Burden of Chronic Diseases

Contents
Heart Disease............................................................................................................................... 5-2
High Cholesterol & Cholesterol Screening .............................................................................. 5-5
Hypertension ............................................................................................................................... 5-6
Stroke ........................................................................................................................................... 5-7
Diabetes ........................................................................................................................................ 5-9
Asthma .......................................................................................................................................... 5-11
  Level of Asthma Control in NH............................................................................................. 5-14
  Management of Asthma........................................................................................................... 5-14
Conclusion .................................................................................................................................... 5-15
Chronic diseases are the leading cause of death and disability in the United States. Chronic diseases cause 7 out of 10 deaths each year. Heart disease, stroke and diabetes alone cause more than 33 percent of all deaths each year. They are also responsible for significant healthcare expenditure and loss of productivity. In Nashua, the Greater Nashua Public Health Region (GNPHR) and New Hampshire, diseases of the heart, stroke and diabetes are also among the top 10 causes of death. In 2012, heart disease accounted for 21% of deaths in New Hampshire, while stroke caused 4% of deaths. Approximately 4 out of 10 men and 3 out of 10 women in the GNPHR have hypertension. Additionally, asthma, a chronic condition of the lungs, affects over 1 in 10 adults and almost 1 in 6 children in Nashua compared to about 1 in 9 children in New Hampshire.

In addition to the burden of disease, the direct and indirect costs of chronic diseases are growing ever more expensive. Over 680,000 cases of seven common chronic diseases — cancers, diabetes, heart disease, hypertension, stroke, mental disorders, and pulmonary conditions — were reported in New Hampshire in 2003. That same year, treatment expenditures for those diseases reached $1 billion with an additional $4.4 billion in lost productivity. Given New Hampshire’s population of just over 1.3 million people, this impact is staggering. Nationally, the total costs of heart disease and stroke in 2010 were estimated to be $315.4 billion.

A growing body of evidence points to the effectiveness of lifestyle interventions for lowering the risk of developing chronic disease (primary prevention). There is also strong evidence to support these measures in the management of existing disease (secondary prevention). According to a study published in the Archives of Internal Medicine in 2009, four healthy lifestyle factors—never smoking, maintaining a healthy weight, exercising regularly and following a healthy diet—together appear to be associated with as much as an 80 percent reduction in the risk of developing cancer, diabetes and cardiovascular disease. These measures, in combination with medical interventions, have the potential to dramatically reduce the risk and impact of chronic disease.

Although their contribution to the development of heart disease and stroke is well known, the underlying risk factors for these conditions remain common as shown in Figure 5.1.

For reference, each of the following subsections includes at least one comparison to the Healthy People 2020 goals. A list of these goals is provided below:

- Increase the proportion of adults (18 and older) who have had their blood cholesterol checked within the preceding 5 years from 74.6% (2008) to 82.1%
- Increase the percentage of adults aged 18 years and older with high blood pressure/hypertension who blood pressure is under control from 43.7% (2005-2008) to 61.2%
- Reduce the percentage of adults aged 18 years and older with hypertension to 26.9%
- Reduce the national stroke death rate to 34.8 per 100,000
Figure 5.1 Percent of Adults Reporting Heart Disease and Stroke Risk Factors, 2012

Nashua and the GNPHR have similar rates of coronary heart disease, heart attacks, stroke and diabetes compared to NH (Table 5.1). About 3% of Nashua residents have heart disease, 10% have diabetes, 2% have had a stroke and 4% have had a heart attack.\textsuperscript{26} According to the Trauma and EMS Information System, there were 1,103 EMS calls for cardiac related events and 199 calls for hyperglycemia or hypoglycemia. By promoting healthy lifestyle choices, medical clinics, public health outreach programs, schools and other non-profit organizations can directly influence medical outcomes as well as their economic and other consequences.

Table 5.1 Chronic Disease Rates, 2010 or 2011

<table>
<thead>
<tr>
<th>Chronic Disease</th>
<th>Nashua</th>
<th>GNPHR</th>
<th>NH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary Heart Disease</td>
<td>2.7% (CI 1.1-4.3%)</td>
<td>2.5% (CI 1.5-3.6%)</td>
<td>4.1% (CI 3.6-4.7%)</td>
</tr>
<tr>
<td>Heart Attack</td>
<td>4.4% (CI 2.2-6.5%)</td>
<td>4.0% (CI 2.6-5.4%)</td>
<td>4.2% (CI 3.7-4.8%)</td>
</tr>
<tr>
<td>Stroke</td>
<td>1.5% (CI 0.1-2.8%)</td>
<td>2.1% (CI 1.0-3.1%)</td>
<td>2.4% (CI 2.0-2.8%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>10.2% (CI 6.7-13.8%)</td>
<td>8.7% (CI 6.7-10.7%)</td>
<td>9.5% (CI 8.7-10.4%)</td>
</tr>
</tbody>
</table>

Source: NH DHHS, BRFSS

Heart Disease
The coronary arteries carry oxygen-rich blood to the heart muscle, thereby enabling it to perform its critical function of providing blood flow to nearly every tissue in the body. Coronary artery disease usually results from the building up of plaque which hardens and obstructs the blood flow. This process may occur silently for years before manifesting as chest pain (angina pectoris), shortness of breath or in...
the most severe cases, sudden cardiac death. In 2011, 8.3% (CI 4.1-12.4%) of adults over 65 years of age in the GNPHR had coronary heart disease compared to 12% (CI 10.57-14.13%) in New Hampshire and Nashua (12% CI 4.8-19.6%). CHD in 2010 was significantly higher in Nashua males (9.2% CI4.4-12%) than in Nashua females (2% CI 0.4-3.8%) as seen in Figure 5.2. This gender gap is similar to that seen nationally.9

Figure 5.2 Coronary Heart Disease by Gender and Geography, 2010

![Bar chart showing CHD by gender and geography in 2010.]

Source: NH DHHS, BRFSS

Modifiable risk factors for heart disease include smoking, hypertension, high cholesterol, physical inactivity, obesity, diabetes, unhealthy diet and chronic stress. Even as the overall death rate from heart disease has declined since the 1960’s10, it remains the number one killer nationally.11 Cardiovascular disease (CVD) is a broad term for a range of diseases affecting the heart and blood vessels. It includes stroke, heart attack, hypertension and several other conditions. As such it is immensely costly. According to one estimate, “By 2030, 40.5% of the US population is projected to have some form of cardiovascular disease (CVD). Between 2010 and 2030, real total direct medical costs of CVD are projected to triple, from $273 billion to $818 billion (2008 dollar rate).”12

Every 34 seconds someone in the United States has a heart attack and every minute someone dies from a heart-related event.13 In 2009, heart attacks in New Hampshire accounted for 2,589 hospital discharges and 363 of those adults were Nashua residents. The age-adjusted rate of hospital discharges from heart attacks decreased slightly from 2000 to 2009 in Nashua, the GNPHR and NH (Figure 5.3). However, there is no statistically significant difference between Nashua, the GNPHR and NH with respect to heart attack hospitalizations (as shown in the map in Figure 5.4). Deaths from heart attacks are highest in adults over 85 years of age. From 2006 to 2010, there were 213 deaths from heart attacks in the GNPHR and 91 deaths were in adults over 85 years of age.23
**Figure 5.3** Age-Adjusted Rate for Heart Attack Hospitalizations by Geography, 2000-2009

<table>
<thead>
<tr>
<th>Year</th>
<th>Nashua</th>
<th>GNPBR</th>
<th>NH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>30.2</td>
<td>29.02</td>
<td>26</td>
</tr>
<tr>
<td>2001</td>
<td>31.1</td>
<td>27.52</td>
<td>24.94</td>
</tr>
<tr>
<td>2002</td>
<td>24.6</td>
<td>23.5</td>
<td>23.22</td>
</tr>
<tr>
<td>2003</td>
<td>26.3</td>
<td>24.2</td>
<td>23.16</td>
</tr>
<tr>
<td>2004</td>
<td>23.5</td>
<td>21.3</td>
<td>21.6</td>
</tr>
<tr>
<td>2005</td>
<td>21</td>
<td>19.88</td>
<td>20.96</td>
</tr>
<tr>
<td>2006</td>
<td>21.2</td>
<td>19.53</td>
<td>19.73</td>
</tr>
<tr>
<td>2007</td>
<td>20</td>
<td>19.17</td>
<td>19.16</td>
</tr>
<tr>
<td>2008</td>
<td>17.3</td>
<td>17.78</td>
<td>19.33</td>
</tr>
<tr>
<td>2009</td>
<td>17.5</td>
<td>17.62</td>
<td>18.54</td>
</tr>
</tbody>
</table>

**Source:** NH DHHS

**Figure 5.4** Heart Attack Hospitalizations, Age-adjusted Rate, 2009

In the above figure, the average rate of heart attack hospitalizations for the state is shown by the red line (17.1 persons per 10,000). Counties (including Hillsborough) and cities (including Nashua) with rates that overlap the red line do not have rates of hospitalization statistically different from that seen in the state as a whole. 23
High Cholesterol & Cholesterol Screening

Cholesterol is a waxy fat-like substance that is involved in many processes in the body. High levels of certain types of cholesterol have been associated with increased risk for heart disease, stroke and other vascular (blood vessel) disease. Since high cholesterol is almost always a “silent” condition in the early stage, before it causes symptoms, blood testing is needed to determine the levels. High cholesterol is often seen in conjunction with other conditions and lifestyle problems including obesity, smoking, hypertension, diabetes, heart disease, unhealthy nutrition and lack of physical activity. Family history also contributes.

One of the Healthy People 2020 Goals is to increase the proportion of adults (18 and older) who have had their blood cholesterol checked within the preceding 5 years from 74.6% (2008) to 82.1%.14 The rates of cholesterol screening in the GNPHR were already above this target in 2011: 83% of females and 85% of males had had their cholesterol checked within the past 5 years. There are few differences in cholesterol screening by gender. It is notable, however, that less than half of people under 25, and only 75% of those 25-34 years old have had cholesterol screening performed.26

Cholesterol screening is just the first step. Less than half (46%) of New Hampshire adults have their cholesterol under control, a proportion which mirrors that seen in the US as a whole.15 The principal ways in which one can control cholesterol are:

- Eating a healthy diet
- Exercising regularly
- Maintaining a healthy weight
- Stopping (or never starting) smoking.

For certain people, medication is recommended to further reduce the risk of heart disease, stroke and other vascular (blood vessel) disease. Nationally, and in NH and the GNPHR, there is still room for improvement to control high cholesterol.
Hypertension

Hypertension (high blood pressure) is defined as systolic blood pressure >140 and/or diastolic blood pressure over 90 mm Hg. Hypertension increases the risk for stroke, heart attack, kidney disease, eye disease and other blood vessel damage. Risk factors for hypertension include high sodium intake, physical inactivity, excess weight, smoking, high alcohol consumption, and chronic stress. The prevalence of hypertension also increases with age, race and family history. Since high blood pressure is a “silent” disease, periodic measurement of blood pressure is recommended for screening.

In the GNPHR, 32.8% of adults over 18 years of age have been given a diagnosis of hypertension, including 40% of men and 27% of women (Table 5.2).\(^\text{16}\) This compares to an overall prevalence of hypertension among U.S. adults aged \(\geq 18\) years in 2003–2010 of 30.4% (an estimated 66.9 million).\(^\text{17}\) Notably, the prevalence of hypertension is higher in New Hampshire residents who report an income in the lowest quintile (< $15,000 per year) at over 50%. This contrasts with a 30% rate in residents reporting incomes in the highest quintile (>$50,000 per year).\(^\text{15}\) This disparity is striking because nationally the effect of income is smaller.\(^\text{18}\) Since hypertension contributes substantially to the morbidity and mortality from stroke and heart disease, the implications for targeted intervention in this vulnerable population are apparent.

One of the Healthy People 2020 goals is to reduce the percentage of adults aged 18 years and older with hypertension to 26.9%; the GNPHR and Nashua do not currently meet this standard. Similarly, the NH State Health Improvement Plan (SHIP) also has a goal to reduce hypertension to 26% by 2015 and to 22% by 2020.\(^\text{26}\)

\[
\text{Table 5.2 Hypertension Data, 2011}
\]

<table>
<thead>
<tr>
<th></th>
<th>Nashua</th>
<th>GNPHR</th>
<th>NH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent with hypertension</td>
<td>34.9% (28.8-41%)</td>
<td>32.8% (28.7-36.8%)</td>
<td>30.7% (29.3-32.1%)</td>
</tr>
<tr>
<td>Percent of females with hypertension</td>
<td>31.6%</td>
<td>27.3%</td>
<td>27.5%</td>
</tr>
<tr>
<td>Percent of males with hypertension</td>
<td>39.8%</td>
<td>39.8%</td>
<td>33.9%</td>
</tr>
<tr>
<td>Percent of adults with hypertension take medicine to control it</td>
<td>72.7% (62.2-83.2%)</td>
<td>74.1% (66.4-81.7%)</td>
<td>75% (72.4-77.6%)</td>
</tr>
</tbody>
</table>

Source: NH DHHS, BRFSS
Seventy-four percent (74%) of patients with hypertension who were seen in the major health systems in the Greater Nashua Region had blood pressure which was at goal (less than 140/90) when it was last recorded.\textsuperscript{19} This compares favorably with national statistics, which show that among those with hypertension, an estimated 35.8 million (53.5%) did not have their hypertension controlled.\textsuperscript{20} One of the Healthy People 2020 goals is to increase the percentage of adults aged 18 years and older with hypertension whose blood pressure is under control from 43.7\% (2005-2008) to 61.2\%. Although the number of people in the GNPHR with hypertension that is controlled is above the national average, about 1 in 4 people continue to have suboptimal control. When combined with the prevalence of other risk factors that cause cardiovascular disease, there remains an opportunity to reduce the complications from hypertension still further than has already been achieved.

**Stroke**

Stroke occurs when the blood supply to a part of the brain is interrupted. This most commonly occurs due to clot formation and obstruction of a blood vessel. Bleeding from a broken artery is another frequent cause. Stroke is often related to poorly controlled high blood pressure, smoking, and diabetes. Stroke is a leading cause of long-term disability and people who survive an initial stroke may be left with permanent problems with vision, motor function (weakness), speech and language problems, memory and balance. The controllable risk factors for stroke are very similar to those for coronary artery disease, and include hypertension, high cholesterol, smoking, alcohol use, physical inactivity, obesity and diabetes. The estimated cost of stroke (direct and indirect costs) in 2010 nationally was $53.9 billion.\textsuperscript{21}
Stroke data from New Hampshire and the GNPHR indicate there continues to be room for improvement in stroke prevention:

- From 2005-2010, the self-reported incidence of stroke did not have a statistically significant change; in 2010, 2.3% of men and 2% of women indicated that a health care professional had told them they had experienced a stroke.\(^\text{22}\)
- From 2008 to 2012, there were 2,360 deaths from stroke in New Hampshire and there were 280 deaths from stroke in the GNPHR.\(^\text{23}\)
- In 2012, the death rate from stroke was 33.3 per 100,000 in the GNPHR and 27.8 per 100,000 in Nashua.\(^\text{23}\)

One of the Healthy People 2020 goals is to reduce the national stroke death rate to 34.8 per 100,000 and the NH SHIP goal is to reduce the rate for NH to 28 per 100,000 by 2020. As shown in Table 5.3, the death rate from stroke in Nashua already meets this goal, but the rate in the GNPHR has progress to make. The rate of death from stroke by gender is similar but it increases as people age with the highest death rate in adults over 85 years of age. From 2008 to 2013, the death rate stayed consistently around 30 per 100,000 with minimal change over time.\(^\text{23}\)

<table>
<thead>
<tr>
<th>Table 5.3 Death Rate from Stroke, 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death rate from stroke (per 100,000)</td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>27.8</td>
</tr>
</tbody>
</table>

Source: NH DHHS, BRFSS

Rates of hospitalization for stroke have remained fairly consistent over time in the GNPHR and New Hampshire, but the rate for Nashua has increased slightly since 2005 from 16.2 per 10,000 to 20 per 10,000 in 2009 (Figure 5.7).\(^\text{23}\)

![Figure 5.7 Age-Adjusted Rate for Stroke Hospitalizations, 2000-2009](image-url)

Source: NH DHHS
Diabetes

Diabetes is a group of diseases marked by high levels of blood glucose resulting from problems in insulin production, insulin action, or both. Approximately 95% of diabetes is type II (formerly adult-onset) diabetes. The body initially becomes resistant to insulin and then later loses its ability to produce enough insulin. Diabetes is a major cause of stroke, heart disease and heart attacks. It also is a leading cause of blindness, non-traumatic amputations and kidney disease requiring dialysis. It can cause painful nerve damage, and lead to reduced circulation to the arms and legs. The development and impact of diabetes is synergistic with obesity, smoking, high cholesterol, high blood pressure, lack of physical activity, poor diet and mental health problems.

In 2010 diabetes was estimated to affect 25.8 million Americans or about 8.3%. In the same year in New Hampshire, that percentage was 7.1%. In Nashua, the prevalence was 9.9% (CI 0-21.64%) and Greater Nashua 9.5% (CI 0-8.88%). In addition, up to 1 in 4 adults nationally do not know he or she has diabetes. Diabetes is more common:

- In people over 55 years of age
- In Nashua residents compared to NH residents as a whole (Figure 5.7)
- In males under 55 compared to females under 55 (and then equally prevalent in men and women over 55).

![Figure 5.8 Diabetes Prevalence by Age and Geography, 2011](image)

As with hypertension, a marked association is seen with income: lower income Nashua residents have substantially higher rates of diabetes.

Lower income Nashua residents have higher rates of diabetes and hypertension.
Diabetes has tremendous economic costs which include both direct medical costs and those related to lost productivity. In 2012, the total cost to the US economy was estimated at $245 billion. Care for people with diagnosed diabetes consumes 1 in 5 health care dollars in the U.S., and more than half of that expenditure is attributable to diabetes. In 2007, diabetes indirectly accounted for 15 million work days absent, 120 million work days with reduced performance. The hospitalization rate due to diabetes in Nashua is higher than in New Hampshire as a whole (Figure 5.10). Hospitalizations attributable to diabetes for ambulatory care sensitive conditions is also significantly higher for Nashua than the rest of the state (Figure 5.11). When you look at the GNPHR without Nashua, the rate for diabetes hospitalizations and diabetes hospitalizations for ambulatory care sensitive conditions is significantly lower than the state (Figure 5.10; 5.11).

Unfortunately, this substantial impact has the potential to grow dramatically. It is estimated that more than 86 million adults in the US have pre-diabetes, a precursor to diabetes, marked by higher than normal blood sugars that do not yet meet criteria for diabetes. These individuals have a 15-30% chance
of developing diabetes within 5 years of this diagnosis. The self-reported prevalence of pre-diabetes for adults 18 years and older in 2010 for Nashua was 8% (CI 3.76-12.27%) and for NH 7.2% (CI 6.28-8.07%). However, although awareness of pre-diabetes as a diagnosis is growing, it remains only a small minority of those who have the condition.  

<table>
<thead>
<tr>
<th>Table 5.4 Diabetes Health Data, 2010, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nashua</strong></td>
</tr>
<tr>
<td>Percent with pre-diabetes (2010)</td>
</tr>
<tr>
<td>Percent with diabetes (2011)</td>
</tr>
<tr>
<td>Adults with diabetes that had a dilated eye examination (2011)</td>
</tr>
<tr>
<td>Adults with diabetes that took a diabetes self-management course (2011)</td>
</tr>
<tr>
<td>Adults with diabetes that also have coronary heart disease (2010)</td>
</tr>
<tr>
<td>Adults with diabetes that also have high cholesterol (2010)</td>
</tr>
</tbody>
</table>

*Source: NH DHHS, BRFSS; *=data not available for this report*

People who have diabetes should see a primary care doctor at least twice a year if their diabetes is well controlled, and more often if it is not well-controlled, or if they have other conditions. As diabetes progresses, more medications for control of blood sugar are added and patients may require insulin. Many people with diabetes also have one or more of the following: obesity, high cholesterol, high blood pressure, heart disease or smoking which require additional medications in order to control. Specialist consultation is common as patients develop complications from their disease, adding to the complexity and cost of management.

**Asthma**

Asthma is a chronic lung disease that involves swelling and inflammation of the airways, reversible airway obstruction, and muscle spasms around the airways in response to a variety of triggers. The main symptoms of asthma are cough, chest tightness, wheeze (a whistling, high-pitched noise coming from the chest), and shortness of breath. Asthma symptoms can be brought on by a number of different triggers including smoke (tobacco, wood and others), air pollution (combustion byproducts, solvents and other chemical irritants), dust mites, cockroach allergen, mold, pet dander and respiratory infections (e.g. viruses). Poorly controlled asthma can cause difficulty breathing requiring emergency department visits, hospitalizations and even death in severe cases.

National rates of asthma are 9.3% for children and 8% for adults. Over 1 in 10 adults in Nashua and in New Hampshire overall have asthma. Almost 1 in 6 children in Nashua have asthma (15.4%) compared to about 1 in 9 in the rest of the state (11.5% in the Greater Nashua Region and 10.4% state-wide).
Between 2001 and 2010, a statistically significant increase was seen among New Hampshire adults in the prevalence of current asthma (p=0.005) from 8.4% to 10.1%. Therefore, New Hampshire not only has more adults and children living with asthma, but the rates have been increasing.

There exists an association between body mass index (BMI) and asthma; higher prevalence of asthma is associated with higher levels of BMI. As the rates of overweight and obesity rise, this has the potential for asthma rates to increase as well.

Asthma National Quick Facts:
- Asthma caused 10.5 million missed days of school and 14.2 million missed days of work in 2008
- Asthma cost the US about $56 billion in medical costs, lost school and work days, and early deaths in 2007
- Asthma caused 479,300 hospitalizations, 1.9 million emergency department visits and 8.9 million doctor visits in 2009

According to the 2006-2008 NH Behavioral Risk Factor Surveillance System Adult and Child Asthma Callback Surveys:
- 20.7% of adults (CI 17.2 - 24.3) and 29.3% of children (CI 22.1 - 36.5) had 1 or more urgent visits due to worsening asthma symptoms in the previous 12 months. These data did not include emergency room visits.
- 19.5% of adults (nearly 1 in 5) with asthma reports experiencing cost barriers to adequate treatment. This occurred mainly in the form of medication expenses (17.5% of adults)

In 2008, asthma cost New Hampshire over $266 million, of which, over $81 million was in Hillsborough County, the highest cost county in the state.

### Table 5.5 Asthma Indicators

<table>
<thead>
<tr>
<th></th>
<th>Nashua</th>
<th>NH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of adults with asthma (2010)</td>
<td>7.2% (4.2-10.2%)</td>
<td>10.1% (9.0-11.2%)</td>
</tr>
<tr>
<td>Percent of children with asthma (2008)</td>
<td>10.2% (3.4-17.1%)</td>
<td>8.6% (7-10.1%)</td>
</tr>
<tr>
<td>Adults with asthma and are obese (2010)</td>
<td>26.3% (7.55-45.1%)</td>
<td>31.7% (26.5-36.9%)</td>
</tr>
<tr>
<td>Adults with asthma that smoke (2010)</td>
<td>7.2% (4.2-10.2%)</td>
<td>17.3% (13.2-21.4%)</td>
</tr>
<tr>
<td>Adults with asthma that received their influenza immunization (2010)</td>
<td>66.7% (45.7-87.8%)</td>
<td>56.2% (50.5-61.9%)</td>
</tr>
<tr>
<td>Adults with asthma that received their pneumonia vaccine (2010)</td>
<td>7.2% (4.2-10.2%)</td>
<td>10.1% (9-11.2%)</td>
</tr>
</tbody>
</table>

Source: NH DHHS, BRFSS; *=data not available
As shown in Figure 5.12, the rate of hospitalizations due to asthma in Nashua is higher than that seen in the state as a whole, while the rest of Hillsborough County enjoys a substantially lower hospitalization rate for asthma. The highest rates of hospitalizations are seen in children under four and adults over 65 years of age.

**Figure 5.10 Asthma Hospitalizations, Age-Adjusted Rate, 2009**

![Asthma Hospitalizations Map]

*Source: NH DHHS, WISDOM*

**Figure 5.11 Asthma Hospitalizations by Age, GNPHR, 2005-2009**

![Asthma Hospitalizations by Age Chart]

*Source: NH DHHS*
Level of Asthma Control in NH

In New Hampshire, nearly 1 in 3 children and 1 in 3 adults living with asthma are reported to have asthma that is not well controlled. Given the known effects on the economy and missed work and school days, this represents an area for both improvement in quality of life and cost savings.

**Management of Asthma**

Effective ways to manage asthma in the medical setting include:

- Teaching patients and families how to identify the signs and symptoms of asthma that is not well-controlled
- Teaching patients and families how to administer medications properly
- Teaching patients and families why control of asthma is so important
- Developing a written asthma action plan with primary or specialty care
- Regular medical follow-up visits
- Annual flu vaccines

In addition, because there are a number of triggers for asthma that are environmental, educational programs and policies that address these issues can reduce the number of asthma patients suffering acute symptoms. These programs address: 36

- Reducing the exposure to tobacco smoke
- Reducing exposure to indoor air pollution
- Reducing dust mites in the home
- Reducing animal allergens
- Reducing cockroach antigen in the home
- Reducing indoor exposure to molds
- Avoiding exposure to solvents and other chemical irritants

Extensive recommendations regarding action steps to reduce the burden of asthma in New Hampshire have already been made in the New Hampshire State Asthma Plan, which can be found at [http://www.dhhs.nh.gov/dphs/cdpc/asthma/documents/state-plan.pdf](http://www.dhhs.nh.gov/dphs/cdpc/asthma/documents/state-plan.pdf). 37
Conclusion

Despite improvements in the rates of screening for blood pressure and high cholesterol and reductions in deaths from heart disease and stability in death rates from stroke, these conditions continue to affect the health of numerous New Hampshire residents. Furthermore, the rising epidemic of diabetes threatens to reverse these gains at ever growing costs. Although largely non-fatal, asthma remains a significant burden for both adults and children living in New Hampshire, in terms of quality of life and the disruption of every day school and work activities. It is paramount, and indeed a matter of pure sustainability, that New Hampshire and the United States focus efforts on both the treatment and more importantly the prevention of these diseases.

Community Spotlight on Lyndeborough: Trails Association

In October 2008, a group of Lyndeborough citizens created the Lyndeborough Trails Association in order to increase outdoor recreational opportunities for families in the town and subsequently, encourage a greater sense of community. The mission of the LTA is to identify, develop and maintain a system of trails for non-motorized recreational use throughout Lyndeborough that will connect to the existing trail networks in surrounding communities. Since its creation, the LTA has completed the first half of its planned Cross Lyndeborough Trail (CLT), which is planned to span from the southwest corner of the town to the corner at High Bridge. In Phase I, the LTA worked to connect historic Lyndeborough Center with Putnam Hill through the construction of a multi-use bridge and maintenance of trails. Currently, the Lyndeborough Trails Association is working on implementing Phase II of the CLT, the High Bridge Restoration Project.

Source: Nashua PAL
Community Spotlight on Hollis: Parks Project

The Hollis Parks Project is a group of citizens committed to fostering community connections and providing quality recreation opportunities for all. In June of 2013, a group of community members saw the need for enhanced and improved spaces for citizens of all ages in two widely used community outdoor areas, Big Nichols Field and Little Nichols Field. The group found that when kids were occupied and happily engaged on playgrounds, it provided the opportunity for parents to connect and establish friendships with one another that build a “community connection.” Rather than stay within Hollis, many families tended to travel to different towns for playgrounds, taking the “community connection” with them. Thus, the Hollis Parks Project was born. Empowered by the concept that “playgrounds build community,” the Hollis Parks Project is a grassroots effort to raise money and donations to install, repair, and enhance the grounds with new playground equipment, picnic tables, and granite bench seating. The group believes that having a vibrant park with engaging equipment and additional seating means that citizens young and old will have more opportunity to be outside, enjoying nature. The project has collaborated with the Hollis Recreation Commission and other local groups to envision improvements for both Big Nichols Field and Little Nichols field. With a force of 5 committee members and over 30 volunteers, the Hollis Parks Project aims to continue to be a steward of open space and free recreation for the Hollis community for many years to come.


19 City of Nashua, Community Health Assessment Data Subcommittee, personal communications.


29 Canadian Institute for Health Information (CIHI). Health indicators 2013: definitions, data sources and rationale. “Ambulatory care sensitive conditions: age-standardized acute care hospitalization rate for conditions where appropriate ambulatory care prevents or reduces the need for admission to the hospital per 100,000 population younger than age 75 years”. Ottawa (ON): Canadian Institute for Health Information (CIHI), 96; May 2013.


