, based on 2016 data, nearly half of all poor people live in a high poverty neighborhood.

Since 2000, we have seen a growth of over 8,000 residents living below some level of poverty. In 2017, over 35,000 residents were reported to be living below 200% of poverty making this population the fourth largest “city” in New Hampshire.

https://www.newhampshire-demographics.com/cities_by_population
Using a socio-economic status index based on rates of poverty, child poverty, adults with high school degrees and bachelor’s degree, public assistance utilization, median household income, and labor market participation – all social and economic factors that impact health outcomes – there are apparent health disparities within Manchester’s center city area. This is especially evident in Census Tracts 13, 14, 15, 16, and 19 on the East Side and Tract 20 on the West side, which has the lowest socio-economic index in the city.
One in five of Manchester’s children (21.4%) is living at or below 100% of the federal poverty level. Manchester’s Black and Hispanic children are more likely to be living below the poverty level than White and Asian children. Nearly 35,000 children are being raised in Manchester’s five center city neighborhoods that surpass the concentrated poverty definition yet making up less than 1.5 square miles of the City’s geographic footprint.
Overall, Manchester’s violent crime rate was significantly higher than the State rate (635.9 vs. 197.8, respectively) during 2015-2017. In addition, Part 1 Crime was also elevated in Manchester when compared to the State rate during the same time period (3447 vs. 1945.1, respectively). Several neighborhoods in the center of the city experience elevated rates of both Violent Crime and Part 1 Crime. The Crime Index was created by combining violent incidents and offenses AND part 1 crime incidents and offenses to generate a Crime Index Score by Census Tract. Five neighborhoods on Manchester’s East side have the highest crime rate index scores.
Based on US Census data from 2013-2017, there are 45,799 households in Manchester. Among these households, 40% have excessive housing costs. At a national level, communities with rates at or above 40% of the population experiencing housing cost burden are at serious risk of increasing homelessness. Specific neighborhoods have disparate rates of excessive housing costs. Among owner-occupied households, more than 45% of households in Census Tracts 20 and 21 on the West Side and Census Tracts 6, 13, and 15 on the East Side are housing cost burdened. At least 15% of homeowners in Census Tracts 3, 20, 2.03, 15 and 16 are severely cost burdened. Among renters, more than 50% are housing cost burdened in Census Tracts 3, 15, 1.01, 22, and 23.
A lead exposure risk index is created by combining the rates of housing with potential lead risk with the percentage of people who live in poverty in the City or Census Tract. The risk score is calculated on a scale of 1-10, where 10 indicates the highest risk of exposure. Overall, Manchester’s risk index is elevated at a score of 8 out of 10. Additionally, there are five Manchester neighborhoods where the lead exposure risk index is at the highest risk level of 10 (Tracts 10, 14, 15, 16, and 2004), and an additional five neighborhoods with a risk index of 9 (Tracts 3, 13, 17, 20, and 21). This risk calculation was created by NYU Lagone Health.
During 2016, 12.8% of Manchester adults reported frequent physical distress where their physical health was not good for more than 14 days during the past 30 days. Frequent physical distress was most significant among residents in Census Tracts, 14, 15, and 20 in which between 17-18% of the population reported frequent physical distress.
During this same time period, 13.4% of Manchester adults reported frequent mental distress where their mental health was not good for more than 14 days during the past 30 days. Frequent mental distress was most significant among residents in Census Tracts 15 and 20 in which at least 18% or nearly 1 in 5 residents reported frequent mental distress.
This field study was requested by the Manchester Health Department to the NH DPHS for evaluation of MCH indicators relevant to Manchester and evaluation of the distribution of risk factors throughout the city. A compilation of MCH risk indicators by the Association of MCH Programs was evaluated for appropriateness to Manchester but also relative to the retrievability of data for localized geographic areas, especially block group level data. Based on a dataset containing 2005-2013 perinatal experiences available through the NH DPHS, perinatal risk indicators (many the same or similar to the full AMCHP project indicators) were selected when they showed some promise in depicting geographic hotspots within the city.

Prenatal and postnatal MCH indicators were selected from the Association of Maternal and Child Health Programs (AMCHP)vi metrics project based on the availability of data at a block group level. As of November 2013 the AMCHP consensus project identified 59 MCH indicators that were felt to reflect major determinants directing the life course of children.
In comparing academic proficiency across the region based on the NH Department of Education data from SY2017, Manchester’s rates are significantly below all communities in both 3rd Grade Reading and 7th Grade Math; Manchester’s rates were also lower than Nashua and lower than the New Hampshire rate. During SY 2017-18, Manchester’s 3rd-grade reading proficiency of 31% was lower than Nashua, NH’s rate of 46.9%, as well as the national average among the 500 largest cities in the United States, which is 46.2%.
Across the State, New Hampshire has seen an increase in accepted assessments of child abuse and neglect in 10 out of 11 district offices, as well as an increase in telework cases and special investigations. District offices with the highest number of assessments included Manchester (1,691 cases), Nashua (1,532 cases), Concord (1,485 cases), and the Seacoast (1079 cases). In all of these communities, approximately half of these assessments included a substance abuse risk factor.

In 2018, NH DCYF provided this update:

<table>
<thead>
<tr>
<th>CY 2018</th>
<th>Accepted Assessments</th>
<th>Substance Abuse Risk Factor</th>
<th>% of accepted referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide</td>
<td>12341</td>
<td>5491</td>
<td>44.5%</td>
</tr>
<tr>
<td>Manchester</td>
<td>1691</td>
<td>735</td>
<td>43.5%</td>
</tr>
</tbody>
</table>

Data Source: Result Oriented Management (ROM) and the Statewide Automated Child Welfare Information System (NH Bridges)
According to data collected on November 15, 2017, from the Manchester School District, there were 662 homeless students across the Manchester District. This is likely an underestimated number as many students are not formally identified as homeless due to stigma and other barriers. More than 50% of the known students living in homelessness within the district are at an elementary school level. According to this count, among Manchester’s homeless student population, most are living with their family in a doubled-up residence or a shelter.
Manchester’s center city neighborhoods have the highest prevalence of unhealthy behaviors, including smoking, physical inactivity, obesity, and lack of adequate sleep. These behaviors, along with others, determine the extent to which Manchester’s residents will have positive health outcomes, including a long healthy life and high quality of life. The highest prevalence of unhealthy behaviors is shown in dark orange with the lowest prevalence of unhealthy behaviors in dark purple. The center city neighborhoods on the East and West side of the City have the highest prevalence of unhealthy behaviors (East Tracts 14, 15, 16, and 19; West Tract 20).
Chlamydia, the most common STI, can infect men and women, yet it can cause severe and permanent damage to a woman’s reproductive system, including ectopic pregnancies. Rates of chlamydia have been rising locally and nationally, as have rates of Gonorrhea. In 2017, 2,896 individuals in Manchester were diagnosed with Chlamydia.
A common STI that can infect men and women, Gonorrhea can cause infections in the genitals, rectum, and throat. Between 2013-2017, 405 individuals in Manchester were diagnosed with Gonorrhea. As a STI, Gonorrhea has more severe possible complications and is more likely to cause long-term problems like infertility.
In 2019, the DHHS Division of Public Health Services’ (DPHS) Bureau of Infectious Disease Control is seeing a marked increase of hepatitis A cases in New Hampshire. Since March 2017, the Centers for Disease Control and Prevention (CDC)’s Division of Viral Hepatitis (DVH) has been assisting several state and local health departments in addressing active hepatitis A outbreaks. These outbreaks are spread through person-to-person contact, primarily among individuals that reported experiencing homelessness or drug use (injection and non-injection). Close to 40% of NH’s cases are residents from the greater Manchester area.
NH ranks 3rd in the nation in the overall rate of overdoses resulting from prescription and injection drug use. In 2016, the states with the highest rates of death due to drug overdose were West Virginia (52.0/100,000), Ohio (39.1/100,000), and New Hampshire (39.0/100,000). In New Hampshire, deaths from all illicit drugs are significantly higher in Manchester than anywhere in the State.
When comparing Manchester’s opioid overdoses and death rates to nearby Nashua NH, it is evident that Manchester has been disproportionately impacted by overdoses and by overdose deaths. In 2019, Nashua, NH is projected to have 282 overdoses with 29 fatal overdoses. This is more than 50% less than the projected rates for Manchester in 2019. Beyond New Hampshire, Manchester’s opioid overdose death rate is significantly higher than the average rate of deaths across the nation’s largest cities.

This year, AMR projects that Manchester will experience close to 20 more suspected opioid overdose deaths compared to last year.
This slide depicts a time-stamped dot-density map of suspected opioid overdose ambulance calls for service in 2017.

Between 2015-2017, Manchester experienced close to four times more overdose deaths than the country’s 500 largest cities.
Over the past 100 years, Manchester has experienced an epidemiological shift in its leading causes of death from infectious to chronic diseases. Alzheimer’s Disease is now one of the City’s top five leading causes of death. It is expected that drug overdose deaths will soon be added to this list. Of note, the 3rd leading cause of death, Accidents, includes overdose deaths due to substance misuse as an unintentional injury.
Manchester’s center city neighborhoods have the lowest prevalence of prevention measures that will contribute to their clinical care. These Manchester residents have lower rates of insurance coverage, lower rates of regular visits to their medical and dental providers, and lower rates of preventive screenings and vaccines. The following map displays a combination of clinical care indicators into one measure of health access at a neighborhood level. The lowest prevalence of preventive measures is shown in dark orange with the highest prevalence of preventive measures in dark purple. The center city neighborhoods on the East and West side of the City have the lowest prevalence of health access for prevention (East Tracts 13, 14, 15, 16, and 19; West Tract 20).
Based on hospital discharge data from the emergency department, between October 2012 and September 2015, Manchester residents had 19,164 visits to the emergency room for Acute ACSCs and 7,905 visits for Chronic ACSCs. The rate of Acute ACSC was 5808.5 visits per 100,000 residents, and the rate of Chronic ACSC was 2395.9 visits per 100,000 residents.

A complete explanation of the conditions included in these rates can be found here: [http://www.mdch.state.mi.us/osr/CHI/HOSP/icd9cm1.htm](http://www.mdch.state.mi.us/osr/CHI/HOSP/icd9cm1.htm)

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### AMBULATORY CARE SENSITIVE CONDITIONS, 2012-2015

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Geography</th>
<th># of ED Visits</th>
<th>Rate per 100,000 Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td>NH</td>
<td>180,994</td>
<td>4845.8</td>
</tr>
<tr>
<td></td>
<td>Greater Manchester</td>
<td>24,470</td>
<td>4451.5</td>
</tr>
<tr>
<td></td>
<td>Manchester</td>
<td>19,164</td>
<td>5808.5</td>
</tr>
<tr>
<td>Chronic</td>
<td>NH</td>
<td>65,305</td>
<td>1640.2</td>
</tr>
<tr>
<td></td>
<td>Greater Manchester</td>
<td>10,157</td>
<td>1847.7</td>
</tr>
<tr>
<td></td>
<td>Manchester</td>
<td>7,905</td>
<td>2395.9</td>
</tr>
</tbody>
</table>

**Ambulatory Care Sensitive Conditions (ACSC) are health conditions in which appropriate outpatient care (medication, home care, and a healthy lifestyle) can prevent or reduce the need for emergency room visits. Acute ACSCs include infections or illnesses managed in a primary care setting, such as ear infections. Chronic ACSCs persist for a long time or constantly recurring, such as diabetes or asthma, in which case the patient will have to manage their illness long-term or for the rest of their lives.**
As presented in this Health Outcomes Index map, the highest prevalence of adverse health outcomes is shown in dark orange with the lowest prevalence in dark purple. Health Outcomes include conditions such as arthritis, asthma, and diabetes, as well as indicators of wellbeing such as mental distress. In Manchester, the neighborhoods with the highest unhealthy outcomes are Census Tracts 8, 14, 15, 16, and 20.
In Manchester alone, there are 14,552 residents 65 or older, and this population is expected to grow. According to the Population Reference Bureau, the number of Americans ages 65 and older is projected to more than double from 46 million in 2017 to over 98 million by 2060 due, in part, to increases in life expectancy.

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>Manchester: West</th>
<th>Central Manchester</th>
<th>Manchester: South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Blindness/Visual Impairment</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Chronic Kidney Disease</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Ischemic heart disease</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Mortality</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Multiple Comorbidities</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Personality Disorders</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Schizophrenia and Psychotic Disorders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

New Hampshire has the highest median age in the nation, second only to Maine, with 20% of the state population age 60+. In Manchester alone, there are 14,552 residents 65 or older, and this population is expected to grow. Among the age 65+ population, more than half (58.8%) are female, and the vast majority (95.9%) are White with a small (3.8%) Hispanic/Latino population. More than half (56.3%) completed high school and almost a quarter (23.6%) have a college degree.

Based on the Healthy Aging Data Report, Highlights from New Hampshire 2019, Manchester has 45 health indicators with rates worse than the State average that have negative implications for the health of older residents.
Manchester’s life expectancy rate in 2015 was 77.6 years, which is the average number of years a person in Manchester can expect to live from birth. Life expectancy was lower for residents in particular neighborhoods. Specifically, it was less than 70 years for residents in Census Tracts 13 and 17 and was between 70-74 years for Census Tracts 6, 8, 15, 20 and 2004. Manchester’s average life expectancy is lower than Nashua, NH’s life expectancy rate of 79.7 years, and lower than the average of 78.8 years across the 500 cities nationally.
So What is the Antidote to Adversity?*

“He who has a why can bear any how.” - Dr. Viktor Frankl

LEVEL 4: Religion, spirituality, values
LEVEL 3: Community
LEVEL 2: Family
LEVEL 1: Individual goals

* The higher the level, the greater your resilience

SOURCE: Andrew Shatte, PhD, Chief Science Officer, meQuilibrium

TEDxNASA - Andrew Shatte - What Matters Next - Connection!

https://www.youtube.com/watch?v=_iUs3ZEBDjo
Just as people can be taught to be resilient, so can communities.

- Sheila Emerson Kelley, President of the WV Association of Professional Psychologists

Excerpted from “Personal And Community Resilience: Building It And Sustaining It ”by Sheila Emerson Kelly Licensed Psychologist Assistant Commissioner Bureau For Behavioral Health And Health Facilities
Since 1990, Manchester’s center city neighborhoods have experienced high (20%-40% poverty) and extreme (40%+ poverty) poverty rates. Over time, Manchester has only seen an increase in the number of neighborhoods with high and extreme poverty, as shown in the this map series. The West side, in particular, has seen a more recent growth in poverty rates at high or extreme levels. Census Tracts 14 and 2004 have had high poverty rates since 1990, and consequently, meet the definition of a neighborhood area that is experiencing persistent poverty.
Recent studies have established that the neighborhood in which a child grows up has substantial causal effects on his or her prospects of upward mobility, whereas where one lives as an adult has smaller effects. The Opportunity Atlas is the first dataset that provides such longitudinal information at a detailed neighborhood level. Using the Atlas, you can see not just where the rich and poor currently live – which was possible in previously available data from the Census Bureau – but whether children in a given area tend to grow up to become rich or poor. This focus on mobility out of poverty across generations allows us to trace the roots of outcomes, such as poverty and incarceration, back to where kids grew up, potentially permitting much more effective interventions.

In Manchester, Census Tract 14 had the lowest estimate of household income for children growing up in this neighborhood ($26,000 annually). Unfortunately, these estimates are forecasting continued generational poverty as adults for children who are growing up in center city neighborhoods. Conversely, Manchester’s North End neighborhood area (Census Tract 1.01) has the highest rate of household income at $62,000 annually among children growing up in this area.

https://www.opportunityatlas.org/
A larger regional view.
Low labor market engagement, high transportation costs, low rates of school proficiency, and low socioeconomic status are indicators that point to persistent poverty and limited future opportunity for residents. In the Urban Institute’s Report, Tacking Persistent Poverty in Distressed Urban Neighborhoods, the authors claim that breaking the cycle of persistent poverty requires strategies focusing on increasing high-quality educational opportunities, reducing crime and violence, providing health-promoting services, supporting social networks, and expanding opportunities for financial stability.

This map displays scores for all 5 opportunity indices – school proficiency index; jobs proximity index, labor market participation index; low transportation costs index; and socioeconomic index. In the region, Manchester has the lowest rates of opportunity across all of these factors, while parts of Bedford and Londonderry have the highest opportunity rating.
Key leaders and community members were reflective and open with their input. They want to work together to continue to revitalize and move Manchester forward for everybody. Many great health improvement strategies and initiatives are underway; however, better integration and alignment is needed to ensure the city is moving in the same direction, under one shared vision for health.
PolicyLink and StriveTogether: Building cradle-to-career pathways from poverty to opportunity.

Measurably improving the health and well being of local populations requires an understanding of the local landscape and its complexities to better target root causes. Cities like Manchester are multifaceted entities that need to embrace urban health strategies and approaches that transcend traditional health partners. The Healthy Cities Commission published the following key recommendations for such work, and with a shared vision and harnessing all of its resources towards a multidisciplinary strategic plan, Manchester can more intentionally move from crisis response to strategic action.
Should We Have a Shared Criteria for Identifying High-Priority Health Events at the Community Level? (CDC, WHO, ACHI)

- **FREQUENCY** (Incidence, Prevalence, Magnitude and Trend)
- **DISPARITY NEED** Among Vulnerable or Priority Populations
- **SEVERITY** (How Lethal or Debilitating is it?)
- **COST** (Direct and Indirect like Productivity Losses)
- **PREVENTABILITY** (Counter Measures—Antibiotics, Vaccine, Behavior/Policy Change)
- **COMMUNICABILITY** (How Easily is it Spread?)
- Is the Issue a **DETERMINANT OR OUTCOME**?
- **COMMUNITY’S WILLINGNESS** to Act on the Issue
- **AVAILABILITY OF RESOURCES** or Evidence-Based Practices
- **DURATION** (Responder and System Capacity including Fatigue)
- **HEALTH GAIN** (The Long-Term Benefit of Action)

Please refer to the Healthy Neighborhoods Equity Fund example in your packets as well.
Happy to answer any questions.