

Hospital Utilization and Access to Primary Care in New Brunswick

A Chartbook

Derek DeLia
Carl Schneider

February 2007



Rutgers Center for
State Health Policy

Healthier New Brunswick 2010
Working Together, Living Healthier



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Hospital Utilization and Access to Primary Care in New Brunswick

Executive Summary

Prepared by Rutgers Center for State Health Policy

To support the goals of Healthier New Brunswick 2010, this Chartbook identifies potential problems with access to primary medical care among New Brunswick residents. It focuses on the use of inpatient and outpatient hospital services that are well-established indicators of unmet need for primary care. Summary and trend statistics are provided for potentially avoidable hospital admissions and potentially avoidable use of the hospital emergency department (ED) by patients who were not admitted overnight.

Potentially avoidable hospital admissions are defined as admissions for Ambulatory Care Sensitive (ACS) conditions, which are typically avoidable when patients have access to timely and effective primary care (e.g., ear infections, asthma).^{1,2} For residents who are less than 65 years of age, admissions for pneumonia are counted as avoidable. Following established practice, pneumonia is excluded from the count of ACS admissions for residents who are 65 and over, since pneumonia progresses differently for this age group and subsequent hospital admission is often not considered avoidable.³

Potentially avoidable ED visits are visits to the ED that fall into one of three categories: 1) the patient does not require treatment within 12 hours (e.g., headache); 2) the patient requires treatment within 12 hours but care could have been provided in a primary care setting (e.g., acute bronchitis); or 3) the patient requires treatment within 12 hours, the treatment must be provided in an ED, but the emergency could have been avoided with earlier medical intervention (e.g., congestive heart failure).^{4,5,6}

Using data from hospital billing records from 1998 to 2004, trends in ACS admissions for New Brunswick residents are compared to similar trends among residents of other NJ cities and demographically similar towns in the southern part of the state. Analysis of potentially avoidable ED use is limited to 2004 only, since data for prior years are unavailable. Finally, the Chartbook describes the characteristics of repeat ED users (i.e., 2 or more visits) in New Brunswick using the 2004 Healthier New Brunswick Community Survey that was conducted by the Rutgers Center for State Health Policy. The major findings of the analysis are:

The rate of potentially avoidable hospital admissions among children in New Brunswick has grown in recent years, overall and relative to other cities. However, it is not clear whether this growth is attributable to increasing access barriers or to the deficits in the way demographic data account for recent growth in the population of New Brunswick residents under the age of 19.

- From 1998-2004, the ACS admission rate among children in New Brunswick was generally in the middle of the corresponding rate for children in comparison cities (Chart 1).
- With the exception of Perth Amboy in 2004, the ACS admission rate has grown faster for children in New Brunswick relative to comparison cities from 2001 to 2004.
- It is not clear however, how much the increase in New Brunswick is attributable to growing access barriers and how much is attributable to an increase in the number of children living in New Brunswick who are not accounted for in available demographic data (particularly immigrants).
- Analysis of hospital admissions for “marker conditions” in New Brunswick and comparison cities provides some perspective on the potential undercount of children living in New Brunswick (Chart 2).
- Marker conditions measure hospital utilization that is proportional to the size of the population living in an area but generally unaffected by health system variables such as access to care. In general, marker conditions include appendicitis with appendectomy, acute myocardial infarction, gastrointestinal obstruction, and fracture of the hip or femur. For children, marker conditions consist almost exclusively of appendicitis with appendectomy.
- Trends in admissions for marker conditions are consistent with the idea that New Brunswick experienced more rapid growth in the number of children under the age of 18 who are not accounted for in demographic data compared to other cities.
- Specifically, the marker condition rate for children in New Brunswick increased dramatically from 2001 to 2003 and fell only slightly in 2004 (Chart 2).
- In contrast, the marker condition rate for children in other cities either remained stable or fluctuated with no discernable trend.

The rate of potentially avoidable hospital admissions among adults (elderly and non-elderly) in New Brunswick has remained stable in recent years and compares favorably to other New Jersey cities.

- From 1998-2004, the ACS admission rate among non-elderly adults in New Brunswick was consistently lower than the corresponding rate for non-elderly adults in comparison cities (Chart 3).
- Although it remained fairly steady, the ACS admission rate among non-elderly adults in New Brunswick ended the period lower in 2004 compared to 1998.
- In contrast, the ACS admission rate among non-elderly adults in some comparison cities increased over the observation period.
- From 1998-2004, the ACS admission rate among elderly adults in New Brunswick was consistently lower than the corresponding rate for non-elderly adults in comparison cities (Chart 4).
- This rate dropped in 2002 and remained fairly low thereafter.
- In comparison cities, the ACS admission rate among elderly adults fluctuated with no discernable trend.

Children in New Brunswick have a higher rate of potentially avoidable ED use than children in other NJ cities.

- In New Brunswick, 66% of all ED visits (without admission) made by children are classified as potentially avoidable (Chart 5).
- This percentage is higher than that found in all of the comparison cities.
- Do you need to add a bullet that these numbers could be affected by the same denominator problem noted above?
- As in the case for ACS admissions, these numbers may be affected by the presence of children living in New Brunswick who are not accounted for in available demographic data (particularly immigrants).

Adults (elderly and non-elderly) in New Brunswick have a rate of potentially avoidable ED use that is not unusual for NJ cities in general.

- In New Brunswick, 53% of all ED visits (without admission) made by non-elderly adults are classified as potentially avoidable (Chart 6).
- This percentage is lower than that found in Jersey City but is higher than the corresponding percentages in the remaining three comparison cities.
- In each city examined, the percentage of ED visits that are potentially avoidable is lower among non-elderly adults than children.
- In New Brunswick, 46% of all ED visits (without admission) made by elderly adults are classified as potentially avoidable (Chart 7).
- This percentage is lower than that found in Jersey City but is higher than the corresponding percentages in the remaining three comparison cities.
- In each city examined, the percentage of ED visits that are potentially avoidable is lower among elderly adults compared to non-elderly adults and children.

In 2004, 14% of New Brunswick residents had at least one visit to a hospital ED and 5.5% had two or more visits (Chart 8). New Brunswick residents with specific characteristics are disproportionately represented among repeat users (i.e., 2 or more visits) of the ED. Compared to their numbers in New Brunswick overall, the following groups are *overrepresented* among repeat ED users:

- Children (Chart 9)
- Residents with income below the Federal Poverty Level (Chart 12)
- Residents with income below 200% of the Federal Poverty Level (Chart 13)
- Residents who describe their physical health as fair or poor (Chart 14)
- Residents with at least one self-reported mental health problem (Chart 15)

Compared to their numbers in New Brunswick overall, the following groups are *underrepresented* among repeat ED users:

- Non-elderly adults (Chart 9)
- Foreign born residents (Chart 10)
- Residents who are not U.S. citizens (Chart 11)

About the Survey

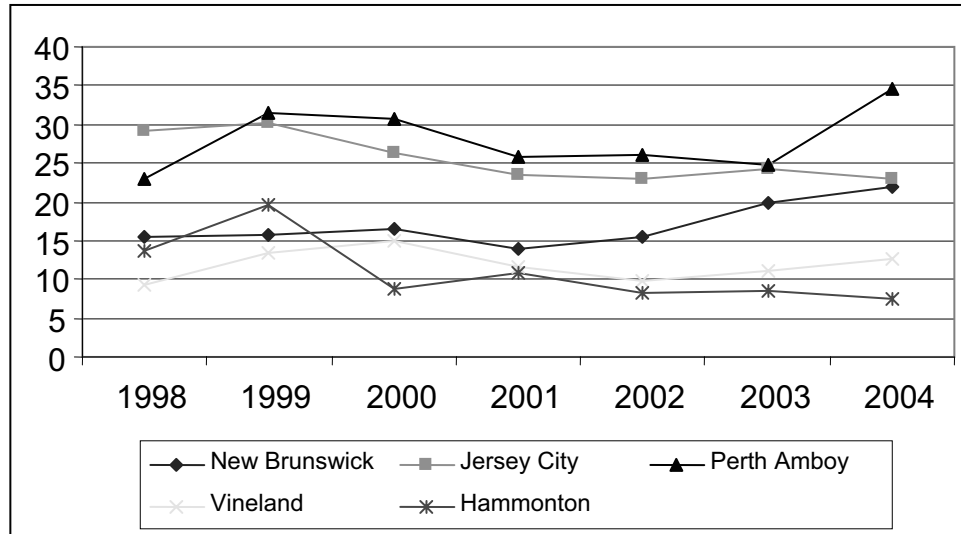
The Healthier New Brunswick Community Survey was conducted under the auspices of Rutgers Center for State Health Policy in late 2004 using tested and validated questions and professional, trained interviewers. The interviews were conducted by telephone, and cell phones were provided to families without landlines (4% of the interviews were completed via cell phones). The interview was conducted with the family member aged 18 or over who was most knowledgeable about the health and health care needs of the family. The interviews averaged 40 minutes in length, and were conducted in either English or Spanish. The response rate was 52.3% of all families sampled and the cooperation rate was 96% (i.e., only 4% of families contacted refused to participate). These are high rates for this type of survey. Sampling was conducted by random-digit-dialing, a common method for generating representative samples. This method was supplemented through area-probability sampling of households without landlines in the 4 New Brunswick census tracts that have the lowest telephone coverage according to Census data. Those living in New Brunswick primarily to attend college were excluded. A token of \$10 was provided to respondents (\$20 for cell phone cases). The final sample consisted of 595 New Brunswick and bordering Somerset families covering 1,572 individuals. In addition, the New Brunswick data was compared to New Jersey overall and to other NJ urban areas (i.e., municipalities with at least 25,000 people and population density of at least 9,000 per square mile) using data from the 2001 New Jersey Family Health Survey. The New Jersey Family Health Survey was conducted by Rutgers Center for State Health Policy with funding by the Robert Wood Johnson Foundation.

Additional copies of this report can be downloaded from the CSHP website at:

<http://www.cshp.rutgers.edu>

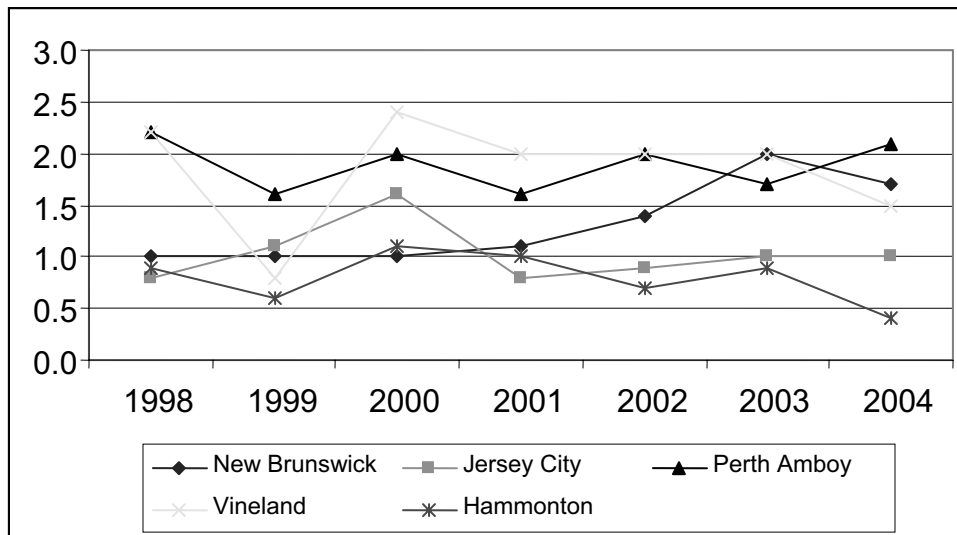
Charts

Chart 1: Trend in Ambulatory Care Sensitive (ACS) Admissions among Children in New Brunswick and Comparison Cities



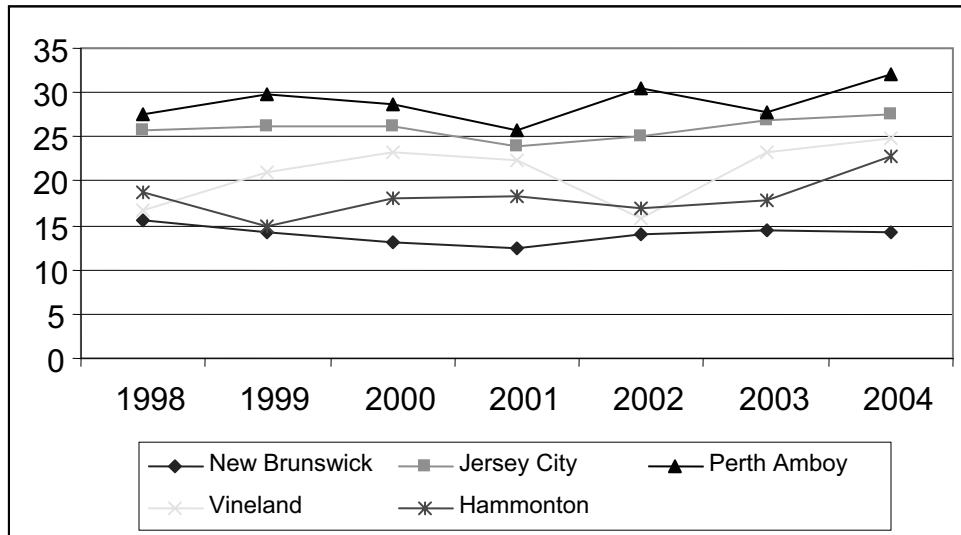
Source: NJ Uniform Billing (UB-92) Records

Chart 2: Trend in Admissions for Marker Conditions among Children in New Brunswick and Comparison Cities



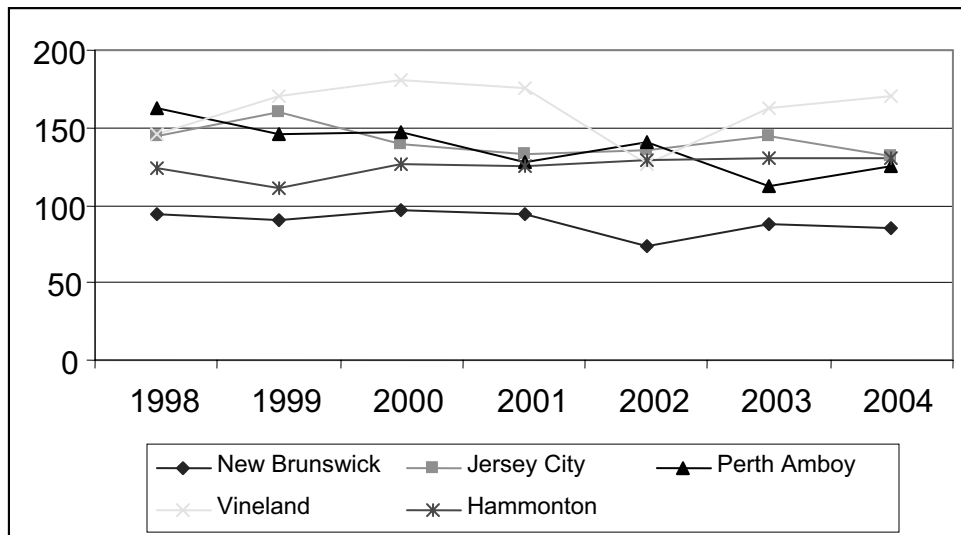
Source: NJ Uniform Billing (UB-92) Records

Chart 3: Trend in Ambulatory Care Sensitive (ACS) Admissions among Non-elderly Adults in New Brunswick and Comparison Cities



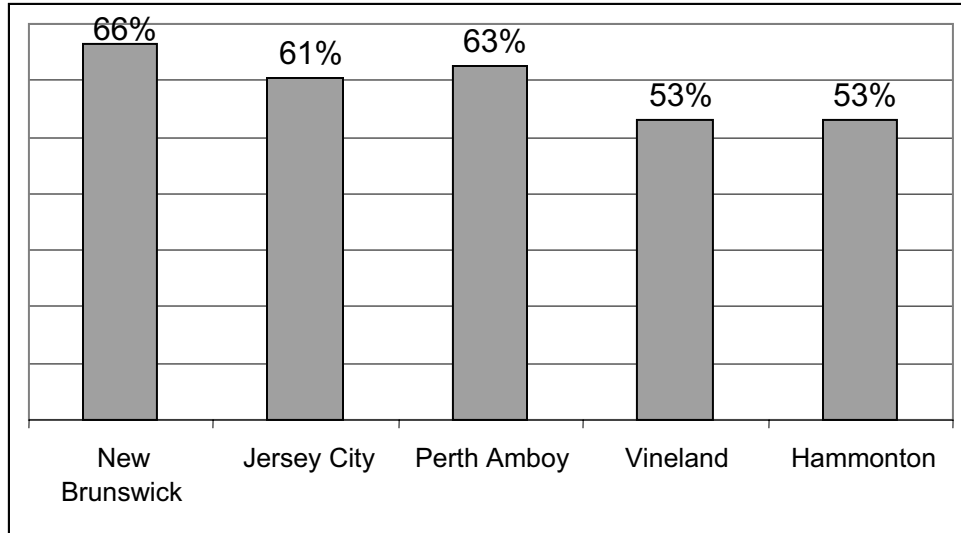
Source: NJ Uniform Billing (UB-92) Records

Chart 4: Trend in Ambulatory Care Sensitive (ACS) Admissions among Elderly Adults in New Brunswick and Comparison Cities



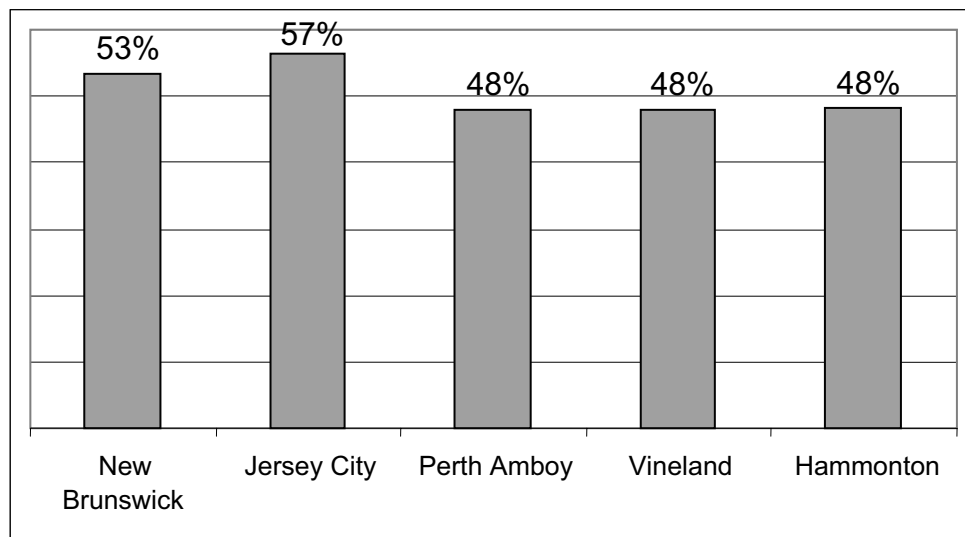
Source: NJ Uniform Billing (UB-92) Records

Chart 5: Percentage of Visits (without Admission) to the Hospital Emergency Department (ED) that are Potentially Avoidable among Children in New Brunswick and Comparison Cities



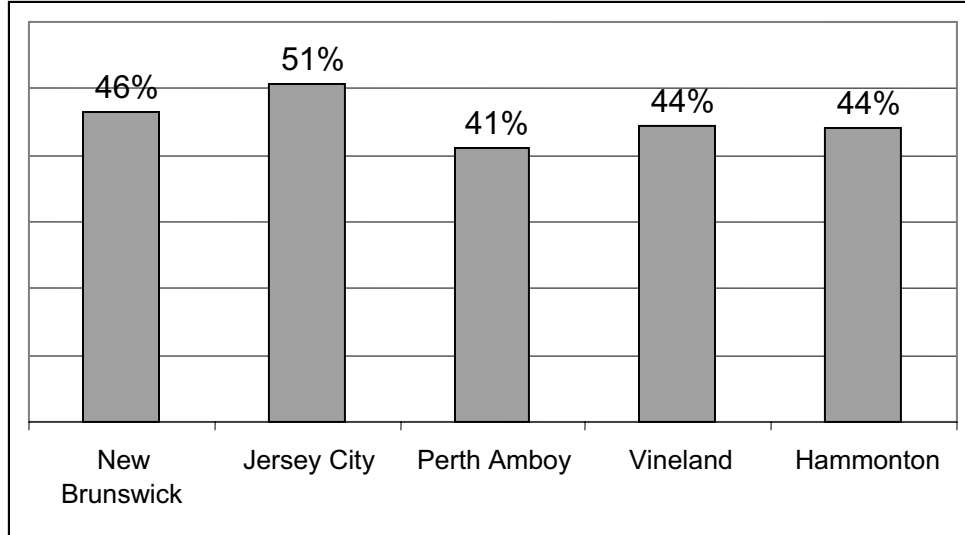
Source: NJ Uniform Billing (UB-92) Records

Chart 6: Percentage of Visits (without Admission) to the Hospital Emergency Department (ED) that are Potentially Avoidable among Non-Elderly Adults in New Brunswick and Comparison Cities



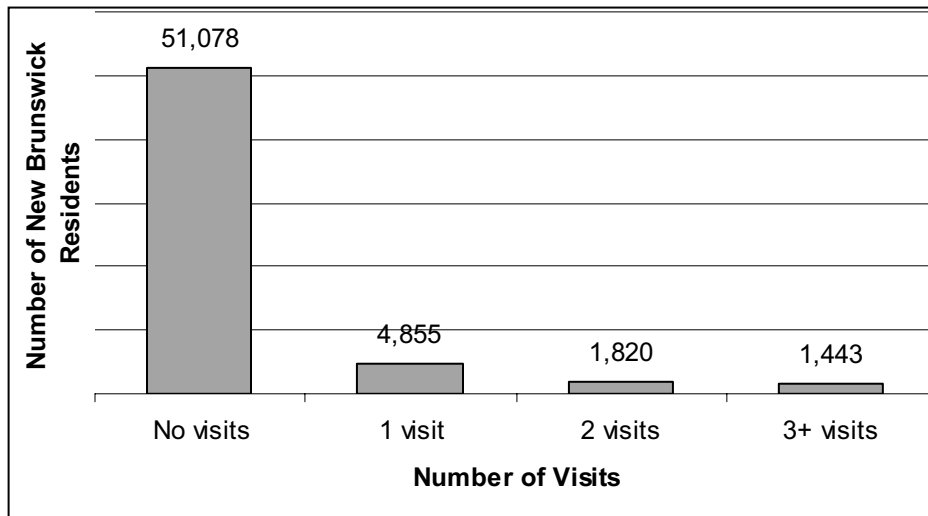
Source: NJ Uniform Billing (UB-92) Records

Chart 7: Percentage of Visits (without Admission) to the Hospital Emergency Department (ED) that are Potentially Avoidable among Elderly Adults in New Brunswick and Comparison Cities



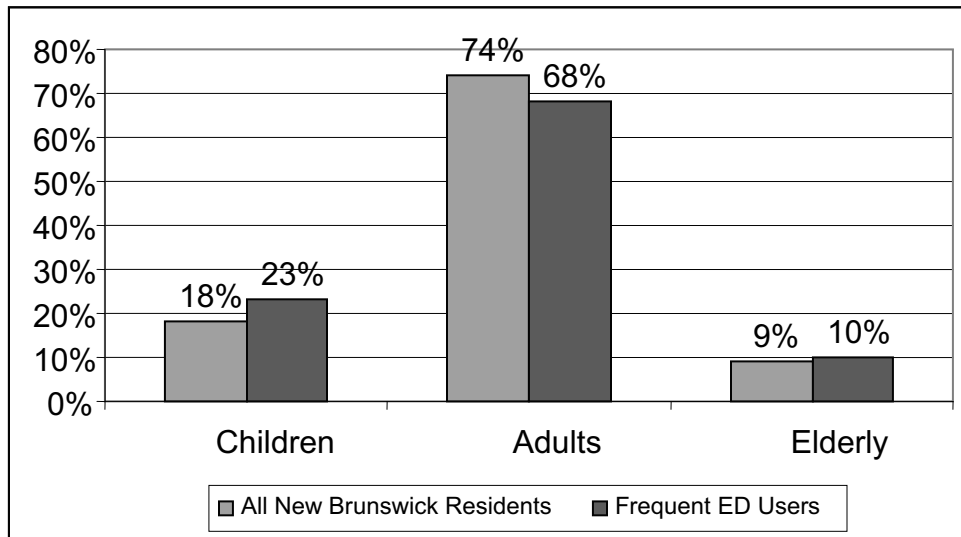
Source: NJ Uniform Billing (UB-92) Records

Chart 8: Total Number of Emergency Department Visits by New Brunswick Residents in 2004



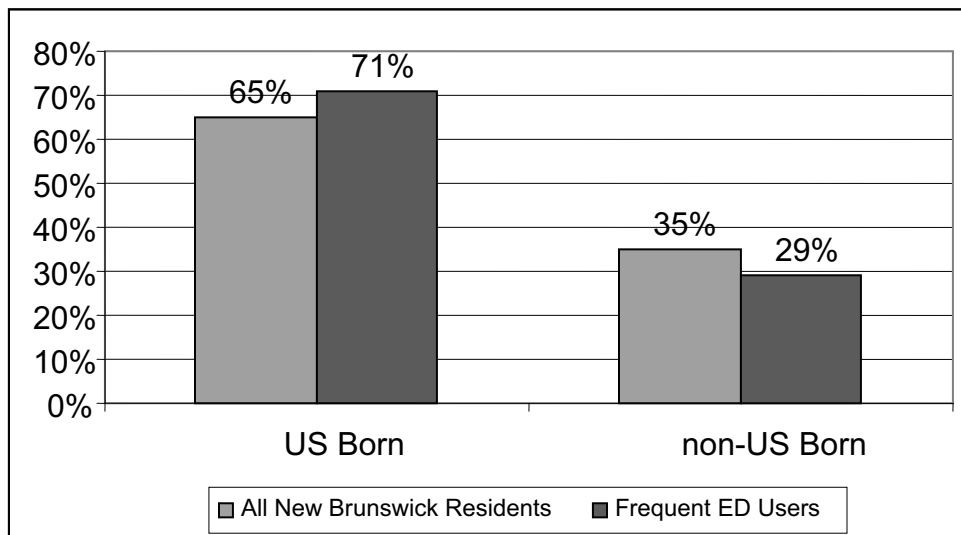
Source: Healthier New Brunswick Community Survey

Chart 9: Repeat ED Utilization by Age Group



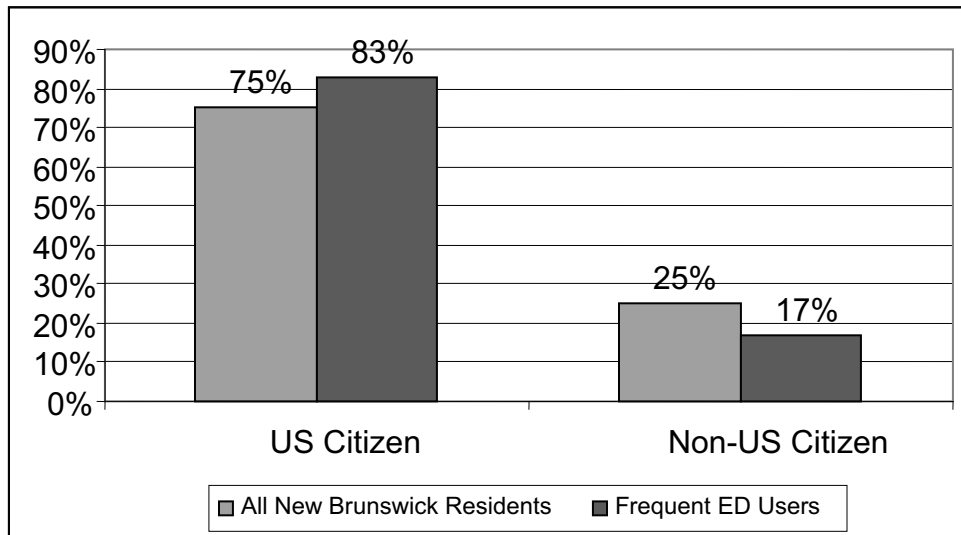
Source: Healthier New Brunswick Community Survey
Repeat ED users are defined as individuals who had 2 or more ED visits in 2004.

Chart 10: Repeat ED Utilization by Immigration Status



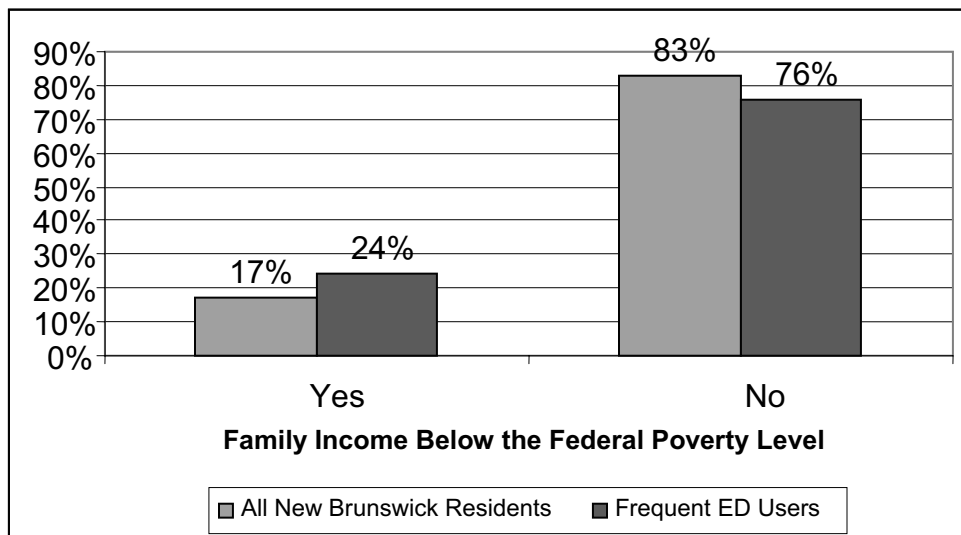
Source: Healthier New Brunswick Community Survey
Repeat ED users are defined as individuals who had 2 or more ED visits in 2004.

Chart 11: Repeat ED Utilization by Citizenship



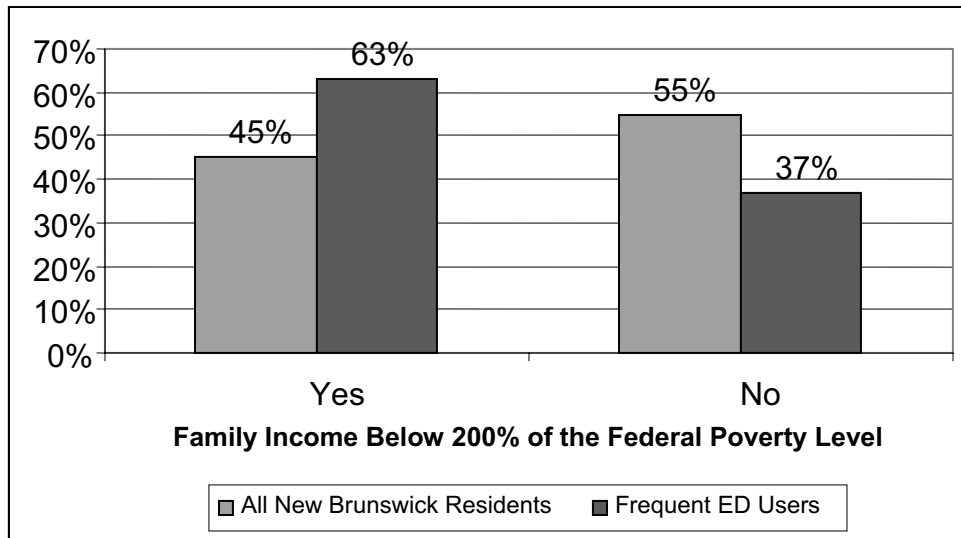
Source: Healthier New Brunswick Community Survey
Repeat ED users are defined as individuals who had 2 or more ED visits in 2004.

Chart 12: Repeat ED Utilization by Family Income



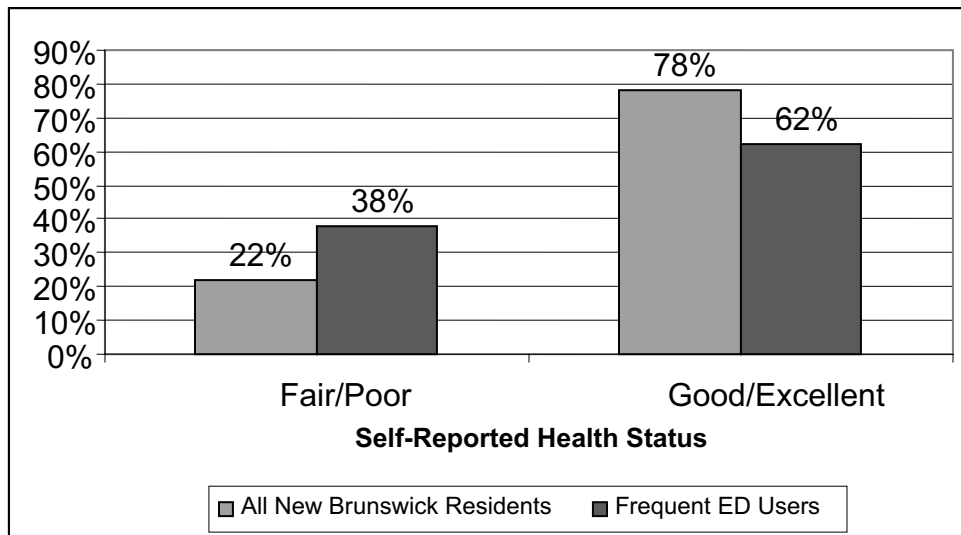
Source: Healthier New Brunswick Community Survey
Repeat ED users are defined as individuals who had 2 or more ED visits in 2004.

Chart 13: Repeat ED Utilization by Family Income



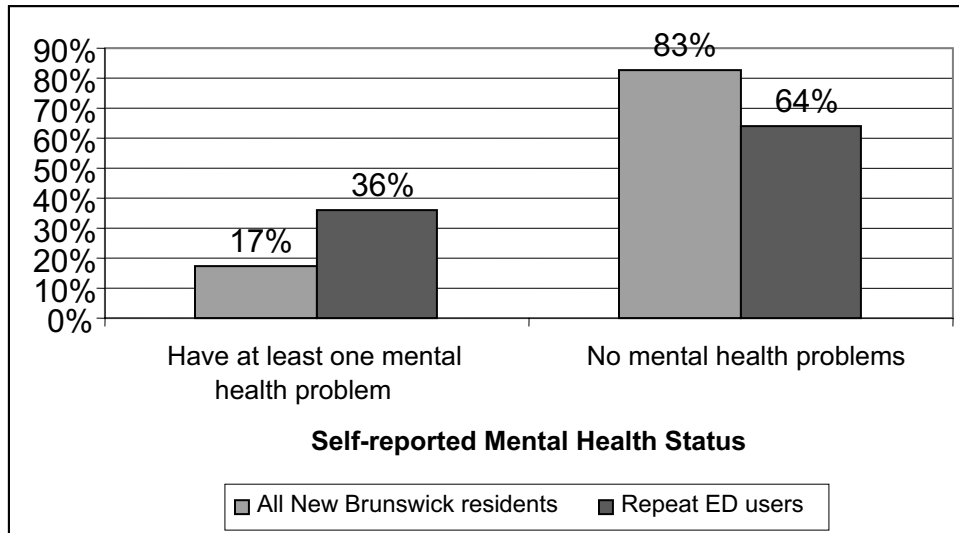
Source: Healthier New Brunswick Community Survey
Repeat ED users are defined as individuals who had 2 or more ED visits in 2004.

Chart 14: Repeat ED Utilization by General Health Status



Source: Healthier New Brunswick Community Survey
Repeat ED users are defined as individuals who had 2 or more ED visits in 2004.

Chart 15: Repeat ED Utilization by Mental Health Status



Source: Healthier New Brunswick Community Survey
Repeat ED users are defined as individuals who had 2 or more ED visits in 2004.

Bibliographic notes

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6. DeLia, D. *Potentially Avoidable Use of Hospital Emergency Departments in New Jersey* Report to the New Jersey Department of Health and Senior Services, July, 2006.

Tables

Top 5 Ambulatory Care Sensitive (ACS) Conditions for New Brunswick Residents, 2004

Condition	Children		Non-elderly adults		Elderly Adults			
	Number of Admissions	Percent of Total ACS Admissions	Condition	Number of Admissions	Percent of Total ACS Admissions	Condition	Number of Admissions	Percent of Total ACS Admissions
Bacterial Pneumonia	78	17.8%	Secondary Dehydration	137	17.4%	Congestive Heart Failure	175	25.5%
Asthma	78	17.8%	Asthma	92	11.7%	Secondary Dehydration	170	24.8%
Secondary Dehydration	56	12.8%	Bacterial Pneumonia	90	11.4%	Chronic Obstructive Pulmonary Disease	69	10.1%
Primary Dehydration	39	8.9%	Congestive Heart Failure	73	9.3%	Kidney/Urinary Infection	68	9.9%
Kidney/Urinary Infection	33	7.6%	Cellulitis	63	8.0%	Primary Dehydration	45	6.6%

Top 5 Diagnoses for New Brunswick Residents who Visited a Hospital Emergency Department (ED) without Requiring Inpatient Admission, 2004

Diagnosis	Children		Non-elderly adults		Elderly Adults		
	Number of visits	Percent of Total ED visits	Diagnosis	Number of visits	Diagnosis	Number of visits	Percent of Total ED visits
Unspecified otitis media	1,150	11.0%	Abdominal pain	814	Abdominal pain	62	4.3%
Acute bronchitis	971	9.3%	Other symptoms referable to back	593	Urinary tract infection, site not specified	35	2.4%
Infectious mononucleosis	621	6.0%	Headache	583	Acute bronchitis	34	2.4%
Acute pharyngitis	540	5.2%	Acute bronchitis	568	Asthma	33	2.3%
Other and unspecified noninfectious gastroenteritis and colitis	536	5.1%	Acute pharyngitis	442	Other symptoms referable to back	31	2.1%