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University of Medicine & Dentistry of New Jersey

A Community Health Needs Assessment for Saint Peter's University Hospital & Robert Wood Johnson University Hospital:

Findings from the Behavioral Risk Factor & Surveillance System (BRFSS), Hospital Discharge Data, A Community Survey, Key Informant Interviews, and Community Member Focus Groups

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Executive Summary

Under the 2010 Patient Protection and Affordable Care Act (ACA), non-profit hospitals must conduct a community health needs assessment and identify an implementation strategy to address those needs every three years. In order to comply with this requirement, St. Peter's University Hospital and Robert Wood Johnson University Hospital teamed together under a grant from The Robert Wood Johnson Foundation's New Jersey Health Initiatives Program. The hospitals engaged the Rutgers University Center for State Health Policy (CSHP) and the University of Medicine & Dentistry of New Jersey-Robert Wood Johnson Medical School (UMDNJ-RWJMS) Department of Family Medicine and Community Health, Research Division, to complete a series of multi-method analytic activities to inform the community health needs assessment and implementation strategy. As part of that work, CSHP conducted secondary data analyses of the 2010 Behavioral Risk Factor and Surveillance System (BRFSS) data and Uniform Billing hospital discharge data over the period 2008-2010 and interpreted findings from a community telephone survey. A separate qualitative part of the project was conducted by UMDNJ-RWJMS who reached out to broad constituencies via a series of key informant interviews and focus groups of community members. Findings converged in several key themes across all four data components.

Chapter 1 of this report includes findings from an analysis of 2010 BRFSS data. CSHP analyzed data for counties included in the designated hospital service area (Middlesex, Somerset) as well as statewide comparative data. Health topics of interest were analyzed by key demographics (age, gender, race/ethnicity), income, and health insurance status.

- Overall findings:
    - For nearly all measures overall, the combined county sample fared better than the New Jersey sample.
    - The counties fared worse on only 3 of the 33 measures (no exercise past month, no PSA test in the past 2 years, and never had an HIV test).
- Findings by age:
    - In general, older adults fared worse on the health status measures, with the exception of number of bad mental health days and ever diagnosed with asthma, while younger adults reported more problems with the healthcare access measures such as not having a regular doctor, cost barriers to care, or not having recent medical/dental check-ups.
    - Younger adults also fared worse on risky behaviors such as binge drinking, smoking, seatbelt use, and lack of sleep, but better on overweight/obesity, exercise, and falls, whereas older adults generally engaged in more preventive behaviors, with the exception of recent mammograms or pap tests.
- Findings by gender:
    - Females fared worse on the health status measures, with the exception of diabetes.
    - Males reported more problems with two of the healthcare access measures (not having a regular doctor and not having recent medical/dental check-ups), while females reported more problems with cost barriers to care.
    - Males fared worse on the risky behaviors such as binge drinking, smoking, overweight/obesity, and seatbelt use, while females fared worse on exercise, sleep, and falls.
- Findings by race/ethnicity:
    - Black non-Hispanic and Hispanics fared worse on some of the health status measures than white non-Hispanics, but white non-Hispanics were more likely to report heart attack, stroke, and activity limitation.
    - Black non-Hispanics and Hispanics reported more problems with the healthcare access measures.
    - Asian non-Hispanics fared better on almost all the measures, with the exception of diabetes, heart attack, not having a recent dental visit, flu shot (18+), and HIV test.
- Findings by income:
    - Low income respondents fared worse across the board. The few exceptions were for binge drinking, overweight (but not obese), lack of sleep, seatbelt use, and ever had an HIV test, where they did better than the other income groups.
- Findings by insurance status:

- The uninsured fared worse across almost all measures. Exceptions were for heart attack, health problem requiring special equipment, smoking, overweight (but not obese), exercise, sleep, and HIV test, where they did better than the insured group.

Chapter 2 contains findings from secondary data analysis of New Jersey Uniform Billing hospital discharge data over the period 2008-2010. This data provides population-based rates of hospital inpatient and emergency department (ED) utilization that are useful for community health improvement strategies. Analyses focused on inpatient admissions for "ambulatory care sensitive" conditions that could be avoided by high quality primary care within the community and treat-and-release ED visits that could have been treated in a primary care setting or could have been prevented with adequate access to primary care within the community. Population-based rates of these indicators were examined within the designated hospital service area and compared to New Jersey overall, and by patient characteristics (e.g., health insurance payer, demographics). We also examined the demographic and health insurance distribution for patients who had avoidable visits. Key findings are outlined below.

- Population-based rates of avoidable hospitalizations and ED visits were lower for the combined service area of the hospitals compared to NJ overall, suggesting relatively higher adequacy of primary care.
- For the combined service area of the hospitals, the rate of avoidable inpatient hospitalizations and avoidable ED visits were 1.43 and 12.49 per 100 population. Both these rates were lower than the corresponding rates for NJ overall- 1.73 and 14.62 per 100 population.
- Examining the health insurance information for patients who had avoidable hospitalizations and ED visits, we found the following:
    - Within the service area, the majority (62.3%) of avoidable hospitalizations was Medicare-paid and more than a quarter (25.9%) was paid for by private insurance.
    - In contrast to avoidable hospitalizations, for avoidable ED visits the majority of the visits within the hospital service area were paid by private insurance (53.3%). Next to private pay, visits from self-pay/uninsured patients comprised the highest percentage of avoidable ED visits (22.2%).
- We also examined *percentage of avoidable hospitalizations out of all hospitalizations* categorized by patient health insurance and demographics. We similarly examined avoidable ED visits. These patterns help identify patient and payer characteristics with the highest risk of these hospitalizations. Our results indicated:

    - Percentage of avoidable hospitalizations within the hospital service area was highest within Medicare-paid hospitalizations (17.0%) followed by those with payer type uninsured/self-pay (11.0%).
    - For avoidable ED visits, unlike avoidable hospitalizations, Medicaid-paid visits had the highest percentage of avoidable visits (58.1%). The next highest group for avoidable ED visits was again the self pay/uninsured group (49.8%).
- We examined percentages of avoidable inpatient hospitalizations among all hospitalizations characterized by race/ethnicity. We similarly examined avoidable ED visits.
    - For the hospital service area, avoidable hospitalizations were highest among black patients (13.8%), and for New Jersey overall it was also highest among black patients (15.7%).
    - For the hospital service area, avoidable ED visits were highest among Hispanic patients (56.3%), and for New Jersey overall it was also highest among Hispanic patients (54.4%).
    - Minorities had higher rates of avoidable visits than white patients.
    - For children, blacks and Hispanics had higher rates of avoidable hospitalizations (out of all hospitalizations) than white patients. However their rates of avoidable hospitalizations were lower within the hospital service area compared to NJ overall.

Chapter 3 contains findings from a community phone (landline and cell) survey of 1,000 randomly-selected adults within the hospitals' primary service area. Questions were also asked about a random child in the household if available. CSHP analysts led the development of the survey. The hospitals contracted directly with a survey vendor, Professional Research Consultants, Inc. (PRC), to conduct the fieldwork and analyze the data. De-identified, aggregated cross-tabulated results by key socio-demographics (age, gender, race/ethnicity, income) and health insurance status were sent to CSHP analysts, who interpreted the findings found in this report.

- Adult findings overall:
    - Overall, 14.2% of adults reported fair or poor general health, 18.8% reported fair or poor dental health, and 5.9% reported fair or poor mental health.
    - 56.2% of adults had been diagnosed with at least one chronic condition; 30.8% had been diagnosed with high blood pressure.
    - About two-thirds of adults (66.0%) were either overweight or obese, but only 24.8% had received advice about their weight from a health care provider in the past year.

    - 20.1% of adults had visited the ED in the past year and about a third of those had visited the ED more than once. The majority (81.2%) spent less than 30 minutes in the ED before being seen by a health care provider.
    - 80.5% had a physical check-up and 71.7% had a dental check-up in the past year.
    - About a fourth (27.0%) reported at least one major barrier to wanted care.
    - Over half (52.9%) reported at least one problem with navigating the health care system; inconvenient doctor's hours and having to wait too long to get an appointment were cited most often.
    - Prescription medication use was high, with 60.6% of adults taking at least one prescription medicine in the past month and even higher rates among older adults, females, white non-Hispanics, middle-income respondents, and those publicly insured.
- Adults findings by age:
    - Younger adults reported more problems with health care access and utilization measures than older adults, but older adults fared worse on the health status measures.
    - Younger adults were more likely than older adults to have at least one ED visit, less likely to have either a physical or dental check-up, less likely to have a usual source or care, and more likely to have a long wait in the waiting room when visiting their regular doctor.
- Adult findings by gender:
    - Males fared worse on health care utilization-related measures and risky health attitudes and behaviors, while females reported more problems with access.
    - Females were more likely to be diagnosed with any other chronic condition, to be obese, and to not get wanted medical care or prescriptions.
- Adult findings by race/ethnicity:
    - Hispanics and Asian non-Hispanics both had significant access concerns. However, for Asians, most of their concerns deal with issues related to navigating the health care system such as problems with transportation, parking, and convenience of provider hours, while Hispanics were much more likely to report basic access problems such as not getting wanted care, not having a usual source of care, and not getting check-ups.
    - Asians fared better on most health status and utilization measures. There are two exceptions: Asians were more likely to have ever been diagnosed with diabetes and less likely to get dental check-ups.
    - Blacks were more likely to be uninsured, to have ever been diagnosed with high blood pressure, to be obese, to use the ED as their regular source of care, to not get wanted medical or dental care, and to report being treated worse due to

race when seeking medical care. Blacks were less likely to have a dental check-up or dental insurance.
    - White non-Hispanics were more likely to have ever been diagnosed with high blood pressure or other chronic condition.
- Adult findings by income:
    - Both low and middle income respondents fared worse on many measures.
        - Both groups were less likely to have health or dental insurance or to have had a physical or dental check-up.
        - Both groups were also more likely to report barriers to needed dental or mental health care or hassles when seeking medical care.
    - But there were also some differences between the two lower income groups.
        - The middle income group fared worse on the health status measures and were more likely to have ever been diagnosed with diabetes or high blood pressure; however, low income respondents were more likely to have been diagnosed with asthma.
        - Middle income respondents were more likely to be overweight, while low income respondents were more likely to be obese.
        - Low income respondents were more likely to have at least one ED visit and less likely to have a usual source of care.
- Adult findings by insurance status:
    - Across nearly all measures, the uninsured fared worse than any other sub-group.
    - The uninsured had poorer dental health status although they were not significantly different from the publicly or privately insured for overall health status and mental health status. The uninsured did not report higher diagnosis rates for any of the chronic conditions.
    - The uninsured fared worse on most health care utilization measures and access measures (both general and specific).
- Child findings overall:
    - Over 15% of the children overall had ever been diagnosed with asthma, so this remains a concern.
    - Nearly one in five children had at least one ED visit in the past year, and this was even more likely in several sub-groups of children.
    - Taking at least one prescription medication in the past month was reported for nearly one in three children, and was even higher among white non-Hispanic children (44.9%) and children in high-income households (41.9%).
- Child findings by age:
    - Younger children were less likely than older children to get a dental check-up and less likely to visit a private dentist's office for regular dental care.

    - Older children were more likely to have ever been diagnosed with asthma or any chronic condition, and were more likely to have sought mental health care.
- Child findings by gender:
    - Boys were more likely than girls to have had at least one ED visit in the past 12 months and were less likely to visit a private dentist's office for regular dental care.
- Child findings by race-ethnicity, income, and insurance status:
    - *The number of black non-Hispanic children, Asian non-Hispanic children, children of other race, low income children, and uninsured children was too low to report results for these sub-groups as they would not be statistically reliable.*

Chapter 4 contains findings from a series of in-depth key informant interviews and focus groups with hospital consumers that were conducted to ascertain health needs of a broad array of populations within the hospitals' catchment area. Findings shown here reflect the opinions and perceptions of both stakeholders and consumers.

- The hospitals' catchment area has a high concentration of health care resources in New Brunswick, but the distribution of these resources throughout the catchment area is uneven.
    - This creates severe access barriers for residents in the outer reaches of the catchment area because public transportation into New Brunswick from many areas is poor.
    - In addition, uninsured residents do not benefit from the resource-rich health care environment that New Brunswick, in particular, offers.
    - Improved coordination of existing health care resources would help to optimize the utility of these services.
- Because the plethora of needs assessments over the years have not been sufficiently coordinated, there has been duplication of effort and consequently less effectiveness and efficiency.
    - It is suggested that the conclusions of the current assessment and the responding interventions be widely publicized throughout the catchment area.
- There are some resources that are inadequate or altogether lacking, even in "resource rich" New Brunswick: resources for dental care, addiction treatment, long-term mental health care, and sources of affordable medication.
    - This resource gap results in patients postponing or neglecting medical care, overusing the EDs, and the maintenance of an active black market for prescription medications.

- The most prevalent health issues in the represented communities are obesity, mental health issues, and diabetes. All three are complex problems, and socio-economic and cultural issues have bearing on them all.
    - The concerns around obesity include its related sequelae of hypertension, heart disease, and diabetes, with particular concern around the many social conditions that contribute to obesity in adults and children.
    - Mental health issues are broad in scope but depression and anxiety are most prevalent and are often untreated.
    - Diabetes is problematic in all communities but with noted concentrations in the Latino, African American, and South Asian communities. Assuring access to low cost diabetes management supplies is a serious concern for the health of these communities.
- The hospitals' catchment area is extremely diverse in terms of cultures and languages. This creates particular challenges in navigating the health care system and the hospitals, in particular.
    - Most problematic is the communication barrier between non-English speaking patients and their doctors.
    - The current signage in the hospitals is not discernable to those who are unable to read English.
- The perceived "antagonistic" relationship between the two hospitals also stands as a barrier to coordinated services in their mutual catchment area.
    - Improved communication and coordination between the hospitals may thus serve to advance community health.
- Other areas for hospital improvement include enhanced customer service training for all hospital personnel (particularly around cultural competency), patient advocates, and personnel to help families navigate post-hospitalization care.
- Patient perceptions of the hospitals can be deeply influenced by a single negative experience. These perceptions can endure even decades after the defining experience and can play an important role in shaping patient decisions.

In summary, common themes were evident across all four efforts, both quantitative (BRFSS data, hospital discharge data, community phone survey) and qualitative (key informant interviews, consumer focus groups) methods:

- The uninsured fared poorly in the BRFSS data, the hospital discharge records, and the community survey, and many key informants and focus groups participants highlighted the health care challenges this group faces.
- Low income respondents also had poor health care access in both the BRFSS data and the community survey.

- Hispanics, particularly the undocumented, face many access challenges as seen in all four components.
- Navigation of the health care system was highlighted as problematic across several sub-groups (i.e., Asian non-Hispanics, non-English speakers, the undocumented, and the uninsured) in the community survey and qualitative components.
- Problems with dental health and access to dental care were evident in the BRFSS data, community survey, and qualitative components.
- Access to mental health care and mental health problems were highlighted in the BRFSS data, community survey, and qualitative components.
- Asthma, diabetes, and obesity remain as major health concerns across many sub-groups, and this was seen in the BRFSS data, community survey, and qualitative components.
- Emergency department use is high among vulnerable groups (seen in all four components).

On a positive note, most health and access-based indicators in the hospitals' primary service area were consistently better than benchmark rates for the state of New Jersey overall (found in the BRFSS data and hospital discharge records). However, disparities for the uninsured and low income respondents still remain and are quite large and this is seen in all four components of the study. Some racial-ethnic disparities also remain, although not consistently across all measures. Finally, changing demographics have brought new health challenges, particularly with language barriers and other health care system navigation issues among growing Asian sub-groups and the undocumented.

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Introduction

Section 9007 ("Additional Requirements for Charitable Hospitals") of the 2010 Patient Protection and Affordable Care Act (ACA) legislates that non-profit hospitals must complete a community health needs assessment and identify an implementation strategy to address those needs every three years. In order to comply with this requirement, Saint Peter's University Hospital (SPUH) and Robert Wood Johnson University Hospital (RWJUH) teamed together to conduct a joint community health needs assessment for their primary patient service area (all of Middlesex County and two towns in Somerset County, Somerset and Franklin Park). This effort was funded via a grant, *Hospitals Collaborating to Assess and Address Changing Community Health Needs*, from The Robert Wood Johnson Foundation's New Jersey Health Initiatives Program.

The hospitals engaged the Rutgers University Center for State Health Policy (CSHP) and the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School (UMDNJ-RWJMS) Department of Family Medicine and Community Health, Research Division, to complete a series of multi-method analytic activities to inform the community health needs assessment and implementation strategy. As part of that work, CSHP conducted secondary data analyses of the 2010 Behavioral Risk Factor and Surveillance Analysis (BRFSS) data and Uniform Billing (UB) hospital discharge data over the period 2008-2010 and also summarized and interpreted findings from a community telephone survey. The ACA also requires that the community health needs assessment should include "input from persons who represent the broad interests of the community served by the hospital facility, including those with special

knowledge of or expertise in public health" (U.S. Congress. 2010. "The Patient Protection and Affordable Care Act, Public Law 111–148." U.S. Government Printing Office). This was addressed by the qualitative part of the project that was conducted by UMDNJ-RWJMS who reached out to broad constituencies via a series of both key informant interviews and focus groups of hospital consumers. The Institutional Review Boards of Rutgers University, UMDNJ-RWJMS, and SPUH approved this study. Findings from all four of these research efforts are compiled in this report. A brief description of each data source is provided below.

Chapter 1: Health Indicators and Risky/Preventive Behaviors: An Analysis of 2010 Behavioral Risk Factor Surveillance System (BRFSS) (analyzed by CSHP). This Centers for Disease Control and Prevention-sponsored survey is conducted annually by the NJ Department of Health and Senior Services. The BRFSS supports analysis of a representative sample of NJ adults and is capable of generating county-level estimates. CSHP analyzed BRFSS data for counties included in the designated service area (Middlesex, Somerset) as well as statewide comparative data. Health topics of interest such as health status, health care access and utilization, risky and preventive behaviors, etc., were analyzed by key demographics (age, gender, race/ethnicity, income, and health insurance status).

Chapter 2: Avoidable Hospitalizations and Emergency Department Visits: An Analysis of Hospital Discharge Data (analyzed by CSHP). New Jersey UB data supports examination of ambulatory care sensitive hospital inpatient and emergency department (ED) utilization that reflects inadequacy of primary care within the community. Population-based rates of these indicators were examined along with patient demographic and health insurance payer characteristics.

Chapter 3: Health, Health Care Utilization, and Access: An Interpretation of 2012 Community Phone Survey (conducted and analyzed by PRC; survey design and interpretation of findings by CSHP). CSHP analysts led the development of the survey with input from hospital staff and project Steering Committee members. The hospitals contracted directly with a survey vendor, Professional Research Consultants, Inc. (PRC), to conduct the fieldwork and analyze the data. Landline and cell phone interviews were conducted using random-digit-dialing for 1,000 randomly-selected adults within the hospitals' primary service area. For households with children, questions were also asked about a random child in the household. De-identified, aggregated cross-tabulated tables of responses by key socio-demographics (age, gender, race/ethnicity, income) and health insurance status) were sent to CSHP analysts, who interpreted the findings found in this report. Survey topics covered a broad range of issues including community health concerns, health status, health care access and utilization, health insurance coverage, and others.

Chapter 4: Community Input: 2012 Key Informant Interviews and Consumer Focus Groups (conducted and analyzed by UMDNJ-RWJMS). In-depth interviews were conducted with 26 key informants in the community who had particular knowledge about a topic or setting such as safety net personnel, staff members from community based organizations (CBO), or other experts focused on specific sub-populations or on specific health issues. To enable more public feedback, eight focus groups were conducted with health care consumers in four languages (four in English, two in Spanish, one in Hindi, and one in both Hindi and Gujarati) across the service area (New Brunswick, Perth Amboy, Woodbridge, Spotswood, Somerset, Iselin, and South Brunswick).

Chapter 5: Discussion. This chapter summarizes key findings from each of the above chapters, notes common themes across one or more data sources, identifies potential limitations, and discusses the strengths of the project.

Supplement: Summary of New Jersey Childhood Obesity Study Findings for New Brunswick, NJ. This contains a brief summary of findings for New Brunswick, NJ, from the 2008-2010 New Jersey Childhood Obesity Study. These past findings are included in this report as they may be relevant to the hospitals' community health needs assessment. The study was funded by The Robert Wood Johnson Foundation and conducted by CSHP in five New Jersey cities (Camden, Newark, New Brunswick, Trenton, and Vineland). There were four parts to the study: a telephone survey of families with children, public school BMI data, geo-coded maps of the food environment (healthy food outlet, fast food restaurant, etc.), and geo-coded maps of the physical activity environment (exercise facilities, parks, etc.).

Chapter 1: Health Indicators and Risky/Preventive Behaviors: An Analysis of 2010 Behavioral Risk Factor Surveillance System (BRFSS)

Introduction

This chapter presents findings using data from the 2010 Behavioral Risk Factor Surveillance System (BRFSS) for Middlesex County and Somerset County in New Jersey. The BRFSS is an annual health survey conducted in all 50 states, the District of Columbia, and three territories. It is overseen by the CDC and administered by the individual states. The BRFSS was established in 1984 in a number of states, and New Jersey began data collection in 1991. It is a random-digit-dial telephone survey of non-institutionalized adults ages 18 and over and provides timely data on a number of health-related measures including health status, risk behaviors, preventive behaviors, and health care utilization. Detailed information on the BRFSS can be found at http://www.cdc.gov/brfss/index.htm.

The 2010 questionnaire can be found at http://www.cdc.gov/brfss/questionnaires/pdf-ques/2010brfss.pdf. This document contains the core questionnaire plus all the add-on modules that various individual states have contributed. However, many of these items were not analyzed for this report as New Jersey's version of the 2010 BRFSS contained mainly the core questionnaire items. The 2010 data is the most recent data available at the time of this report.

Methods

The findings presented here include data from 619 adults in Middlesex County and 527 adults in Somerset County. Due to cell size limitations in the unweighted data among several racial/ethnic groups and the uninsured (see yellow highlighted cells in Table 1.1), data for the two counties were combined and then analyzed by age, gender, race/ethnicity, income, and non-elderly health insurance coverage groups. In addition, comparisons are provided to data for the state of New Jersey overall. All results shown (with the exception of Table 1.1) use data weighted to population demographics for age, race, and gender for these regions and likelihood of selection based on number of adults and telephones in the household.

Nearly all of the survey questions had item non-response below 5%. For these variables, missing values are excluded from the analysis. For income, a separate "don't know/refused" category is included as about 15% of the respondents did not provide their income (see green highlighted cell in Table 1.1).

Estimates are not shown in the tables if the denominator for the cross-tabulation is less than 50 as the estimate would not be reliable. This primarily impacts all the cross-tabulations by race-ethnicity for the "other non-Hispanic" group, and some of the preventive behavior cross-tabulations which have age or gender restrictions (e.g., mammograms for women ages 50+).

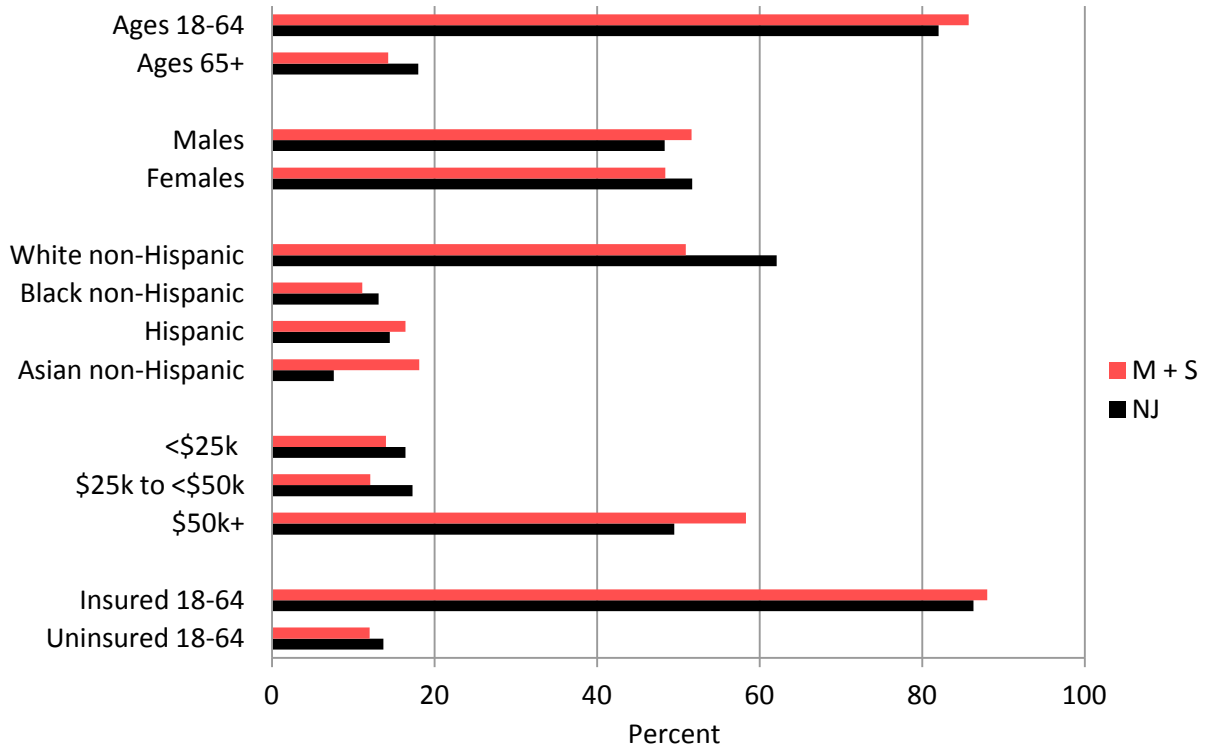
Findings

Table 1.2 contains the weighted frequencies for the same five measures used in the cross-tabulations. These are shown for each county separately in order to understand how the counties differ. They are also shown for the combined counties and for New Jersey. Frequencies for the health measures and other demographics are listed in Table 1.3. These are shown for the combined counties and for New Jersey. The cross-tabulations of the health measures by age, gender, race/ethnicity, income, and health insurance coverage are shown in Tables 1.4-1.13, and are provided for the combined counties and New Jersey.

Description of Crosstab Groups (Age, Gender, Race-Ethnicity, Income, Health Insurance Coverage)

As shown in Table 1.2 and Figure 1.1 for the combined county sample, 14.3% of the respondents are older adults. The Somerset County group has more older adults than the Middlesex County group (15.8% vs. 13.6%), but both counties have fewer older adults than the state of New Jersey overall (18.0%). For gender, Somerset County is similar to New Jersey overall, with slightly more females than males, while Middlesex County has slightly more males than females.

Figure 1.1: Individual Characteristics
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

Middlesex County is more diverse than Somerset County and New Jersey overall for race-ethnicity. In Middlesex County, 47.7% are white non-Hispanic, followed by 18.7% Asian non-Hispanic, 17.2% Hispanic, 12.3% black non-Hispanic, and 4.1% other non-Hispanic. Somerset County has a larger white non-Hispanic population and a smaller black non-Hispanic population (58.3% and 8.2% respectively), while New Jersey overall has a larger white non-Hispanic population and a smaller Asian non-Hispanic population (62.1% and 7.6% respectively).

Both counties have fewer people with low incomes than New Jersey overall, and Somerset County has higher incomes than Middlesex County. It should be noted that the BRFSS does not look at more detailed higher income ranges so the data shown here is for low and middle income versus all others.

Similarly, both counties have fewer uninsured non-elderly adults than the state of New Jersey overall, and Somerset County has less uninsured than Middlesex County.

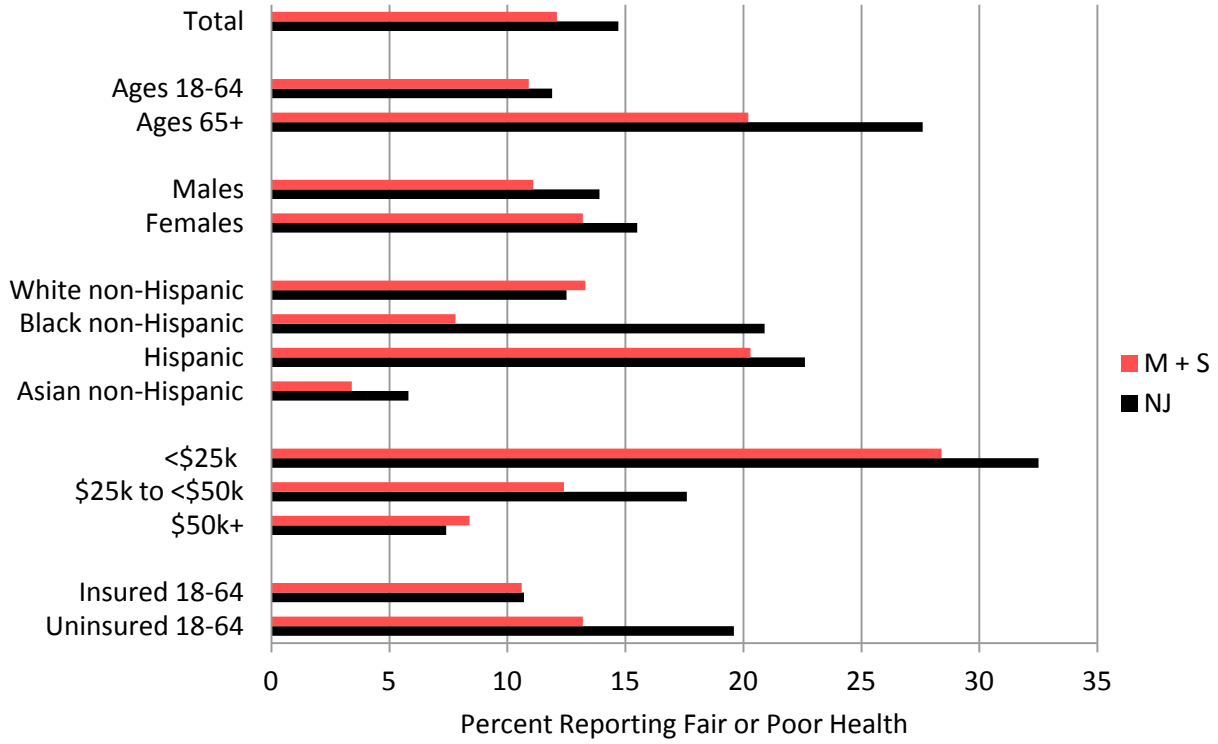
Health Status

Three measures of health status were examined: overall health status, number of days in the past 30 days that physical health was not good, and number of days in the past 30 days that mental health was not good (see Table 1.4).

For overall health status (also shown in Figure 1.2), respondents were asked "Would you say that in general your health is excellent, very good, good, fair or poor?". This is a widely-used measure that is a reliable predictor of morbidity and mortality.

- Overall, the combined county sample was slightly less likely to report fair or poor health than the full New Jersey sample (12.1% vs. 14.7% respectively).
- Not surprisingly, older adults were about twice as likely to report fair or poor health compared to adults ages 18-64.
- Women were slightly more likely to report fair or poor health than men, and both men and women were slightly less likely to report fair or poor health in the combined county sample than in the state.

Figure 1.2: Percent Reporting Fair or Poor Self-assessed Overall Health Status
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

- Most of the racial-ethnic groups were similar when comparing the combined county sample to the state, with the exception of black non-Hispanics: in the county sample, only 7.8% of black non-Hispanics reported fair or poor health while 20.9% reported fair or poor health in the state overall. In both the county and state samples, Hispanics were the most likely to report fair or poor health and Asian non-Hispanics were the least likely.
- Those with lower incomes and the uninsured were more likely to report fair or poor health, and these rates were lower in the combined county sample than in the state overall.

Respondents were then asked "Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?".

- About 18% reported 4 or more days that their physical health was not good, and for most of the crosstab groups, the rates were similar for the combined county sample versus the state sample.
- The patterns across the crosstab groups were similar to those for the overall health status question, with older adults (25.8%), females (22.2%), Hispanics (22.3%), those with low incomes (27.9%), and the uninsured (25.0%) more likely to report 4 or more days in the past 30 days that their physical health was not good, and Asian non-Hispanics less likely (8.2%).
- However, the lower rate of overall health status reported by black non-Hispanics in the combined county sample was not repeated for number of days physical health not good, with black non-Hispanics reporting similar rates as white non-Hispanics.

A parallel question for mental health was then asked: "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?".

- Although the overall rate of reported poor mental health days was similar to reported poor physical health days, the patterns across the crosstab groups for this measure differed somewhat from both of the two physical health measures.
- Specifically, older adults were less likely to report 4 or more days of poor mental health, and the gender and racial-ethnic differences were more pronounced for poor mental health.

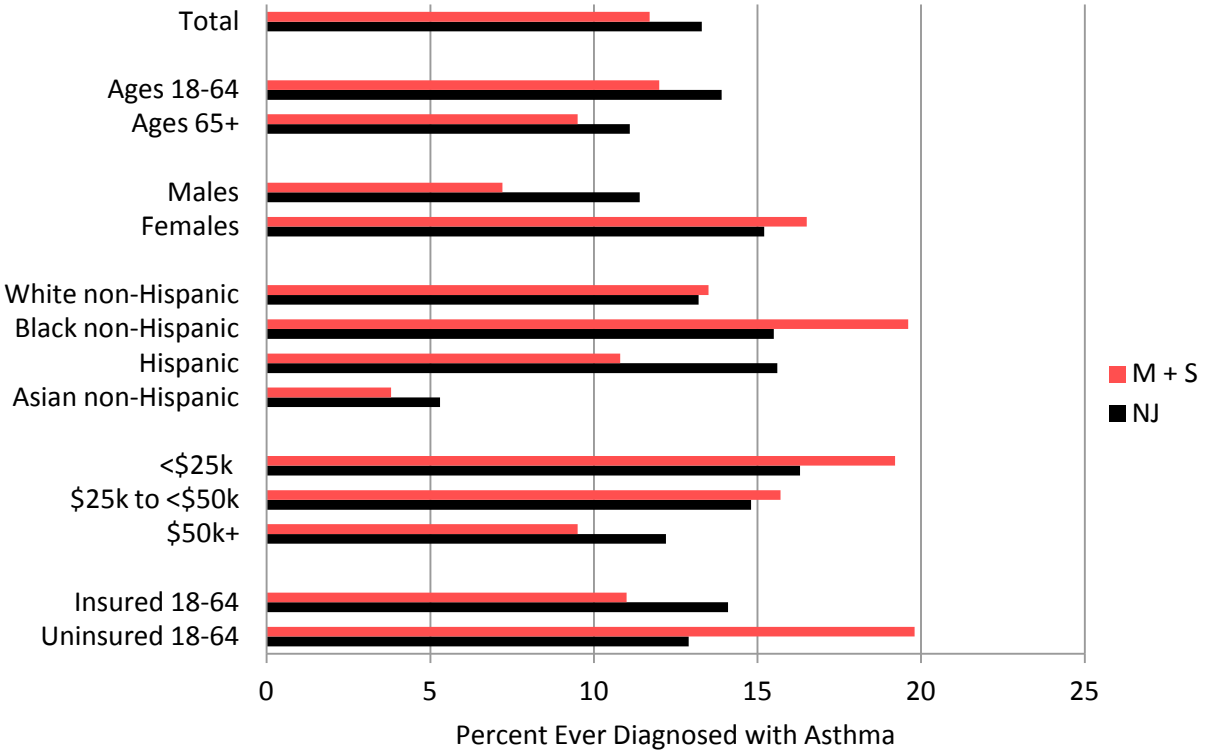
Chronic Conditions and Disability

Each of four chronic conditions (asthma, diabetes, heart attack, stroke) were assessed using the following question: "Have you ever been told by a doctor, nurse, or other health professional that you had …?". In addition, two measures of disability were asked: "Are you limited in any way in any activities because of physical, mental, or emotional problems?" and "Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone? (Include occasional use or use in certain circumstances.)" (see Table 1.5, 2 pages).

Overall, 11.7% of the combined county sample reported ever being diagnosed with asthma compared to 13.3% of the New Jersey sample (also shown in Figure 1.3).

- In the combined county sample, younger adults had a higher rate of asthma diagnosis than older adults.
- Females were over twice as likely as males to have been diagnosed with asthma.

Figure 1.3: Percent Ever Diagnosed with Asthma
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



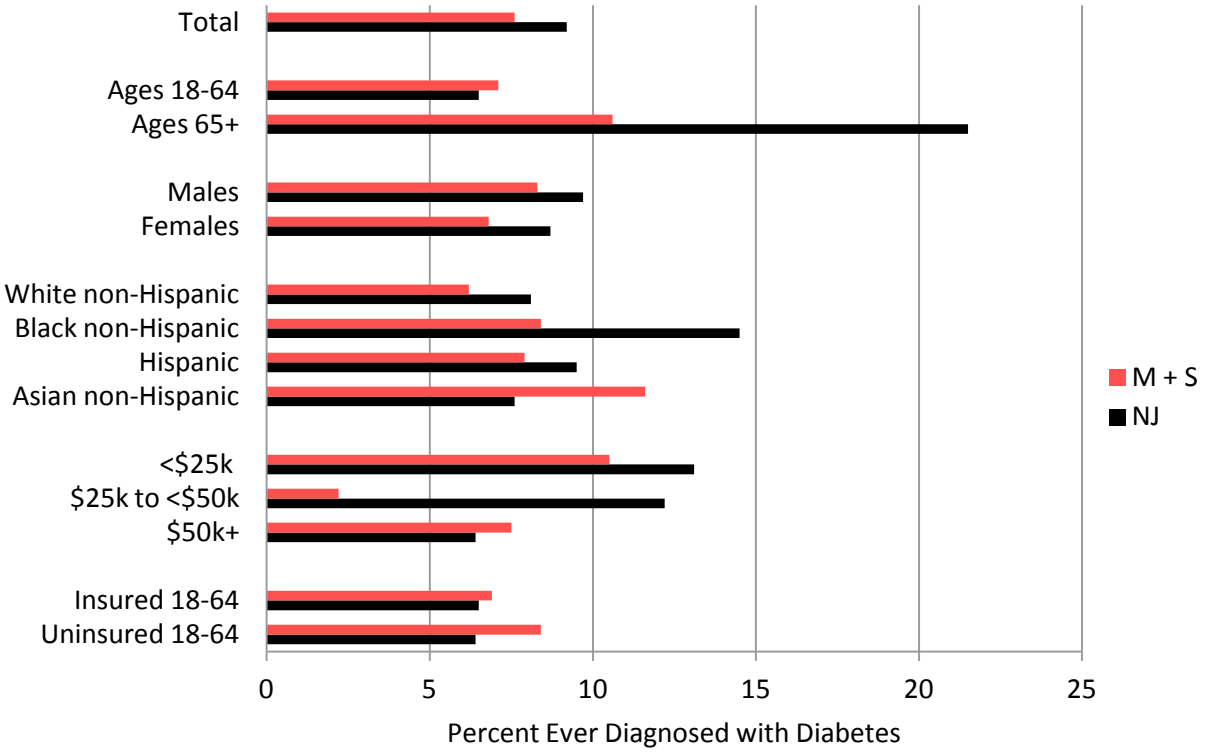
Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

- Black non-Hispanics were the most likely to report an asthma diagnosis and Asian non-Hispanics were the least likely.
- Low income respondents were more than twice as likely as high income respondents to have been diagnosed with asthma.
- The uninsured were also almost twice as likely as the insured to have had an asthma diagnosis.
- The state sample, although similar in direction, had much lower differences among the groups. In particular, black non-Hispanics, those with low incomes, and the uninsured in the combined county sample were more likely to have had an asthma diagnosis than in the state sample, while Hispanics and males in the combined county sample were less likely to report an asthma diagnosis than in the state sample.

For diabetes, 7.6% in the combined county sample reported a diagnosis compared to 9.2% in the state sample (also shown in Figure 1.4).

- In the combined county sample, older adults and males were more likely to have been diagnosed with diabetes, as were Asian non-Hispanics.

Figure 1.4: Percent Ever Diagnosed with Diabetes
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

- Low income respondents were much more likely to report a diagnosis, but the uninsured were only slightly more likely to report having been diagnosed with diabetes.
- Compared to the state sample, older adults and black non-Hispanics in the combined county sample were about half as likely to report a diabetes diagnosis, but Asian non-Hispanics were about 1.5 times more likely to have been diagnosed.

The incidence of heart attack diagnosis was 2.6% in the combined county sample and 3.8% in the state.

- For the counties, older adults and women were more likely to report a heart attack, as were white non-Hispanics and Hispanics.
- Low income respondents were also more likely to have been diagnosed with a heart attack, but the uninsured were only about half as likely as the insured to report a heart attack.
- In the state sample, the pattern reversed for males, black non-Hispanics, and Hispanics: more males and black non-Hispanics reported a heart attack in the state sample, but the rate for Hispanics was lower.

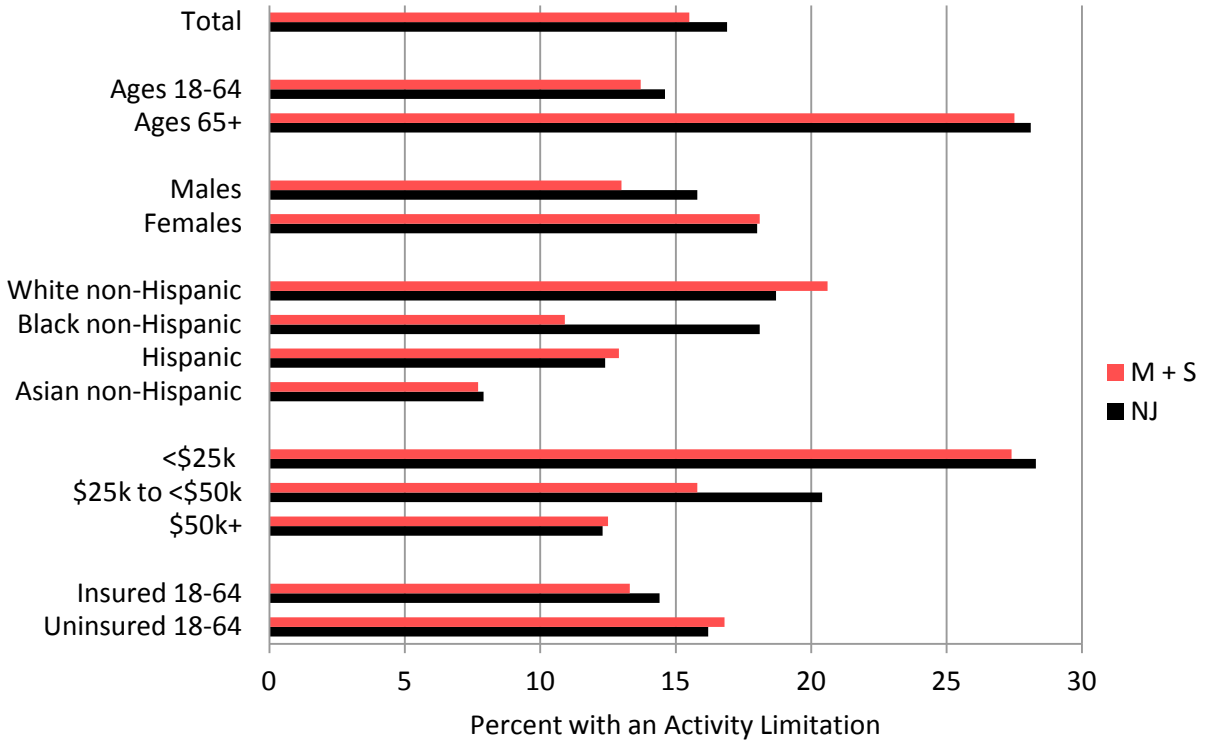
Although the incidence overall was low, stroke diagnoses in the combined county sample were half that of the state (1.2% vs. 2.4%).

- In the counties, older adults and females were much more likely to have had a stroke, as were white non-Hispanics.
- Low and middle income respondents also were more likely to report a stroke diagnosis, but there was little difference between the insured and the uninsured.
- Compared to the state, males and black non-Hispanics in the combined county sample were much less likely to report a stroke.

For the activity limitation question, 15.5% in the county sample reported a limitation compared to 16.9% in the state (also shown in Figure 1.5).

- For the counties, older adults were about twice as likely as younger adults and females about 1.5 times as likely as males to have an activity limitation.
- White non-Hispanics and low income respondents were about 2-3 times more likely to report a limitation compared to the other groups, while the uninsured were only slightly more likely.
- These same patterns held in the state sample with the exception of black non-Hispanics, who reported higher rates in the state (comparable to the white non-Hispanic group).

Figure 1.5: Percent with an Activity Limitation
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

For use of special equipment due to a health problem, 4.9% of respondents in the combined county sample and 6.6% in the state sample indicated that they used such equipment.

- In the county sample, older adults were much more likely to use special equipment, as were females.
- Black non-Hispanics had the highest incidence of special equipment use and Asian non-Hispanics the lowest.
- Low income respondents were much more likely to require special equipment, but the uninsured were much less likely.
- These patterns were similar in the state sample across all groups except for males and the uninsured, who were more likely in the state sample to need special equipment (although still lower than females and the insured).

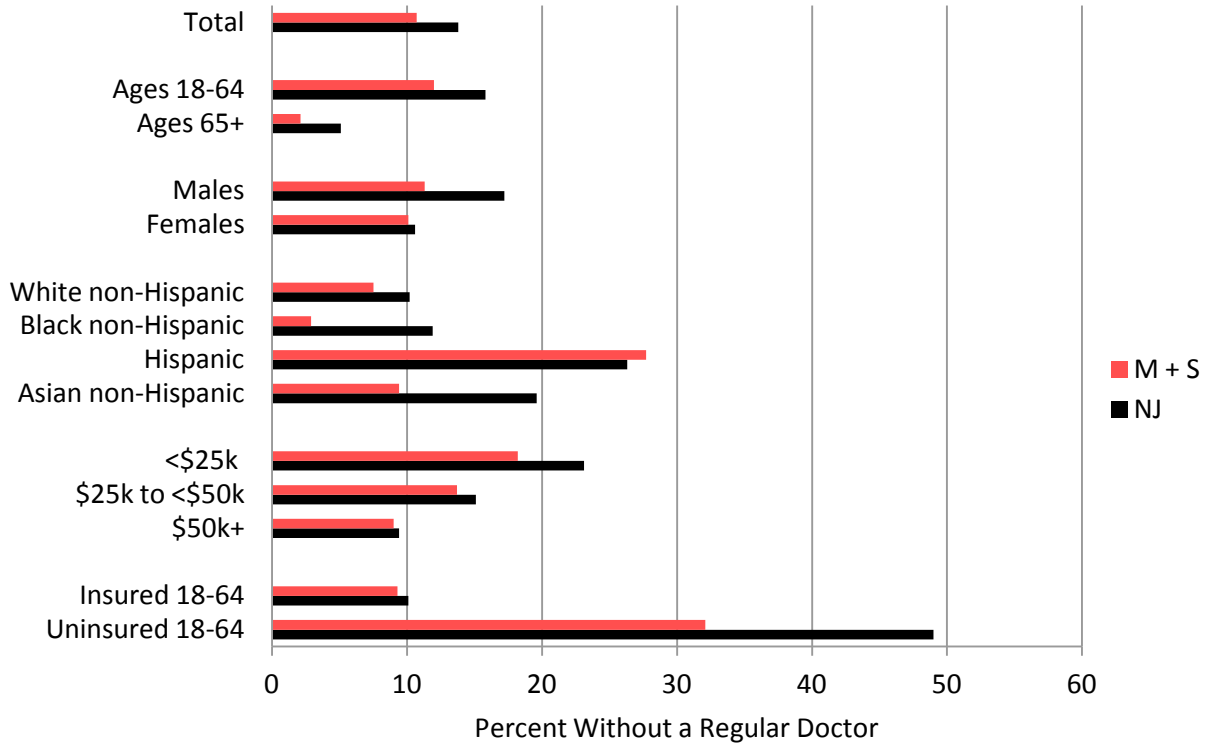
Medical Utilization and Access

Three questions were used to measure utilization and access (see Table 1.6). Respondents were asked if they had a "personal doctor or health care provider". They were then asked if they had any problem accessing care ("Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?"). The third item asked when they had last had a routine check-up.

In the combined county sample, 10.7% of the respondents did not have a personal doctor or health care provider, compared to 13.8% of the state sample (also shown in Figure 1.6).

- In the county sample, younger adults were nearly 6 times more likely than older adults to not have a regular doctor.
- Males and females reported similar rates.
- Hispanics were much more likely to not have a regular doctor, while black non-Hispanics were less likely.

Figure 1.6: Percent Without a Regular Doctor
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



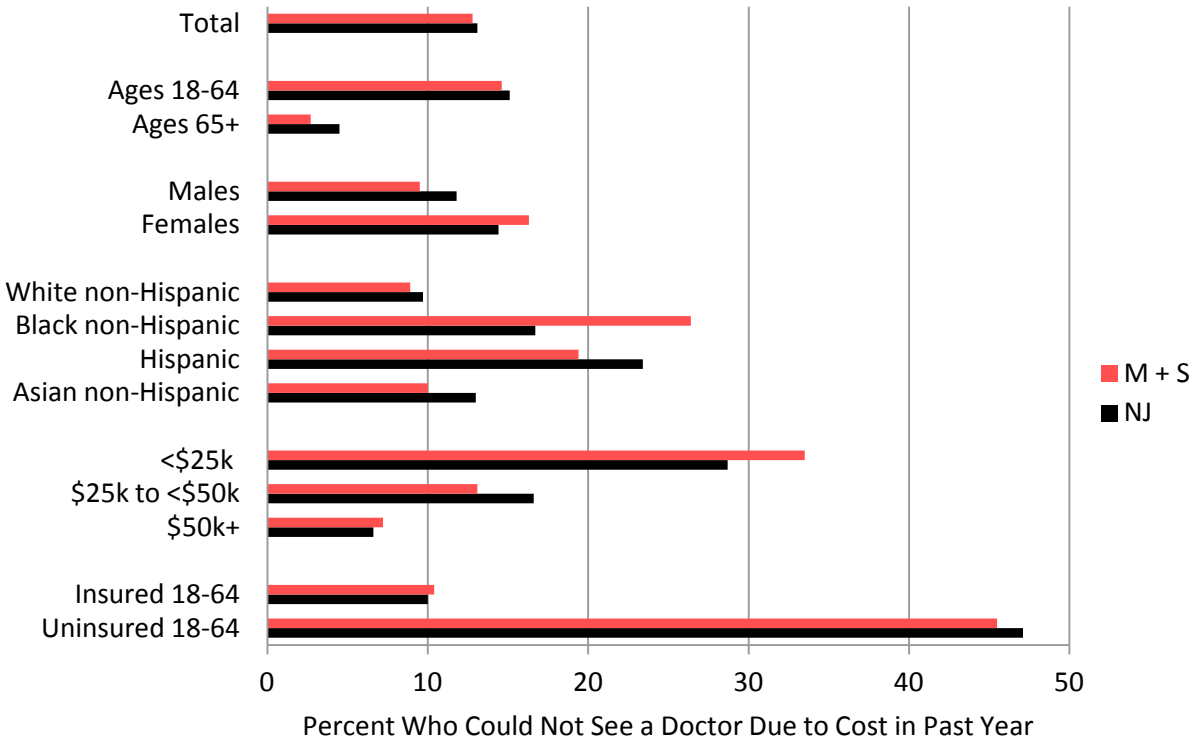
Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

- Low income respondents and the uninsured were also much more likely to not have a regular doctor.
- These patterns held in the state sample except that males, black and Asian non-Hispanics, and the uninsured in the state were much more likely to not have a regular doctor compared to the counties.

Cost barriers in not accessing health care in the past year were reported by 12.8% in the combined county sample and 13.1% in the state sample (also shown in Figure 1.7).

- In the counties, older adults and females were much more likely to report a cost barrier.
- Black non-Hispanics were about 3 times as likely and Hispanics about twice as likely as white non-Hispanics and Asian non-Hispanics to report a barrier.
- Low income respondents had barrier rates 2.5 to 4.5 times higher than the other income groups, and the uninsured were about 4.5 times more likely to report a barrier.
- These patterns were quite similar in the state, although barrier rates for black non-Hispanics and low income respondents were lower in the state compared to the counties, but somewhat higher for Hispanics.

Figure 1.7: Percent Who Could Not See a Doctor due to Cost in Past Year
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

In the combined county sample, 10.3% of the respondents had not had a routine check-up in the past 2 years. This rate was nearly identical in the state (10.5%).

- In the counties, younger adults were much more likely than older adults and males were somewhat more likely than females to go without a check-up within the past 2 years.
- Black non-Hispanics were somewhat more likely and Hispanics somewhat less likely to forego a check-up.
- The rates differed much more greatly for the income and coverage groups, with low income respondents about twice as likely and the uninsured over 5 times more likely to not have had a check-up within 2 years.
- These patterns were again quite similar in the state, although black non-Hispanics, low income respondents, and the uninsured were less likely and Hispanics more likely to forego a check-up in the state compared to the counties.

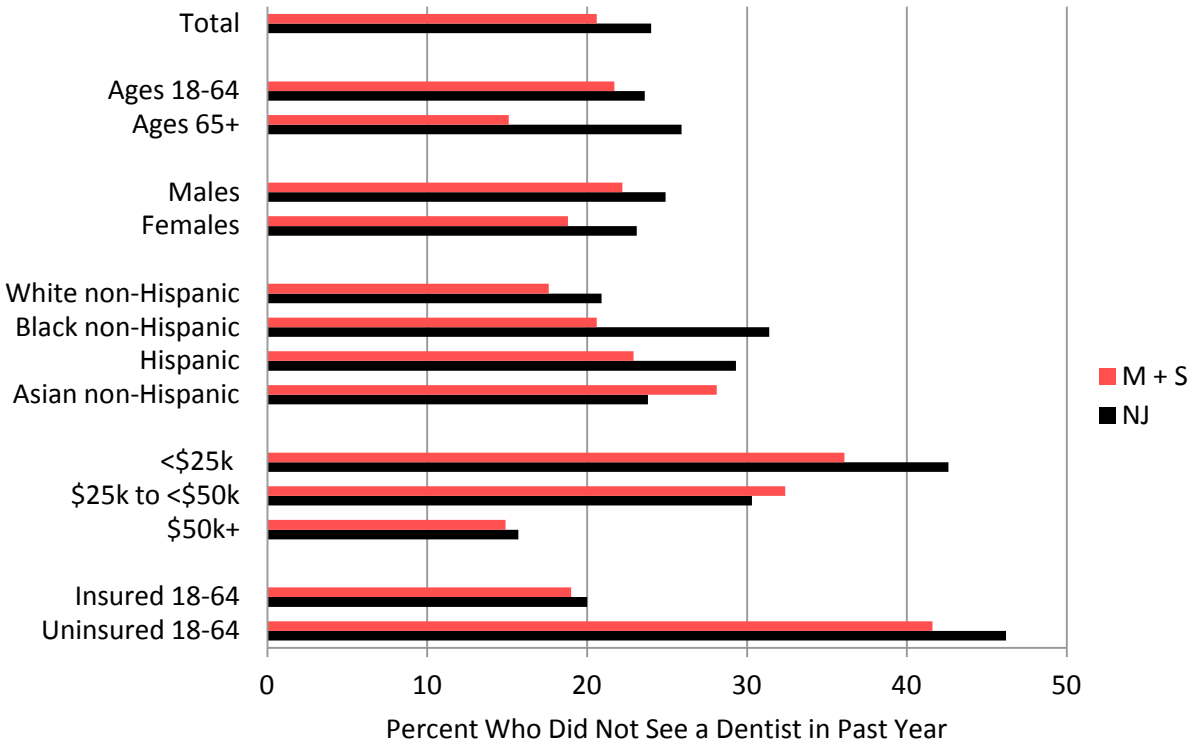
Dental Utilization

Two measures assessed dental utilization (see Table 1.7). Last visit to a dentist was measured with the item "How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to dental specialists, such as orthodontists." and number of permanent teeth extracted due to decay was measured with the item "How many of your permanent teeth have been removed because of tooth decay or gum disease? Include teeth lost to infection, but do not include teeth lost for other reasons, such as injury or orthodontics. (If wisdom teeth are removed because of tooth decay or gum disease, they should be included in the count for lost teeth)". Responses were grouped into "dental visit in past year" or not, and 0 versus 1+ teeth extracted.

In the combined county sample, 20.6% had not visited a dentist for any reason within the previous year compared to 24.0% in the state sample (also shown in Figure 1.8).

- For the counties, younger adults and males were more likely to have foregone a dental visit in the past year.
- Asian non-Hispanics were most likely to have not seen a dentist in the past year and white non-Hispanics were least likely.
- About a third of low and middle income respondents had not seen a dentist in the previous year, and over 40% of the uninsured had not.
- In the state sample, older adults, black non-Hispanics, and Hispanics were more likely to have not seen a dentist in the past year, but patterns for the income and coverage groups were similar to the counties.

Figure 1.8: Percent Who Did Not See a Dentist in Past Year
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

For teeth extraction, 41.9% of the combined county sample reported at least one permanent tooth removed due to decay compared to 46.5% of the state sample.

- In the combined county sample, older adults, black non-Hispanics, and low income respondents were much more likely to have had permanent teeth extracted due to decay, while Asian non-Hispanics were least likely to have had teeth extractions.
- The patterns for all the groups were quite similar (though somewhat higher) in the state sample, with the exception of the uninsured who reported a higher prevalence of teeth extractions compared to the counties.

Risk Behaviors (including BMI)

Seven risk behaviors were analyzed in this section, including alcohol and tobacco use, overweight and obesity, lack of exercise, lack of sleep, falls, and seatbelt use (see Tables 1.8-1.10). For alcohol use, binge drinking was assessed. This is a standard alcohol use risk behavior measure that indicates whether males had had 5 or more drinks and females 4 or more drinks on one occasion at least once in the past 30 days. Tobacco use was assessed using current smoking status. Body mass index (calculated from reported height and weight) was used to measure overweight and obesity. Any exercise outside of work in the past month was used to assess exercise as it was the only measure available ("During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?"). Lack of sleep was assessed using the following item "During the past 30 days, for about how many days have you felt you did not get enough rest or sleep?" and respondents were grouped into those who did not get enough sleep for more than 2 days a week versus the others. Falls in the previous 3 months were assessed for adults ages 45 and over, and respondents were grouped into those who had fallen at least once versus the others. Finally, seatbelt use was assessed by grouping those who always used a seatbelt versus those who did not.

For the combined county sample, 11.6% of the respondents reported binge drinking in the past 30 days compared to 13.8% of the state sample (see Table 1.8).

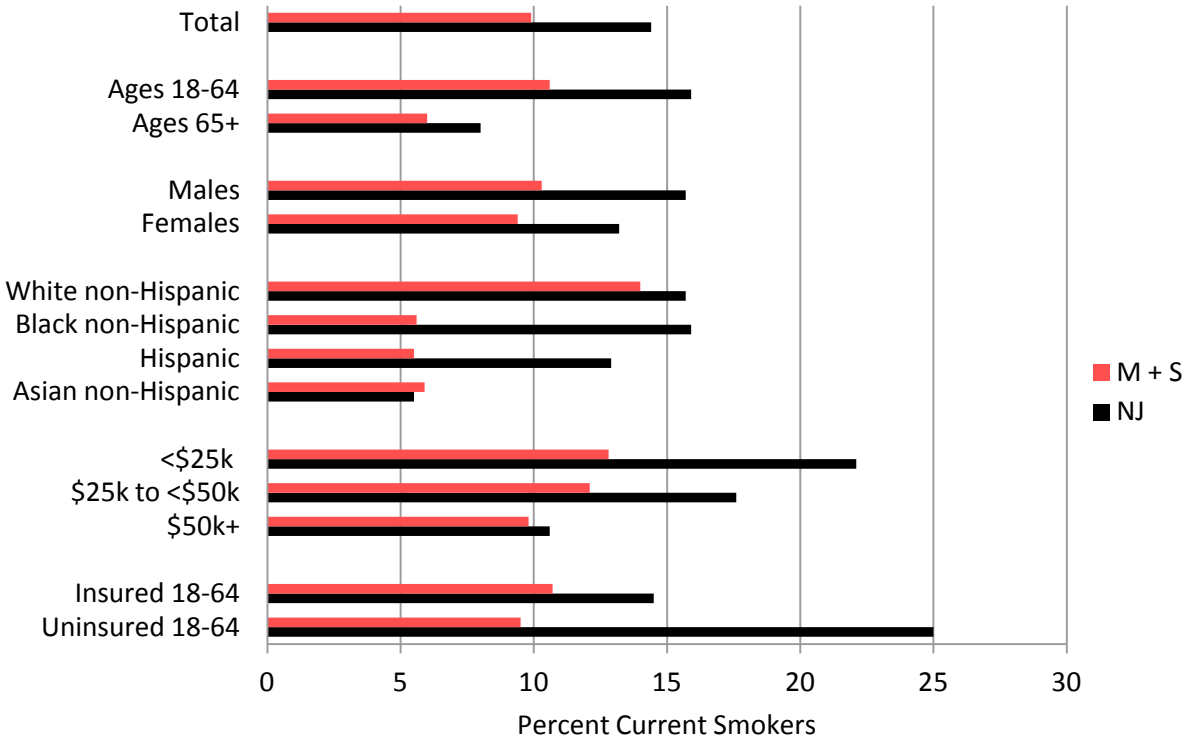
- In the counties, younger adults and males were more likely to binge drink.
- White non-Hispanics were most likely to binge drink, while Asian non-Hispanics were least likely.
- Higher income respondents were more likely to report binge drinking, as were the uninsured.
- In the state sample, the incidence of reported binge drinking, although slightly higher in each of the groups, followed the same patterns across all of them.

For smoking status, 9.9% of the respondents in the combined county sample were current smokers compared to 14.4% in the state sample (see Table 1.8; also shown in Figure 1.9).

- In the counties, similar to binge drinking, younger adults, males, and white non-Hispanics were more likely to smoke, but Asian non-Hispanics were equally as likely to smoke as black non-Hispanics and Hispanics, and more low income respondents smoked than higher income ones.
- There was little difference among the coverage groups.

- There were more smokers in every group in the state sample, but the general patterns held with two exceptions: black non-Hispanics and Hispanics were nearly as likely to smoke as white non-Hispanics and low income respondents and the uninsured were much more likely to smoke in the state compared to the counties.

Figure 1.9: Percent Current Smokers
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



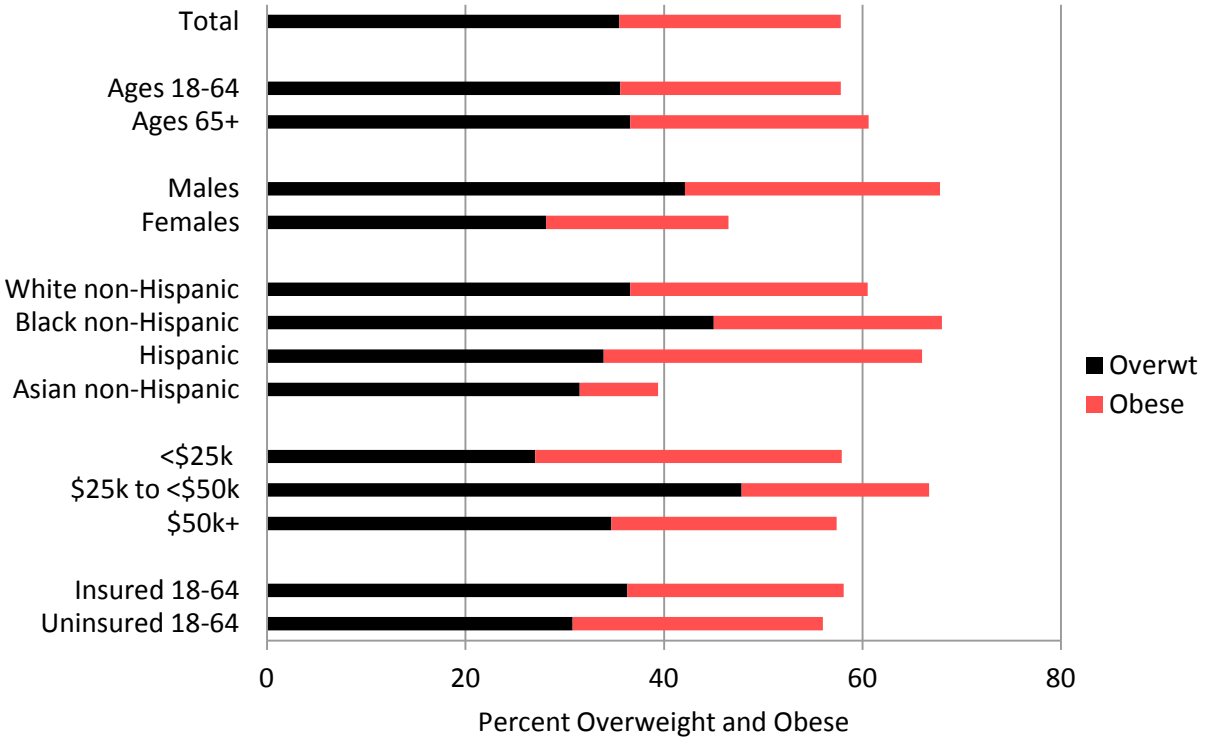
Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

Rates for overweight and obesity in the combined county sample (35.5% and 22.3%) were slightly lower than in the state (36.8% and 24.8%) (see Table 1.9: combined county data also shown in Figure 1.10).

- For the counties, there was little difference between older and younger adults for either overweight or obesity, but males were about 1.5 times more likely to be overweight and obese than females.
- Black non-Hispanics were more likely to be overweight and Hispanics were more likely to be obese. Asian non-Hispanics reported similar but slightly lower rates of overweight as white non-Hispanics and Hispanics, but reported much lower rates of obesity.
- Middle income respondents were more likely to be overweight, while low income respondents were more likely to be obese.

- The insured reported more overweight, but the uninsured reported more obesity.
- Age and gender patterns in the state sample were similar, but black non-Hispanics were less likely to be overweight (and more comparable to the other groups) and the most likely to be obese. Also, unlike in the counties, the incidence of overweight did not differ substantially among the income and coverage groups in the state, but low income respondents and the uninsured were still more likely to be obese.

Figure 1.10: Percent Overweight and Obese
Adults Ages 18+, Middlesex + Somerset Counties (M+S)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

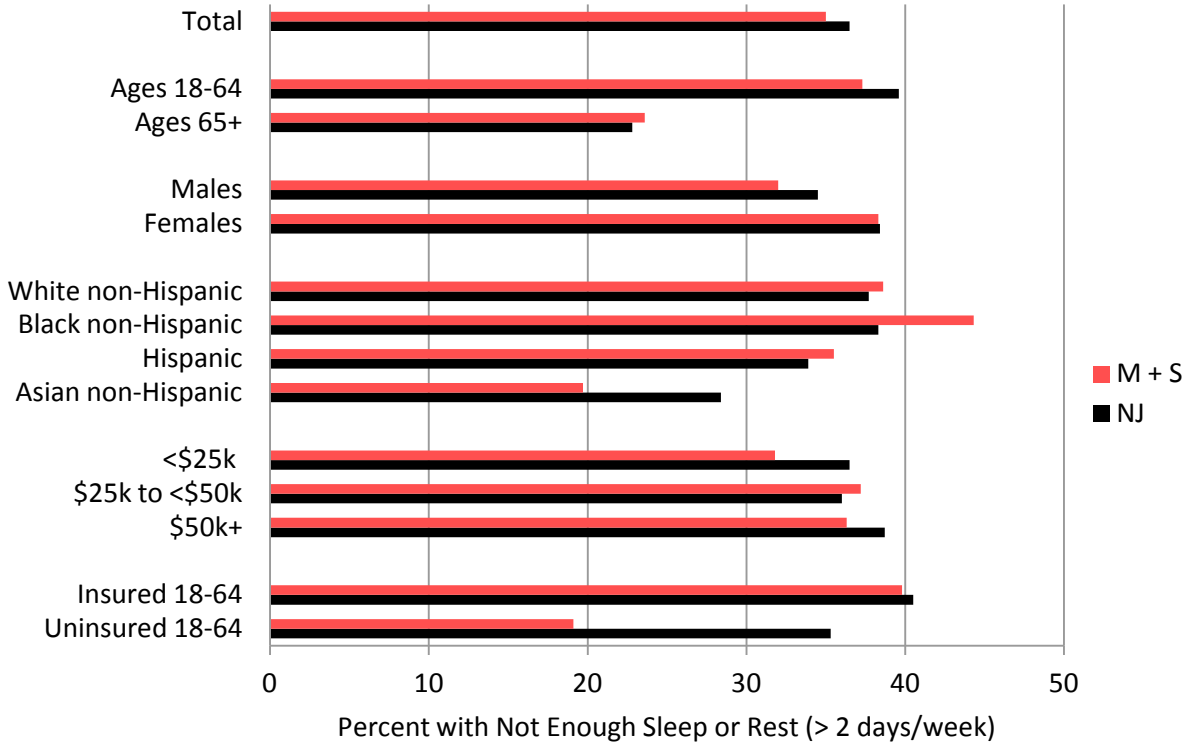
Over a fourth of respondents in both the county and state samples reported no exercise at all outside of work in the past 30 days (27.9% and 26.6%, respectively) (see Table 1.9).

- In the counties, older adults, females, and Hispanics were more likely to not exercise outside of work, as were low income respondents and the insured.
- The patterns were quite similar in the state, with the exception of black non-Hispanics and the uninsured who were more likely to not exercise in the state sample than in the counties.

Over a third of respondents in both the county and state samples did not get enough sleep on more than 2 nights a week in the previous 30 days (35.0% and 36.5%, respectively) (see Table 1.10; also shown in Figure 1.11).

- Younger adults and females were more likely to report lack of sleep.
- Black non-Hispanics were most likely and Asian non-Hispanics were least likely to report lack of sleep.
- Middle and high income respondents and the insured were more likely to report lack of sleep.
- In the state sample, the patterns for age and gender were similar, but black non-Hispanics were less likely and Asian non-Hispanics were more likely to report lack of sleep than in the county sample. Also, sleep differed little across income and coverage groups in the state.

Figure 1.11: Percent with Not Enough Sleep or Rest More Than 2 Days/Week
Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

Falls in the past 3 months among those ages 45 and over were reported by 12.1% in the counties and 13.2% in the state (see Table 1.10).

- In the combined county sample, older adults, females, and low income respondents were more likely to fall. Due to the age restriction, cell sizes were too small to assess differences among the race-ethnicity and coverage groups.
- The age, gender, and income patterns were similar in the state. Asian non-Hispanics were least likely to report a fall, and there were no differences among the coverage groups.

Not wearing seatbelts all the time was less prevalent in the county sample than in the state (5.9% vs. 9.6%) (see Table 1.10).

- In the combined county sample, males, white non-Hispanics, and higher income respondents were more likely to not wear a seatbelt all the time.
- Although higher across all groups, similar patterns held in the state for age and gender, but black non-Hispanics were equally as likely to not wear a seatbelt as white non-Hispanics, and lower income respondents and the uninsured were more likely to not wear a seatbelt compared to the county sample.

Preventive Behaviors

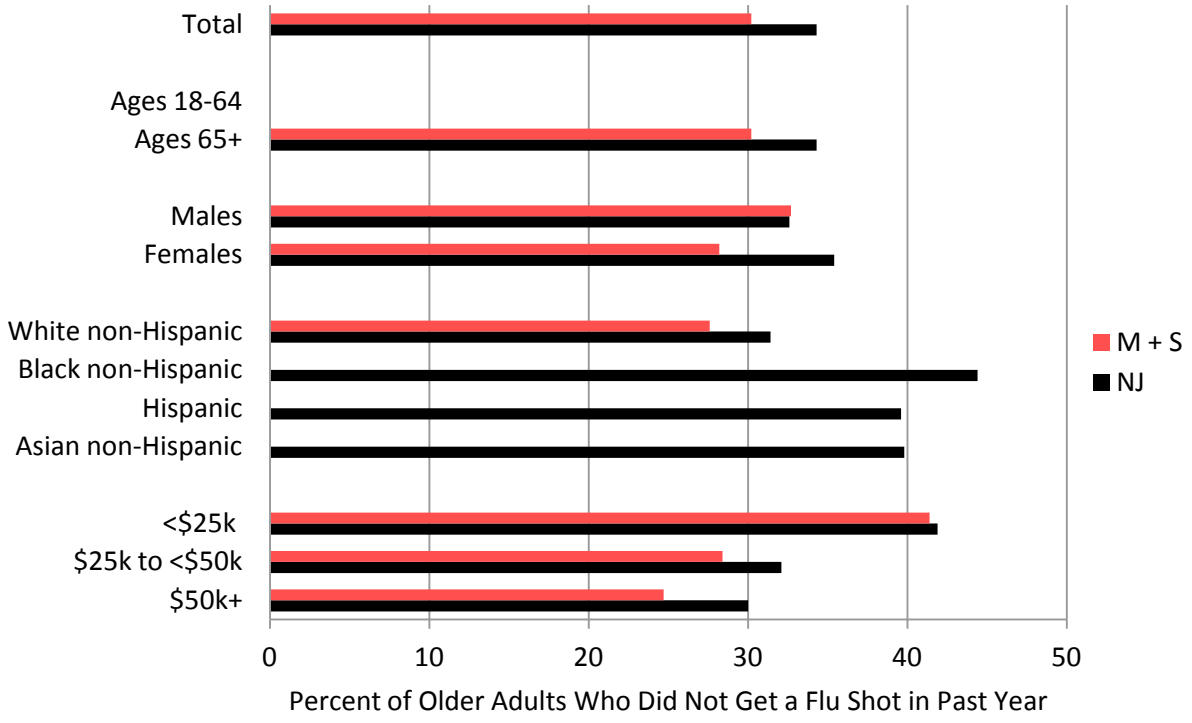
Immunizations, women's health, and other preventive behaviors were assessed using 11 measures (see Tables 1.11-1.13). Influenza immunization in the past year was examined for all adults (flu shot and flu spray) and for adults ages 65+ (flu shot). For women's health behaviors, mammogram in the past 2 years (women ages 50+), pap test in the past 3 years (women ages 18+), and ever had a hysterectomy were assessed. Other preventive behaviors included blood stool test in the past 2 years (ages 50+), pneumonia shot ever (ages 65+), ever had a sigmoidoscopy or colonoscopy (ages 50+), PSA test in the past 2 years (men ages 40+), and ever had an HIV test (ages 18-64). Due to the age and gender restrictions in most of the measures, cell sizes in the combined county sample were too small to assess differences among some groups, particularly among the race-ethnicity and coverage groups.

About 60% of all adults in both the county and state samples did not receive a flu shot in the previous year (58.3% and 61.8%, respectively) (see Table 1.11).

- In the counties, younger adults and males were more likely to not get a flu shot, as were Hispanics, Asian non-Hispanics, lower income respondents, and the uninsured.
- The patterns were quite similar in the state.

- Only 1.1% in the counties and 1.3% in the state received the immunization via the flu spray. Asian non-Hispanics were more likely to receive the flu spray in the county sample, while Hispanics and black non-Hispanics were more likely in the state.
- For older adults, 30.2% in the counties and 34.3% in the state did not receive a flu shot in the previous year (also shown in Figure 1.12). Low income older adults were most likely to not get a flu shot. Cell sizes in the combined county sample were too small to assess differences among the race-ethnicity groups. In the state, white non-Hispanics and high income respondents were the least likely to not get a flu shot.

Figure 1.12: Percent of Older Adults Who Did Not Get a Flu Shot in Past Year
Adults Ages 65+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)
(Data not shown for some groups due to insufficient cell sizes or restricted age)

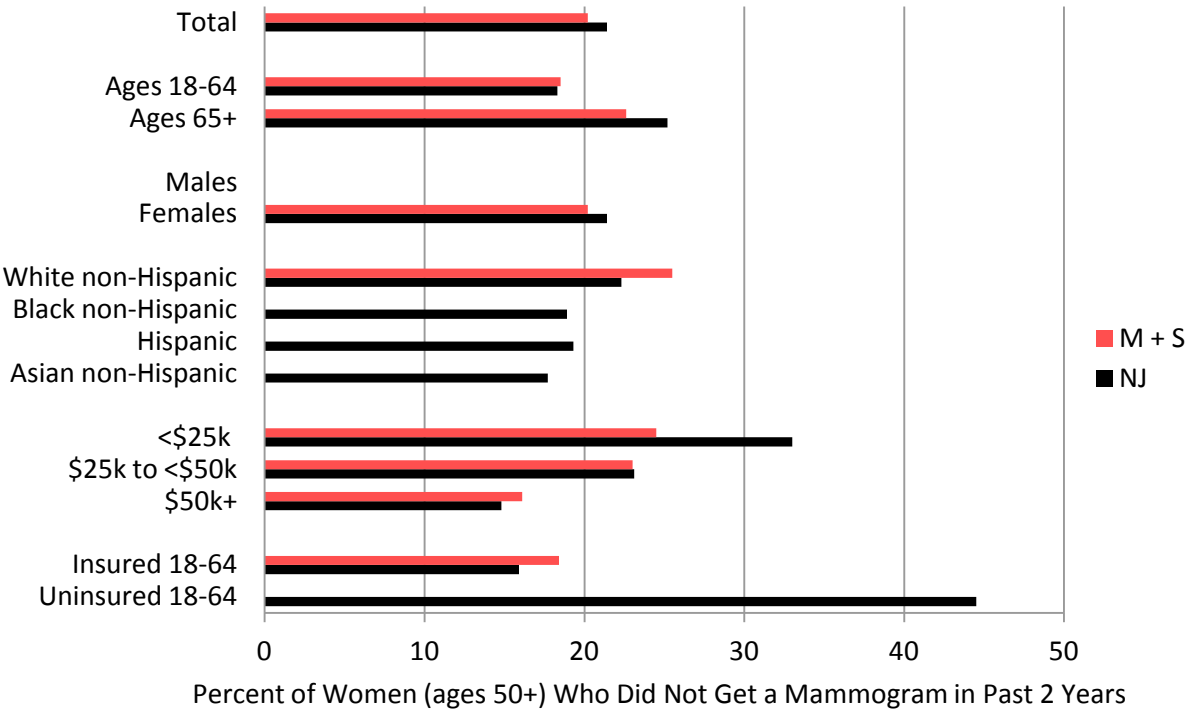


Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

For mammograms, 20.2% of the women ages 50 and over in the combined county sample had not had a mammogram in the past 2 years and the rate was similar but slightly higher in the state sample (21.4%) (see Table 1.12; also shown in Figure 1.13).

- For the counties, older and lower income women were more likely to have not had a mammogram within 2 years. Cell sizes in the combined county sample were too small to assess differences among the race-ethnicity and coverage groups.
- In the state sample, older women, white non-Hispanic women, low income women, and uninsured women were more likely to forego a mammogram in the past 2 years.

Figure 1.13: Percent of Women Who Did Not Get a Mammogram in Past 2 Years
Women Ages 50+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)
(Data not shown for some groups due to insufficient cell sizes or restricted gender)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

For pap tests, 14.4% of women ages 18+ in the combined county sample and 15.9% in the state sample had not had a pap test in the previous 3 years (see Table 1.12).

- In the counties, older and lower income women were more likely and Hispanics were less likely than white non-Hispanics to have not had a pap test within 3 years. Cell sizes in the combined county sample were too small to assess differences among the other race-ethnicity groups and the coverage groups.
- In the state sample, older women, Asian non-Hispanic women, low income women, and uninsured women were more likely to forego a pap test in the previous 3 years.

Hysterectomy prevalence rates were similar in the combined county and state samples (14.6% and 15.0%, respectively, of women ages 18+) (see Table 1.12).

- In the counties, older women, white non-Hispanic women, and lower income women were more likely to have had a hysterectomy, while Hispanic and Asian non-Hispanic women were less likely. Cell sizes in the combined county sample were too small to assess rates among black non-Hispanics and the uninsured.
- In the state sample, similar patterns emerged for age and income. In addition, black non-Hispanic women and insured women were more likely to report a hysterectomy, while Asian non-Hispanic women were less likely.

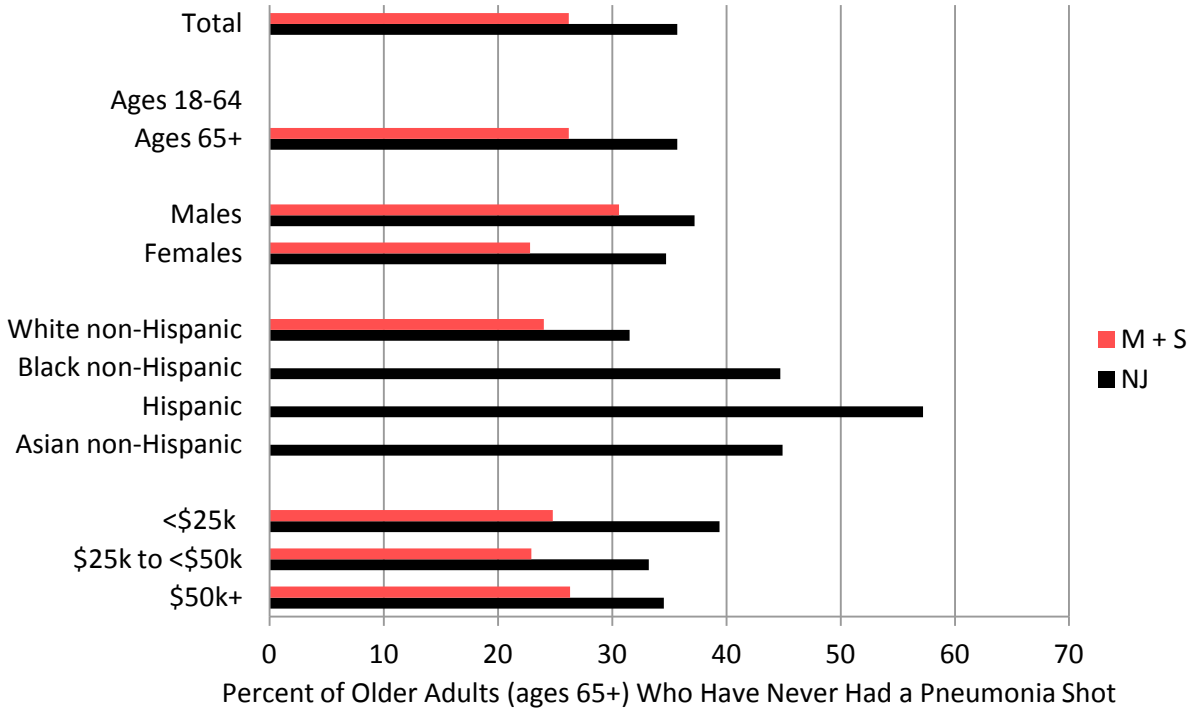
For the blood stool test, 80.5% and 82.6% of respondents ages 50 and over in the combined county and state samples respectively had not had one in the previous 2 years (see Table 1.13, first page).

- Younger adults, women, and low income respondents were more likely to have not had a blood stool test in the past 2 years in the counties. Cell sizes in the combined county sample were too small to assess differences among the race-ethnicity and coverage groups.
- In the state sample, older adults and females were again more likely to have not had a blood stool test. Asian non-Hispanics and the uninsured were more likely to have not had a blood stool test within 2 years while black non-Hispanics were less likely. There were no substantial differences among income groups.

Never having had a pneumonia shot was reported by 26.2% of adults ages 65 and over in the counties and by 35.7% in the state sample (see Table 1.13, first page; also shown in Figure 1.14).

- For the counties, males were more likely to have never had a pneumonia shot. Rates differed little among the income groups. Cell sizes in the combined county sample were too small to assess differences among the race-ethnicity groups. Coverage groups were not compared since only non-elderly coverage was analyzed in this report.
- In the state sample, Hispanics, Asian non-Hispanics, black non-Hispanics, and low income respondents were more likely to have never had a pneumonia shot.

Figure 1.14: Percent of Older Adults Who Have Never Had a Pneumonia Shot
Adults Ages 65+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)
(Data not shown for some groups due to insufficient cell sizes or restricted age)

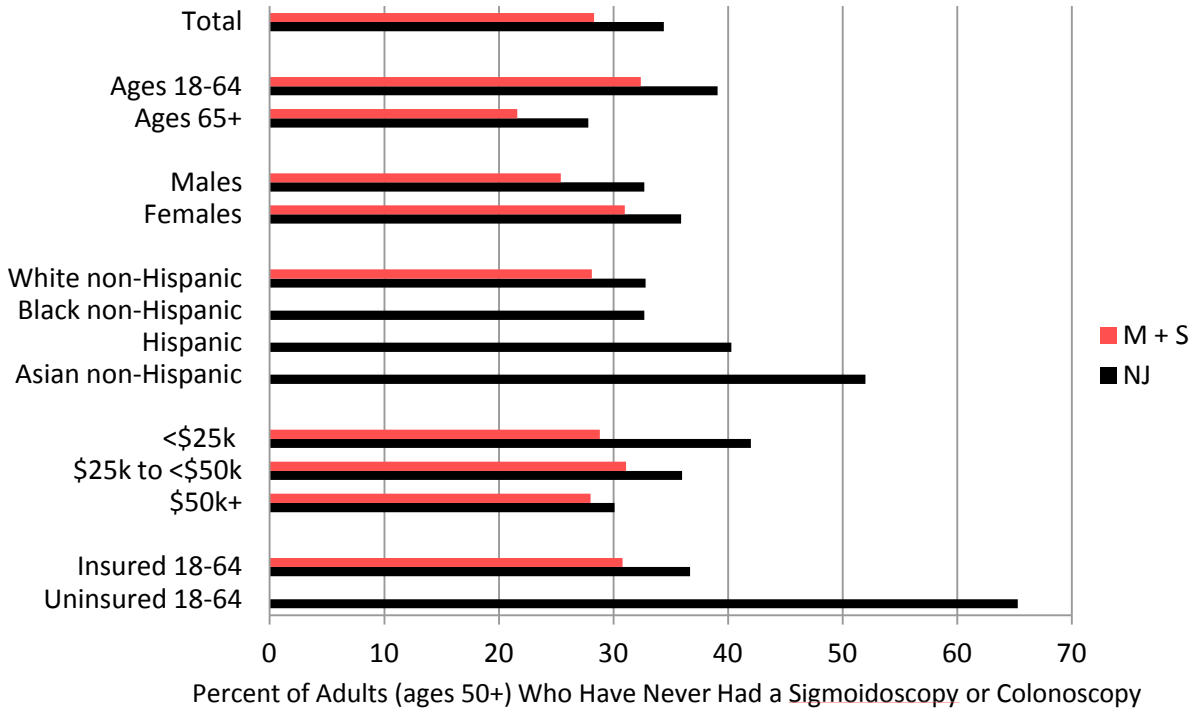


Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

Respondents ages 50 and over were asked if they had ever had either a sigmoidoscopy or colonoscopy (see Table 1.13, first page; also shown in Figure 1.15). In the combined county sample, 28.3% indicated they had not compared to 34.4% in the state sample.

- For the counties, younger adults (ages 50-64) and females were more likely to have not had either. Income groups did not differ substantially. Cell sizes in the combined county sample were too small to assess differences among the race-ethnicity groups and coverage groups.
- In the state sample, the same patterns held for age and gender. In addition, Asian non-Hispanics, Hispanics, low income respondents, and the uninsured were more likely to have not had either procedure.

Figure 1.15: Percent of Adults Who Have Never Had a Sigmoidoscopy or Colonoscopy Adults Ages 50+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)
(Data not shown for some groups due to insufficient cell sizes)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

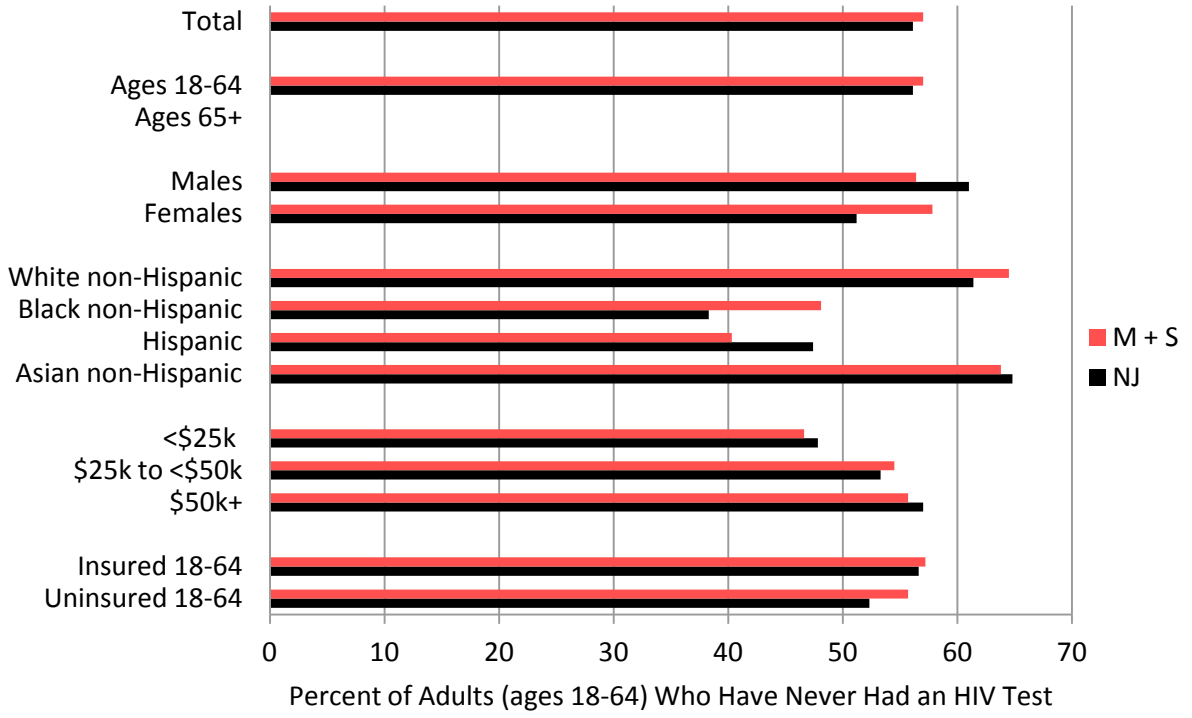
For the PSA test, 46.7% of men ages 40 and over in the combined county sample and 41.8% in the state sample had not had the test in the previous 2 years (see Table 1.13, 2nd page).

- In the counties, younger men were more likely to forego the test, but cell sizes in the combined county sample were too small to assess differences among any of the other groups.
- In the state, younger men, Asian non-Hispanic men, Hispanic men, low income men, and uninsured men were more likely to have not had a PSA test in the past 2 years.

For the combined county sample, 57.0% of adults ages 18-64 had never had an HIV test and the rate was similar in the state (56.1%) (see Table 1.13, 2nd page; also shown in Figure 1.16).

- In the counties, white non-Hispanics, Asian non-Hispanics, and higher income groups were more likely to have never had an HIV test, while the gender and coverage groups did not differ substantially.
- In the state, similar patterns held across all the groups, except for males who were more likely to have not had an HIV test in the state sample.

Figure 1.16: Percent of Adults Who Have Never Had an HIV Test
Adults Ages 18-64, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)
(Data not shown for some groups due to insufficient cell sizes or restricted age)



Source: Data from 2010 BRFSS; tabulations by Rutgers Center for State Health Policy.

Conclusions

For nearly all measures overall, the combined county sample fared better than the New Jersey sample. The counties fared worse on only 3 of the 33 measures (no exercise past month, no PSA test in the past 2 years, and never had an HIV test).

In general, older adults fared worse on the health status measures, with the exception of number of bad mental health days and ever diagnosed with asthma. Younger adults reported more problems with the healthcare access measures such as not having a regular doctor, cost barriers to care, or not having recent medical/dental check-ups. Younger adults also fared worse on the risky behaviors such as binge drinking, smoking, seatbelt use, and lack of sleep, but better on overweight/obesity, exercise, and falls. Older adults generally engaged in more preventive behaviors, with the exception of recent mammograms or pap tests.

Females fared worse on the health status measures, with the exception of diabetes. Males reported more problems with two of the healthcare access measures (not having a regular doctor and not having recent medical/dental check-ups), but females reported more problems with cost barriers to care. Males fared worse on the risky behaviors such as binge drinking, smoking, overweight/obesity, and seatbelt use, but females fared worse on exercise, sleep, and falls.

Black non-Hispanic and Hispanics fared worse on some of the health status measures than white non-Hispanics, with the exception of heart attack, stroke, and activity limitation where the prevalence among white non-Hispanics was higher. Black non-Hispanics and Hispanics also reported more problems with the healthcare access measures. Asian non-Hispanics fared better on almost all the measures, with the exception of diabetes, heart attack, not having a recent dental visit, flu shot (18+), and HIV test.

Low income respondents fared worse across the board. The few exceptions were for binge drinking, overweight (but not obese), lack of sleep, seatbelt use, and ever had an HIV test, where they did better than the other income groups. Similarly, the uninsured fared worse across almost all measures, with the exception of heart attack, health problem requiring special equipment, smoking, overweight (but not obese), exercise, sleep, and HIV test.

Although the counties fared better than the state overall and generally across age, gender, and racial-ethnic groups, the disparities among the low income respondents and the uninsured are still quite large for most measures. Some racial-ethnic disparities also remain, although not consistently across all the measures.

Table 1.1: Individual Characteristics, Adults Ages 18+, Middlesex and Somerset Counties (separately and together)

(unweighted)

	Middlesex County	Somerset County	Both Counties
	N	N	N
Total Adult Sample	619	527	1,146
Age			
18-64	446	385	831
65+	162	132	294
Don't know/refused	11	10	21
Gender			
Male	242	211	453
Female	377	316	693
Don't know/refused	0	0	0
Race-ethnicity			
White non-Hispanic	418	407	825
Black non-Hispanic	49	25	74
Hispanic	55	43	98
Asian non-Hispanic	76	44	120
Other non-Hispanic	12	6	18
Don't know/refused	9	2	11
Income (household)			
<$25k	87	61	148
$25k to < $50k	91	64	155
$50k +	325	319	644
Don't know/refused	116	83	199
Health Insurance (18-64)			
Insured	403	348	751
Uninsured	43	36	79
Don't know/refused	0	1	1

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Table 1.2: Individual Characteristics, Adults Ages 18+, Middlesex and Somerset Counties (separately and together) and Total New Jersey

	Middlesex County		Somerset County		Both Counties		New Jersey	
	%	N	%	N	%	N	%	N
Total Adult Population	100.0	597,283	100.0	251,160	100.0	848,443	100.0	6,661,016
Age								
18-64	86.4	508,858	84.2	208,680	85.7	717,538	82.0	5,402,557
65+	13.6	80,418	15.8	39,110	14.3	119,528	18.0	1,188,458
Gender								
Male	52.8	315,080	48.8	122,503	51.6	437,582	48.3	3,216,208
Female	47.2	282,203	51.2	128,657	48.4	410,860	51.7	3,444,808
Race-ethnicity								
White non-Hispanic	47.7	282,750	58.3	145,897	50.9	428,647	62.1	4,072,856
Black non-Hispanic	12.3	72,887	8.2	20,609	11.1	93,497	13.1	861,827
Hispanic	17.2	101,696	14.4	36,137	16.4	137,833	14.5	950,368
Asian non-Hispanic	18.7	110,753	16.7	41,789	18.1	152,541	7.6	498,115
Other non-Hispanic	4.1	24,135	2.3	5,849	3.6	29,984	2.7	178,344
Income (household)								
<$25k	14.3	85,602	13.3	33,434	14.0	119,036	16.4	1,092,115
$25k to < $50k	12.6	75,227	10.9	27,458	12.1	102,684	17.3	1,149,918
$50k +	55.7	332,982	64.3	161,540	58.3	494,522	49.5	3,298,056
Don't know/refused	17.3	103,472	11.4	28,728	15.6	132,200	16.8	1,120,927
Health Insurance (18-64)								
Insured	87.5	445,004	89.3	185,835	88.0	630,839	86.3	4,626,612
Uninsured	12.5	63,854	10.7	22,351	12.0	86,205	13.7	737,018

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Total Adult Population		848,443	100.0	100.0	100.0	100.0
Self-assessed health						
Valid	1.00 Good or better	745,173	87.8	87.9	85.1	85.3
	2.00 Fair or poor	102,747	12.1	12.1	14.7	14.7
	Total	847,920	99.9	100.0	99.8	100.0
Missing	DK, REF	523	0.1		0.2	
Total		848,443	100.0		100.0	
Days in past 30 physical health not good						
Valid	1.00 None	560,658	66.1	68.7	65.2	67.5
	2.00 1-3 days	109,436	12.9	13.4	13.3	13.7
	3.00 4+ days	145,757	17.2	17.9	18.1	18.7
	Total	815,851	96.2	100.0	96.6	100.0
Missing	DK, REF	32,592	3.8		3.4	
Total		848,443	100.0		100.0	
Days in past 30 mental health not good						
Valid	1.00 None	577,914	68.1	70.5	66.5	68.6
	2.00 1-3 days	96,859	11.4	11.8	10.8	11.1
	3.00 4+ days	145,375	17.1	17.7	19.7	20.3
	Total	820,147	96.7	100.0	96.9	100.0
Missing	DK, REF	28,295	3.3		3.1	
Total		848,443	100.0		100.0	
Ever told by doc had asthma						
Valid	1.00 Yes	98,782	11.6	11.7	13.3	13.3
	2.00 No	748,044	88.2	88.3	86.5	86.7
	Total	846,826	99.8	100.0	99.8	100.0
Missing	DK, REF	1,617	0.2		0.2	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Ever told by doc has diabetes						
Valid	1.00 Yes	64,148	7.6	7.6	9.2	9.2
	2.00 No	783,280	92.3	92.4	90.7	90.8
	Total	847,428	99.9	100.0	99.9	100.0
Missing	DK, REF	1,015	0.1		0.1	
Total		848,443	100.0		100.0	
Ever told by doc had heart attack						
Valid	1.00 Yes	22,376	2.6	2.6	3.8	3.8
	2.00 No	825,165	97.3	97.4	96.0	96.2
	Total	847,541	99.9	100.0	99.7	100.0
Missing	DK, REF	902	0.1		0.3	
Total		848,443	100.0		100.0	
Ever told by doc had stroke						
Valid	1.00 Yes	10,458	1.2	1.2	2.4	2.4
	2.00 No	835,732	98.5	98.8	97.5	97.6
	Total	846,190	99.7	100.0	99.9	100.0
Missing	DK, REF	2,253	0.3		0.1	
Total		848,443	100.0		100.0	
Activity limitation due to phys, ment, or emot probs						
Valid	1.00 Yes	131,077	15.4	15.5	16.9	16.9
	2.00 No	715,212	84.3	84.5	82.8	83.1
	Total	846,289	99.7	100.0	99.6	100.0
Missing	DK, REF	2,153	0.3		0.4	
Total		848,443	100.0		100.0	
Health problems requiring special equipment						
Valid	1 Yes	41,365	4.9	4.9	6.6	6.6
	2 No	806,465	95.1	95.1	93.4	93.4
	Total	847,830	99.9	100.0	99.9	100.0
Missing	DK, REF	613	0.1		0.1	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey (continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Has regular doctor						
Valid	1.00 Yes	757,166	89.2	89.3	86.0	86.2
	2.00 No	90,940	10.7	10.7	13.8	13.8
	Total	848,106	100.0	100.0	99.8	100.0
Missing	DK, REF	337	0.0		0.2	
Total		848,443	100.0		100.0	
Could not see doctor due to cost in past year						
Valid	1 Yes	107,958	12.7	12.8	13.1	13.1
	2 No	736,532	86.8	87.2	86.6	86.9
	Total	844,490	99.5	100.0	99.7	100.0
Missing	DK, REF	3,953	0.5		0.3	
Total		848,443	100.0		100.0	
Last routine physical checkup						
Valid	1.00 Within past year	657,889	77.5	78.7	76.1	77.0
	2.00 >1 to 2 years	92,251	10.9	11.0	12.4	12.5
	3.00 >2 years	85,911	10.1	10.3	10.4	10.5
	Total	836,051	98.5	100.0	98.8	100.0
Missing	DK, REF	12,392	1.5		1.2	
Total		848,443	100.0		100.0	
Dental visit past year						
Valid	1.00 Yes	671,722	79.2	79.4	75.6	76.0
	2.00 No	174,110	20.5	20.6	23.8	24.0
	Total	845,832	99.7	100.0	99.4	100.0
Missing	DK, REF	2,611	0.3		0.6	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
1+ permanent teeth extracted due to decay						
Valid	1.00 Yes	348,035	41.0	41.9	45.5	46.5
	2.00 No	482,590	56.9	58.1	52.4	53.5
	Total	830,626	97.9	100.0	97.9	100.0
Missing	DK, REF	17,817	2.1		2.1	
Total		848,443	100.0		100.0	
Binge Drinker past 30 days (males 5+, females 4+, 1 occasion)						
Valid	1.00 Yes	95,013	11.2	11.6	13.1	13.8
	2.00 No	723,578	85.3	88.4	81.5	86.2
	Total	818,591	96.5	100.0	94.5	100.0
Missing	DK, REF	29,852	3.5		5.5	
Total		848,443	100.0		100.0	
Smoker						
Valid	1.00 Yes	83,377	9.8	9.9	14.4	14.4
	2.00 No	762,403	89.9	90.1	85.1	85.6
	Total	845,780	99.7	100.0	99.5	100.0
Missing	DK, REF	2,663	0.3		0.5	
Total		848,443	100.0		100.0	
BMI categories						
Valid	1.00 Normal	340,815	40.2	42.2	36.0	38.5
	2.00 Overweight	286,603	33.8	35.5	34.4	36.8
	3.00 Obese	179,738	21.2	22.3	23.2	24.8
	Total	807,156	95.1	100.0	93.5	100.0
Missing	DK, REF	41,287	4.9		6.5	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Any exercise past month						
Valid	1.00 Yes	612,080	72.1	72.1	73.3	73.4
	2.00 No	236,363	27.9	27.9	26.6	26.6
	Total	848,443	100.0	100.0	99.9	100.0
Missing	DK, REF	0			0.1	
Total		848,443	100.0		100.0	
Days not enough sleep or rest in past 30 days						
Valid	1.00 0	262,863	31.0	31.5	31.4	32.2
	2.00 1-8	279,774	33.0	33.5	30.4	31.2
	3.00 9-30	292,643	34.5	35.0	35.5	36.5
	Total	835,281	98.4	100.0	97.3	100.0
Missing	DK, REF	13,162	1.6		2.7	
Total		848,443	100.0		100.0	
Fallen past 3 months, age 45+						
Valid	1.00 Yes	49,117	5.8	12.1	6.6	13.2
	2.00 No	357,623	42.2	87.9	43.5	86.8
	Total	406,740	47.9	100.0	50.1	100.0
Missing	DK, REF	4,827	0.6		1.1	
	System*	436,875	51.5		48.8	
	Total	441,703	52.1		49.9	
Total		848,443	100.0		100.0	
Always wears seatbelt						
Valid	1.00 Yes	774,566	91.3	94.1	86.1	90.4
	2.00 No	48,395	5.7	5.9	9.1	9.6
	Total	822,962	97.0	100.0	95.2	100.0
Missing	DK, REF	25,481	3.0		4.8	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Flu shot past 12 months (age 18+)						
Valid	1.00 Yes	342,240	40.3	41.7	36.2	38.2
	2.00 No	479,077	56.5	58.3	58.6	61.8
	Total	821,316	96.8	100.0	94.8	100.0
Missing	DK, REF	27,126	3.2		5.2	
Total		848,443	100.0		100.0	
Flu spray past 12 months (age 18+)						
Valid	1.00 Yes	8,951	1.1	1.1	1.3	1.3
	2.00 No	817,055	96.3	98.9	94.2	98.7
	Total	826,006	97.4	100.0	95.5	100.0
	DK, REF	22,437	2.6		4.5	
Total		848,443	100.0		100.0	
Flu shot past 12 months (age 65+)						
Valid	1.00 Yes	80,969	9.5	69.8	11.1	65.7
	2.00 No	34,981	4.1	30.2	5.8	34.3
	Total	115,950	13.7	100.0	16.8	100.0
Missing	DK, REF	14,955	1.8		2.1	
	System*	717,538	84.6		81.1	
	Total	732,493	86.3		83.2	
Total		848,443	100.0		100.0	
Mammogram past 2 years, women age 50+						
Valid	1.00 Yes	125,386	14.8	79.8	17.3	78.6
	2.00 No	31,735	3.7	20.2	4.7	21.4
	Total	157,121	18.5	100.0	22.0	100.0
Missing	DK, REF	13,497	1.6		2.1	
	System*	677,825	79.9		75.9	
	Total	691,322	81.5		78.0	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Pap test past 3 years, women age 18+						
Valid	1.00 Yes	276,041	32.5	85.6	33.9	84.1
	2.00 No	46,447	5.5	14.4	6.4	15.9
	Total	322,489	38.0	100.0	40.3	100.0
Missing	DK, REF	15,053	1.8		1.3	
	System*	510,902	60.2		58.3	
	Total	525,954	62.0		59.7	
Total		848,443	100.0		100.0	
Had hysterectomy, women 18+						
Valid	1.00 Yes	55,616	6.6	14.6	7.1	15.0
	2.00 No	324,462	38.2	85.4	40.3	85.0
	Total	380,077	44.8	100.0	47.4	100.0
Missing	DK, REF	4,044	0.5		0.3	
	System*	464,322	54.7		52.3	
	Total	468,365	55.2		52.6	
Total		848,443	100.0		100.0	
Blood stool test past 2 years, age 50+						
Valid	1.00 Yes	57,600	6.8	19.5	6.9	17.4
	2.00 No	237,864	28.0	80.5	33.0	82.6
	Total	295,464	34.8	100.0	39.9	100.0
Missing	DK, REF	22,797	2.7		2.0	
	System*	530,181	62.5		58.1	
	Total	552,979	65.2		60.1	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Pneumonia shot ever (age 65+)						
Valid	1.00 Yes	83,671	9.9	73.8	10.5	64.3
	2.00 No	29,673	3.5	26.2	5.9	35.7
	Total	113,345	13.4	100.0	16.4	100.0
Missing	DK, REF	17,560	2.1		2.5	
	System*	717,538	84.6		81.1	
	Total	735,098	86.6		83.6	
Total		848,443	100.0		100.0	
Sigmoidoscopy or colonoscopy ever, age 50+						
Valid	1.00 Yes	218,126	25.7	71.7	26.6	65.6
	2.00 No	86,220	10.2	28.3	14.0	34.4
	Total	304,347	35.9	100.0	40.6	100.0
Missing	DK, REF	13,915	1.6		1.3	
	System*	530,181	62.5		58.1	
	Total	544,096	64.1		59.4	
Total		848,443	100.0		100.0	
PSA test past 2 years, men age 40+						
Valid	1.00 Yes	127,410	15.0	53.3	15.4	58.2
	2.00 No	111,519	13.1	46.7	11.0	41.8
	Total	238,929	28.2	100.0	26.4	100.0
Missing	DK, REF	16,662	2.0		2.0	
	System*	592,852	69.9		71.6	
	Total	609,514	71.8		73.6	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
HIV test ever, age 18-64						
Valid	1.00 Yes	286,593	33.8	43.0	32.7	43.9
	2.00 No	380,447	44.8	57.0	41.8	56.1
	Total	667,040	78.6	100.0	74.5	100.0
Missing	DK, REF	30,042	3.5		3.1	
	System*	151,361	17.8		22.5	
	Total	181,403	21.4		25.5	
Total		848,443	100.0		100.0	
Age						
Valid	1.00 18-64	717,538	84.6	85.7	81.1	82.0
	2.00 65+	119,528	14.1	14.3	17.8	18.0
	Total	837,066	98.7	100.0	98.9	100.0
Missing	DK, REF	11,377	1.3		1.1	
Total		848,443	100.0		100.0	
Gender						
Valid	1.00 Male	437,582	51.6	51.6	48.3	48.3
	2.00 Female	410,860	48.4	48.4	51.7	51.7
	Total	848,443	100.0	100.0	100.0	100.0
Race-ethnicity						
Valid	1.00 White non-Hisp	428,647	50.5	50.9	61.1	62.1
	2.00 Black non-Hisp	93,497	11.0	11.1	12.9	13.1
	3.00 Hispanic	137,833	16.2	16.4	14.3	14.5
	4.00 Asian non-Hisp	152,541	18.0	18.1	7.5	7.6
	5.00 Other	29,984	3.5	3.6	2.7	2.7
	Total	842,501	99.3	100.0	98.5	100.0
Missing	DK, REF	5,942	0.7		1.5	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Household Income						
Valid	1.00 < $25k	119,036	14.0	14.0	16.4	16.4
	2.00 $25k to < $50k	102,684	12.1	12.1	17.3	17.3
	3.00 $50k +	494,522	58.3	58.3	49.5	49.5
	9.00 DK, REF	132,200	15.6	15.6	16.8	16.8
	Total	848,443	100.0	100.0	100.0	100.0
Health insurance, non-elderly						
Valid	1.00 Insured	630,839	74.4	88.0	69.5	86.3
	2.00 Uninsured	86,205	10.2	12.0	11.1	13.7
	Total	717,044	84.5	100.0	80.5	100.0
Missing	DK, REF	131,399	15.5		19.5	
Total		848,443	100.0		100.0	
Marital status						
Valid	1 Married	584,473	68.9	69.1	61.8	62.6
	2 Divorced	53,464	6.3	6.3	7.0	7.1
	3 Widowed	45,635	5.4	5.4	6.7	6.8
	4 Separated	9,342	1.1	1.1	2.2	2.2
	5 Never married	133,143	15.7	15.7	17.8	18.1
	6 Member of an unmarried couple	19,578	2.3	2.3	3.1	3.2
	Total	845,635	99.7	100.0	98.7	100.0
Missing	DK, REF	2,807	0.3		1.3	
Total		848,443	100.0		100.0	
Education						
Valid	1.00 HS grad or less	224,126	26.4	26.5	33.5	33.8
	2.00 Some college	179,106	21.1	21.2	24.0	24.3
	3.00 College grad+	442,989	52.2	52.3	41.5	41.9
	Total	846,222	99.7	100.0	99.0	100.0
Missing	DK, REF	2,221	0.3		1.0	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.3: Item Frequencies, Adults Ages 18+, Middlesex + Somerset Counties and Total New Jersey

(continued)

		Middlesex + Somerset Counties			New Jersey**	
		N	%	Valid %	%	Valid %
Employment status						
Valid	1 Employed for wages	511,054	60.2	60.5	55.5	56.1
	2 Self-employed	55,555	6.5	6.6	6.1	6.1
	3 Out of work > 1 year	42,760	5.0	5.1	5.2	5.3
	4 Out of work < 1 year	36,589	4.3	4.3	4.3	4.3
	5 Homemaker	29,872	3.5	3.5	4.7	4.7
	6 Student	36,577	4.3	4.3	4.1	4.2
	7 Retired	110,112	13.0	13.0	15.6	15.8
	8 Unable to work	22,569	2.7	2.7	3.5	3.5
	Total	845,087	99.6	100.0	98.9	100.0
Missing	DK, REF	3,356	0.4		1.1	
Total		848,443	100.0		100.0	

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

* System missing due to question restrictions on age or gender.

** 2010 total adult population ages 18+ for New Jersey = 6,661,016.

Table 1.4: Health Status by Individual Characteristics, Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)

	Self-assessed Overall Health Status			Days Physical Health Not Good Past 30 Days			Days Mental Health Not Good Past 30 Days		
	M+S		NJ	M+S		NJ	M+S		NJ
	% Fair or Poor	N	% Fair or Poor	% 4+ Days	N	% 4+ Days	% 4+ Days	N	% 4+ Days
Total Adult Population	12.1	102,748	14.7	17.9	145,757	18.7	17.7	145,375	20.3
Age									
18-64	10.9	77,953	11.9	16.5	114,254	16.8	18.6	129,529	21.6
65+	20.2	24,102	27.6	25.8	29,126	27.9	12.4	14,169	14.6
Gender									
Male	11.1	48,517	13.9	13.9	59,039	16.1	11.4	48,404	17.5
Female	13.2	54,231	15.5	22.2	86,718	21.2	24.6	96,971	22.9
Race-ethnicity									
White non-Hispanic	13.3	56,907	12.5	20.3	83,395	19.1	18.3	75,608	20.2
Black non-Hispanic	7.8	7,255	20.9	20.1	18,691	20.9	12.4	11,567	21.7
Hispanic	20.3	27,990	22.6	22.3	29,919	21.0	27.3	36,841	22.5
Asian non-Hispanic	3.4	5,182	5.8	8.2	12,178	7.6	11.5	17,169	13.3
Other non-Hispanic	--	--	17.8	--	--	22.2	--	--	24.6
Income (household)									
<$25k	28.4	33,704	32.5	27.9	32,491	31.5	29.6	34,610	29.9
$25k to < $50k	12.4	12,663	17.6	21.1	20,241	22.8	19.3	18,999	21.5
$50k +	8.4	41,762	7.4	12.5	59,710	13.0	15.1	72,564	16.9
Don't know/refused	11.1	14,619	16.1	26.1	33,315	19.0	15.3	19,201	19.6
Health Insurance (18-64)									
Insured	10.6	66,544	10.7	15.3	93,057	16.2	18.8	114,775	21.1
Uninsured	13.2	11,409	19.6	25.0	21,197	20.7	17.4	14,754	25.5

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.5: Chronic Conditions by Individual Characteristics, Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)

	Asthma			Diabetes			Heart Attack		
	M+S		NJ	M+S		NJ	M+S		NJ
	% Yes	N	% Yes	% Yes	N	% Yes	% Yes	N	% Yes
Total Adult Population	11.7	98,782	13.3	7.6	64,148	9.2	2.6	22,375	3.8
Age									
18-64	12.0	86,109	13.9	7.1	50,871	6.5	1.4	10,395	2.1
65+	9.5	11,307	11.1	10.6	12,585	21.5	10.1	11,981	11.3
Gender									
Male	7.2	31,381	11.4	8.3	36,391	9.7	1.9	8,160	4.7
Female	16.5	67,401	15.2	6.8	27,757	8.7	3.5	14,215	2.9
Race-ethnicity									
White non-Hispanic	13.5	57,560	13.2	6.2	26,482	8.1	3.4	14,734	4.2
Black non-Hispanic	19.6	18,310	15.5	8.4	7,897	14.5	1.2	1,121	4.8
Hispanic	10.8	14,873	15.6	7.9	10,910	9.5	4.0	5,494	2.1
Asian non-Hispanic	3.8	5,836	5.3	11.6	17,646	7.6	0.1	135	1.3
Other non-Hispanic	--	--	14.5	--	--	8.2	--	--	3.8
Income (household)									
<$25k	19.2	22,813	16.3	10.5	12,494	13.1	6.4	7,621	7.7
$25k to < $50k	15.7	16,014	14.8	2.2	2,211	12.2	5.1	5,251	5.0
$50k +	9.5	46,794	12.2	7.5	37,001	6.4	1.0	4,744	2.1
Don't know/refused	10.0	13,161	12.2	9.5	12,442	10.4	3.6	4,761	3.7
Health Insurance (18-64)									
Insured	11.0	69,042	14.1	6.9	43,618	6.5	1.5	9,739	2.2
Uninsured	19.8	17,067	12.9	8.4	7,253	6.4	0.8	655	1.6

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.5: Chronic Conditions by Individual Characteristics, Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)
(continued)

	Stroke			Activity Limitation			Health Problem Requiring Special Equipment		
	M+S		NJ	M+S		NJ	M+S		NJ
	% Yes	N	% Yes	% Yes	N	% Yes	% Yes	N	% Yes
Total Adult Population	1.2	10,458	2.4	15.5	131,077	16.9	4.9	41,365	6.6
Age									
18-64	0.7	5,318	1.3	13.7	98,057	14.6	3.3	23,386	4.2
65+	4.3	5,140	7.2	27.5	32,855	28.1	15.0	17,814	17.2
Gender									
Male	0.6	2,771	2.3	13.0	56,770	15.8	3.3	14,520	6.0
Female	1.9	7,687	2.5	18.1	74,307	18.0	6.5	26,845	7.1
Race-ethnicity									
White non-Hispanic	2.0	8,461	2.2	20.6	88,461	18.7	6.1	25,963	6.6
Black non-Hispanic	0.7	655	4.4	10.9	10,218	18.1	8.5	7,945	10.4
Hispanic	0.3	434	1.2	12.9	17,822	12.4	3.2	4,367	4.5
Asian non-Hispanic	0.6	907	1.3	7.7	11,626	7.9	1.2	1,906	1.8
Other non-Hispanic	--	--	6.6	--	--	19.1	--	--	7.2
Income (household)									
<$25k	3.5	4,089	5.4	27.4	32,609	28.3	11.9	14,111	14.4
$25k to < $50k	2.6	2,693	3.1	15.8	16,192	20.4	4.3	4,466	7.9
$50k +	0.7	3,211	1.0	12.5	61,863	12.3	2.5	12,337	3.2
Don't know/refused	0.4	466	2.6	15.6	20,413	15.8	7.9	10,451	7.4
Health Insurance (18-64)									
Insured	0.7	4,662	1.3	13.3	83,570	14.4	3.5	22,274	4.3
Uninsured	0.8	655	1.9	16.8	14,487	16.2	1.3	1,113	3.8

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.6: Medical Utilization by Individual Characteristics, Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)

	Has Regular Doctor			Could Not See Doctor Due to Cost Past Year			When Last Physical Check-up		
	M+S		NJ	M+S		NJ	M+S		NJ
	% No	N	% No	% Yes	N	% Yes	>2 Years	N	>2 Years
Total Adult Population	10.7	90,940	13.8	12.8	107,959	13.1	10.3	85,912	10.5
Age									
18-64	12.0	86,136	15.8	14.6	104,250	15.1	11.3	79,900	11.9
65+	2.1	2,559	5.1	2.7	3,246	4.5	4.5	5,282	4.6
Gender									
Male	11.3	49,347	17.2	9.5	41,362	11.8	11.3	49,179	12.5
Female	10.1	41,593	10.6	16.3	66,597	14.4	9.1	36,733	8.6
Race-ethnicity									
White non-Hispanic	7.5	31,954	10.2	8.9	38,198	9.7	10.0	42,183	10.5
Black non-Hispanic	2.9	2,714	11.9	26.4	24,679	16.7	13.6	12,349	8.4
Hispanic	27.7	38,144	26.3	19.4	26,671	23.4	8.9	12,007	11.3
Asian non-Hispanic	9.4	14,299	19.6	10.0	14,910	13.0	12.1	18,355	10.7
Other non-Hispanic	--	--	20.6	--	--	20.8	--	--	17.3
Income (household)									
<$25k	18.2	21,698	23.1	33.5	39,592	28.7	18.9	22,007	13.4
$25k to < $50k	13.7	14,023	15.1	13.1	13,375	16.6	7.9	7,898	10.4
$50k +	9.0	44,679	9.4	7.2	35,399	6.6	9.3	45,902	9.6
Don't know/refused	8.0	10,540	16.4	15.2	19,591	13.6	7.9	10,105	10.3
Health Insurance (18-64)									
Insured	9.3	58,473	10.1	10.4	64,988	10.0	7.4	46,397	9.5
Uninsured	32.1	27,663	49.0	45.5	39,262	47.1	40.3	33,503	27.0

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.7: Dental Utilization by Individual Characteristics, Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)

	When Last Dental Visit			1+ Permanent Teeth Removed Due to Decay		
	M+S		NJ	M+S		NJ
	>1 Year	N	>1 Year	% Yes	N	% Yes
Total Adult Population	20.6	174,110	24.0	41.9	348,036	46.5
Age						
18-64	21.7	155,081	23.6	36.5	257,926	40.2
65+	15.1	17,875	25.9	75.8	86,950	75.6
Gender						
Male	22.2	96,977	24.9	40.8	176,843	47.0
Female	18.8	77,133	23.1	43.1	171,193	46.0
Race-ethnicity						
White non-Hispanic	17.6	75,214	20.9	44.7	187,321	45.1
Black non-Hispanic	20.6	19,243	31.4	62.4	57,138	61.1
Hispanic	22.9	31,560	29.3	44.1	59,570	45.9
Asian non-Hispanic	28.1	42,625	23.8	19.8	29,751	33.3
Other non-Hispanic	--	--	31.8	--	--	43.0
Income (household)						
<$25k	36.1	42,952	42.6	63.1	74,195	60.9
$25k to < $50k	32.4	33,315	30.3	49.7	50,214	56.2
$50k +	14.9	73,339	15.7	34.3	166,962	38.0
Don't know/refused	18.7	24,503	23.8	45.1	56,665	47.6
Health Insurance (18-64)						
Insured	19.0	119,425	20.0	35.7	221,483	39.0
Uninsured	41.6	35,656	46.2	42.5	36,443	49.2

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.8: Alcohol, Tobacco Use by Individual Characteristics, Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)

	Binge Drinker Past 30 days (males 5+, females 4+, 1 occasion)			Current Smoker		
	M+S		NJ	M+S		NJ
	% Yes	N	% Yes	% Yes	N	% Yes
Total Adult Population	11.6	95,013	13.8	9.9	83,377	14.4
Age						
18-64	13.2	91,392	16.1	10.6	75,483	15.9
65+	3.1	3,621	4.1	6.0	7,202	8.0
Gender						
Male	13.6	57,264	17.8	10.3	44,889	15.7
Female	9.5	37,749	10.1	9.4	38,488	13.2
Race-ethnicity						
White non-Hispanic	14.5	60,903	16.1	14.0	59,902	15.7
Black non-Hispanic	9.6	8,982	10.3	5.6	5,248	15.9
Hispanic	12.8	17,302	13.1	5.5	7,614	12.9
Asian non-Hispanic	4.6	6,516	3.6	5.9	8,937	5.5
Other non-Hispanic	--	--	13.3	--	--	11.8
Income (household)						
<$25k	10.1	11,713	11.1	12.8	15,144	22.1
$25k to < $50k	3.6	3,668	10.8	12.1	12,420	17.6
$50k +	14.9	70,785	17.3	9.8	48,294	10.6
Don't know/refused	7.0	8,847	8.8	5.7	7,519	15.0
Health Insurance (18-64)						
Insured	13.0	78,673	15.7	10.7	67,383	14.5
Uninsured	15.2	12,719	19.2	9.5	8,100	25.0

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.9: Weight, Exercise by Individual Characteristics, Adults Ages 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)

	Weight (BMI Category)						Any Exercise Past 30 Days		
	M+S				NJ		M+S		NJ
	Overweight		Obese		Overweight	Obese			
	%	N	%	N	%	%	% No	N	% No
Total Adult Population	35.5	286,603	22.3	179,738	36.8	24.8	27.9	236,363	26.6
Age									
18-64	35.6	242,561	22.2	151,398	36.1	24.8	26.9	192,737	24.7
65+	36.6	42,203	24.0	27,730	39.8	24.8	32.6	38,948	35.0
Gender									
Male	42.1	180,161	25.7	109,855	43.3	26.9	23.9	104,492	23.5
Female	28.1	106,442	18.4	69,883	30.3	22.7	32.1	131,871	29.5
Race-ethnicity									
White non-Hispanic	36.6	148,801	23.9	97,219	37.2	23.7	22.4	95,919	22.5
Black non-Hispanic	45.0	37,643	23.0	19,232	34.7	33.5	23.0	21,486	31.3
Hispanic	33.9	45,174	32.1	42,703	37.7	30.6	44.9	61,955	37.8
Asian non-Hispanic	31.5	46,760	7.9	11,724	35.2	7.7	28.0	42,696	26.4
Other non-Hispanic	--	--	--	--	38.5	21.0	--	--	33.6
Income (household)									
<$25k	27.0	30,339	30.9	34,769	34.6	30.3	42.6	50,701	41.1
$25k to < $50k	47.8	46,986	18.9	18,550	35.7	28.2	30.0	30,798	30.6
$50k +	34.7	166,362	22.7	108,716	38.3	22.3	22.3	110,230	18.8
Don't know/refused	36.6	42,915	15.1	17,703	34.9	23.2	33.8	44,634	31.2
Health Insurance (18-64)									
Insured	36.3	217,611	21.8	130,981	36.4	24.2	27.8	175,183	23.2
Uninsured	30.8	24,949	25.2	20,417	35.5	28.1	20.4	17,554	34.7

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.10: Sleep, Falls, Seatbelt Use by Individual Characteristics, Adults 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)

	Days Not Enough Rest or Sleep Past 30 Days			Had Fall Past 3 Months (age 45+)			Seatbelt Use		
	M+S		NJ	M+S		NJ	M+S		NJ
	% >2 Days/Wk	N	% >2 Days/Wk	% Yes	N	% Yes	% Not Always	N	% Not Always
Total Adult Population	35.0	292,643	36.5	12.1	49,117	13.2	5.9	48,395	9.6
Age									
18-64	37.3	264,153	39.6	10.8	30,658	12.3	5.9	40,858	9.8
65+	23.6	27,321	22.8	15.6	17,998	15.1	6.5	7,537	8.5
Gender									
Male	32.0	138,217	34.5	9.1	17,832	11.5	7.9	33,790	13.3
Female	38.3	154,426	38.4	14.8	31,285	14.6	3.7	14,605	6.1
Race-ethnicity									
White non-Hispanic	38.6	162,719	37.7	12.6	34,280	13.4	8.3	34,739	10.7
Black non-Hispanic	44.3	41,227	38.3	--	--	12.3	2.8	2,523	10.4
Hispanic	35.5	47,704	33.9	--	--	12.8	3.6	4,719	6.7
Asian non-Hispanic	19.7	29,664	28.4	--	--	8.3	4.1	5,893	4.3
Other non-Hispanic	--	--	40.9	--	--	17.6		--	12.8
Income (household)									
<$25k	31.8	37,392	36.5	18.6	10,892	19.0	4.3	4,904	11.3
$25k to < $50k	37.2	37,711	36.0	7.7	3,963	13.8	3.7	3,649	10.8
$50k +	36.3	176,963	38.7	10.8	24,678	11.3	6.7	32,318	8.6
Don't know/refused	31.6	40,577	30.4	14.1	9,585	12.2	6.0	7,525	9.7
Health Insurance (18-64)									
Insured	39.8	247,753	40.5	10.6	27,315	12.4	5.9	36,632	9.2
Uninsured	19.1	16,400	35.3	--	--	11.7	5.3	4,226	14.1

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.11: Influenza Immunization by Individual Characteristics, Adults 18+, Middlesex + Somerset Counties (M+S) and Total New Jersey (NJ)

	Flu Shot Past Year (all adults)			Flu Spray Past Year (all adults)			Flu Shot Past Year (age 65+)		
	M+S		NJ	M+S		NJ	M+S		NJ
	% No	N	% No	% Yes	N	% Yes	% No	N	% No
Total Adult Population	58.3	479,077	61.8	1.1	8,952	1.3	30.2	34,981	34.3
Age									
18-64	63.0	438,355	67.8	1.3	8,774	1.5	n/a	n/a	n/a
65+	30.2	34,981	34.3	0.2	178	0.7	30.2	34,981	34.3
Gender									
Male	63.7	272,426	64.4	1.3	5,680	1.6	32.7	16,634	32.6
Female	52.5	206,651	59.4	0.8	3,272	1.0	28.2	18,347	35.4
Race-ethnicity									
White non-Hispanic	54.3	226,322	58.1	0.7	2,942	0.8	27.6	27,025	31.4
Black non-Hispanic	58.3	54,529	66.0	0.6	605	2.5	--	--	44.4
Hispanic	63.4	84,960	71.6	0.0	0	3.0	--	--	39.6
Asian non-Hispanic	70.2	99,940	66.2	3.8	5,404	1.2	--	--	39.8
Other non-Hispanic	--	--	59.4	--	--	0.2	--	--	47.0
Income (household)									
<$25k	64.9	74,182	67.5	1.5	1,656	1.9	41.4	9,742	41.9
$25k to < $50k	65.8	66,494	60.7	0.0	0	1.6	28.4	6,734	32.1
$50k +	57.8	278,137	60.9	1.1	5,377	1.1	24.7	9,601	30.0
Don't know/refused	48.2	60,263	59.9	1.5	1,919	1.1	29.8	8,904	33.9
Health Insurance (18-64)									
Insured	61.1	374,144	64.9	1.4	8,774	1.6	n/a	n/a	n/a
Uninsured	77.3	63,717	84.3	0.0	0	0.6	n/a	n/a	n/a

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.12: Women's Health by Individual Characteristics, Adults 18+, Middlesex + Somerset Counties (M+S) & Total New Jersey (NJ)

	Mammogram Past 2 Years (women age 50+)			Pap Test Past 3 Years (women age 18+)			Had Hysterectomy (women 18+)		
	M+S		NJ	M+S		NJ	M+S		NJ
	% No	N	% No	% No	N	% No	% Yes	N	% Yes
Total Adult Population	20.2	31,735	21.4	14.4	46,447	15.9	14.6	55,616	15.0
Age									
18-64	18.5	17,124	18.3	11.2	31,586	12.4	10.2	31,461	9.8
65+	22.6	14,612	25.2	35.7	14,861	35.1	33.6	21,960	34.0
Gender									
Male	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Female	20.2	31,735	21.4	14.4	46,447	15.9	14.6	55,616	15.0
Race-ethnicity									
White non-Hispanic	25.5	30,435	22.3	17.2	31,528	15.5	17.1	37,115	15.0
Black non-Hispanic	--	--	18.9	--	--	13.1	--	--	21.0
Hispanic	--	--	19.3	6.2	3,469	15.7	10.0	6,214	12.2
Asian non-Hispanic	--	--	17.7	--	--	24.5	4.6	2,395	7.4
Other non-Hispanic	--	--	23.5	--	--	22.5	--	--	11.3
Income (household)									
<$25k	24.5	8,634	33.0	22.8	11,793	26.6	23.2	14,575	20.4
$25k to < $50k	23.0	5,343	23.1	19.4	8,210	18.0	14.7	7,331	18.3
$50k +	16.1	11,659	14.8	8.3	15,382	8.4	9.0	18,311	10.5
Don't know/refused	23.3	6,099	20.5	26.0	11,063	25.7	23.9	15,399	18.0
Health Insurance (18-64)									
Insured	18.4	16,450	15.9	8.1	20,186	9.9	11.1	30,777	10.1
Uninsured	--	--	44.5	--	--	28.6	--	--	7.9

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.13: Other Preventive Behaviors by Individual Characteristics, Adults 18+, Middlesex + Somerset Counties (M+S) & Total New Jersey (NJ)

	Blood Stool Test Past 2 Years (age 50+)			Pneumonia Shot Ever (age 65+)			Sigmoidoscopy/Colonoscopy Ever (age 50+)		
	M+S		NJ	M+S		NJ	M+S		NJ
	% No	N	% No	% No	N	% No	% No	N	% No
Total Adult Population	80.5	237,864	82.6	26.2	29,674	35.7	28.3	86,220	34.4
Age									
18-64	84.8	158,597	84.9	n/a	n/a	n/a	32.4	61,381	39.1
65+	73.1	79,267	79.2	26.2	29,673	35.7	21.6	24,839	27.8
Gender									
Male	77.8	110,651	80.9	30.6	15,103	37.2	25.4	37,156	32.7
Female	83.0	127,213	84.1	22.8	14,571	34.7	31.0	49,064	35.9
Race-ethnicity									
White non-Hispanic	79.3	169,185	83.0	24.0	22,900	31.5	28.1	62,530	32.8
Black non-Hispanic	--	--	78.3	--	--	44.7	--	--	32.7
Hispanic	--	--	84.0	--	--	57.2	--	--	40.3
Asian non-Hispanic	--	--	89.4	--	--	44.9	--	--	52.0
Other non-Hispanic	--	--	82.5	--	--	40.5	--	--	48.0
Income (household)									
<$25k	87.9	46,602	82.9	24.8	5,716	39.4	28.8	15,590	42.0
$25k to < $50k	77.8	33,275	81.7	22.9	5,311	33.2	31.1	13,506	36.0
$50k +	77.7	116,889	82.2	26.3	10,096	34.5	28.0	43,538	30.1
Don't know/refused	83.3	41,098	84.3	29.7	8,550	36.1	26.4	13,586	36.3
Health Insurance (18-64)									
Insured	83.9	147,567	84.2	n/a	n/a	n/a	30.8	55,163	36.7
Uninsured	--	--	93.4	n/a	n/a	n/a	--	--	65.3

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 1.13: Other Preventive Behaviors by Individual Characteristics, Adults 18+, Middlesex + Somerset Counties (M+S) & Total New Jersey (NJ)

(continued)

	PSA Test Past 2 Years (men age 40+)			HIV Test Ever (ages 18-64)		
	M+S		NJ	M+S		NJ
	% No	N	% No	% No	N	% No
Total Adult Population	46.7	111,519	41.8	57.0	380,447	56.1
Age						
18-64	54.3	103,411	49.5	57.0	380,447	56.1
65+	16.7	8,109	18.6	n/a	n/a	n/a
Gender						
Male	46.7	111,519	41.8	56.4	201,317	61.0
Female	n/a	n/a	n/a	57.8	179,130	51.2
Race-ethnicity						
White non-Hispanic	35.9	47,534	38.0	64.5	193,571	61.4
Black non-Hispanic	--	--	41.8	48.1	40,581	38.3
Hispanic	--	--	51.6	40.3	51,135	47.4
Asian non-Hispanic	--	--	67.2	63.8	81,323	64.8
Other non-Hispanic	--	--	41.6	--	--	56.0
Income (household)						
<$25k	--	--	48.5	46.6	40,343	47.8
$25k to < $50k	--	--	43.2	54.5	39,188	53.3
$50k +	44.3	62,578	40.1	55.7	235,143	57.0
Don't know/refused	56.0	22,589	41.1	76.0	65,772	65.1
Health Insurance (18-64)						
Insured	51.8	86,682	46.6	57.2	335,567	56.6
Uninsured	--	--	72.3	55.7	44,387	52.3

Source: Data from 2010 BRFSS; tabulations by Rutgers University Center for State Health Policy.

Note: Data not shown (--) if the unweighted sample size for the denominator was < 50.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Chapter 2: Avoidable Hospitalizations and Emergency Department Visits: An Analysis of Hospital Discharge Data

Introduction

In this chapter, we examine rates of specific inpatient hospitalizations and treat-and-release emergency department (ED) visits by patients that could have been avoided or prevented if these patients had adequate availability of primary care within their communities. We use the all-payer New Jersey uniform billing hospital data to calculate geographic area-level rates of such avoidable hospitalizations and ED visits to assess the extent of primary care available within communities. We examine these within the combined service areas of hospitals (comprising all of Middlesex County along with the townships of Somerset and Franklin Park from Somerset County) and compare to New Jersey overall. We also examine these rates by patient characteristics including age, gender, race/ethnicity and health insurance payer, examine payer, racial, age and gender distribution of avoidable visits, and also illustrate variation in these rates among townships within the hospital's overall service area.

Avoidable hospitalizations have been widely used in previous research to measure access to primary care and disparities in health outcomes (Billings et al. 1993; Basu, Friedman, and Burstin 2004; Bindman et al. 1995; Howard et al. 2007). These hospitalizations can be used to identify unmet community health care needs since these conditions can be avoided by high quality community based primary care (AHRQ 2012a). Based on easily available hospital discharge data, they allow public health agencies, provider/payer systems, and others interested to assess the health care quality in their communities (AHRQ 2012a) and subsequently devise targeted interventions to address gaps. The avoidable/preventable ED visits are also similarly used for identifying gaps in care, but they utilize outpatient, treat-and-release visits that do not result in an overnight hospital stay (Billings, Parikh, and Mijanovich 2000). The methods used here have been applied successfully in several other studies (DeLia 2006; Ballard et al. 2010) and are included in Agency for Healthcare Research and Quality (AHRQ) toolkit for monitoring the healthcare safety net (Billings 2003).

Avoidable Hospitalizations: To calculate rates of avoidable hospitalizations (that could have been avoided with sufficient primary care availability), we use a methodology created by the

AHRQ that calculates area-level rates of hospitalizations due to ambulatory care sensitive (ACS) conditions such as asthma or congestive heart failure. As the name suggests, ACS hospitalizations could occur due to insufficient access or poor quality of ambulatory care within the community. AHRQ provides the necessary analytic methodology and clinical information to construct rates of ACS hospitalizations in the population (see methods section for details). The rates constructed on the basis of these methods are known as 'Prevention Quality Indicators' (PQI) and we will use this term in this chapter to refer to rates of avoidable hospitalizations.

Avoidable Emergency Department Visits: In order to construct rates of preventable/avoidable ED visits, we use an algorithm to assess access to primary care within the primary services areas of the two hospitals. Similar in concept to the Prevention Quality Indicators, these avoidable ED rates are calculated from treat-and-release ED visits that could have been treated in a primary care setting or avoided if the patient had sufficient access to timely and effective primary care. The algorithm was created by researchers from the New York University (NYU) Center for Health and Public Service Research. Details regarding the different categories of these ED visits are provided below in the methods section.

Methods

Avoidable Hospitalizations: We use the AHRQ created Prevention Quality Indicators (PQI) which represent rates of avoidable ACS hospitalizations. These ACS hospitalizations are for certain chronic or acute conditions such as diabetes, COPD, angina, heart failure etc., that could have been potentially avoided with adequate level of primary care. We utilize an AHRQ defined *overall* PQI composite measure that is used to assess the overall rate of potentially avoidable hospitalizations. The individual PQIs are based on rates of hospitalizations for individual conditions. The composite indicator, constructed from the individual condition specific PQIs should be interpreted as the number of discharges indicating any one of the ACS conditions per unit of population in an area. This overall composite measure can be subdivided into an acute as well as a chronic composite measure depending on the nature of the conditions. Detailed methods on calculating the prevention quality indicators (PQIs) can be found at http://www.qualityindicators.ahrq.gov/modules/pqi_resources.aspx and we follow these methods. Appendix 2.B gives a list of all the ACS conditions while Appendix 2.C lists the constituents of the three composite indicators (overall, acute and chronic). While we at places report the rates of individual disease specific conditions and all three composites (overall, chronic and acute), our focus is on the overall composite measure since it gives a comprehensive measure of primary care access within the community and is thus the most useful for making comparisons between different geographic areas. The AHRQ Prevention Quality Indicators are assessed for age groups 18 years and above. As a separate analysis, we

report selected rates based on Pediatric Quality Indicators that focus on rates of avoidable hospitalizations within the younger population.

Avoidable Emergency Department Visits: Rates of avoidable ED visits are calculated utilizing a detailed algorithm and programming available at http://wagner.nyu.edu/faculty/billings/nyued-background.php. The New York University Center for Health and Public Service Research (based on advice from a panel of ED and primary care physicians) initially developed an algorithm to classify ED utilization based on information from full medical records. ED utilization was classified into a) Non-emergent: immediate medical care was not required within 12 hours; b) Emergent/Primary Care Treatable: treatment was required within 12 hours, but could have been provided in a primary care setting; c) Emergent – ED Care Needed – Preventable/Avoidable: ED care was needed but the emergent nature of the condition was potentially avoidable if timely ambulatory care had been received; d) Emergent – ED Care Needed – Not Preventable/Avoidable: ED care was required and ambulatory care treatment could not have prevented the condition. Only, the first three categories are considered avoidable. Detailed definitions of these classifications are provided with examples in Appendix 2.D. For hospital discharge data, the information in billing records is not sufficient to place ED visits directly into these categories. Therefore, the algorithm uses diagnosis codes from discharge records to impute the probability of a visit belonging to each of these categories. The sum of the probabilities of a visit belonging to the first three categories is the measure of it being avoidable if there was sufficient primary care access within the community. The algorithm allows calculation of these rates for patients of all ages.

Data and Analysis: We calculate the above-mentioned area-level rates of avoidable hospitalizations and ED visits for the hospitals' primary service area and New Jersey overall by using hospital inpatient discharges and ED visits over the period 2008-2010. Pooling of discharges/visits across multiple years ensures stable and reliable rates. For calculating geographic area-level measures, only those discharges with valid zip codes having non-zero population can be used. This zip code information including each zip code's 2010 population is available from Nielsen Claritas. For PQI/avoidable hospitalization rates, which are applicable for adult populations, we take population in the age range 18 and above as the relevant denominator. For avoidable ED visit rates which are assessed for all ages, we take total population as the denominator for calculating population based rates. We report two other categories of measures. We examine the distribution of patient and payer characteristics within all avoidable hospitalizations and ED visits. We also examine percentages of avoidable hospitalizations and ED visits out of all hospitalizations and ED visits stratified by patient characteristics (age, gender, race) and payer type. All these are assessed for the primary service area of the hospitals that for the purposes of this analysis comprise all of Middlesex county and

the townships of Somerset and Franklin Park from Somerset County (see Appendix 2.A for the complete list of towns and zip codes). We calculate avoidable hospitalizations and ED visits for individual towns within the primary service areas of the hospitals as well as the aggregated combined service area. We compare these to the benchmark New Jersey overall rate. For computing hospitalization/ED visit measures for different geographic areas, the relevant geographic identifier is patient residence, not the location of the hospital where discharge occurred (AHRQ 2012b). The measures for an area are thus based on avoidable hospitalizations and ED visits for patients residing in that area, but the discharge may be from any hospital even those outside that area.

Findings

Tables 2.1-2.13 at the end of the chapter contain rates of avoidable hospitalizations and emergency department visits – overall and by patient and payer characteristics, and also distribution of these characteristics for avoidable hospitalizations and ED visits. Charts 2.1-2.10 interspersed within the text highlight some of the overall findings. The tables are followed by appendices 2.A-2.D which contain details related to the data and methods discussed above.

Overall Rates of Avoidable Visits

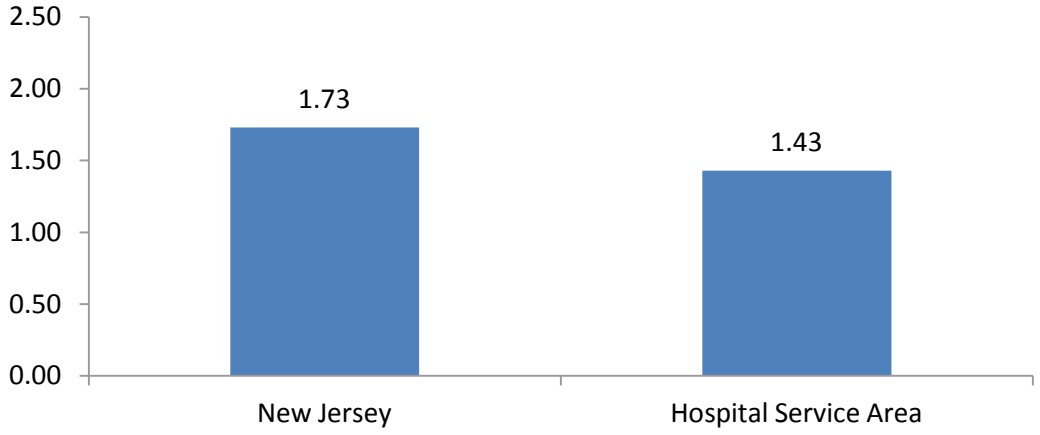
Table 2.1 utilizes the overall Prevention Quality Indicator (PQI) composite measure to examine rates of avoidable hospitalization for adults. It also examines rates of avoidable ED visits for children as well as adults. Higher rates suggest lower access to primary care.

- For the combined service area of the hospitals, the rate of avoidable hospitalizations (calculated for adults of age 18 or older) was 1.43 per 100 population, lower than the 1.73 rate for New Jersey overall (also see Figure 2.1).
- Avoidable hospitalization rates varied from a low of 0.45 in Plainsboro to a high of 2.48 in Keasbey.
- For avoidable ED visits (all ages) - the combined hospital service area had a rate of 12.49 per 100 population, lower than the benchmark New Jersey rate of 14.62 (also see Figure 2.2). Avoidable ED visit rates ranged from a low of 5.34 in Kendall Park to a high of 32.72 in New Brunswick.
- Within the non-adult population (age<18 years) the combined service area had a slightly higher avoidable ED visit rate (16.16) than NJ (16.05). This was more than offset by the lower rate within the adult population of the combined service area (11.39 v 14.18).

Table 2.2 examines rates of all hospitalizations and all ED visits out of total population. It further examines avoidable hospitalizations and ED visits as a percentage of all hospitalizations and ED visits.

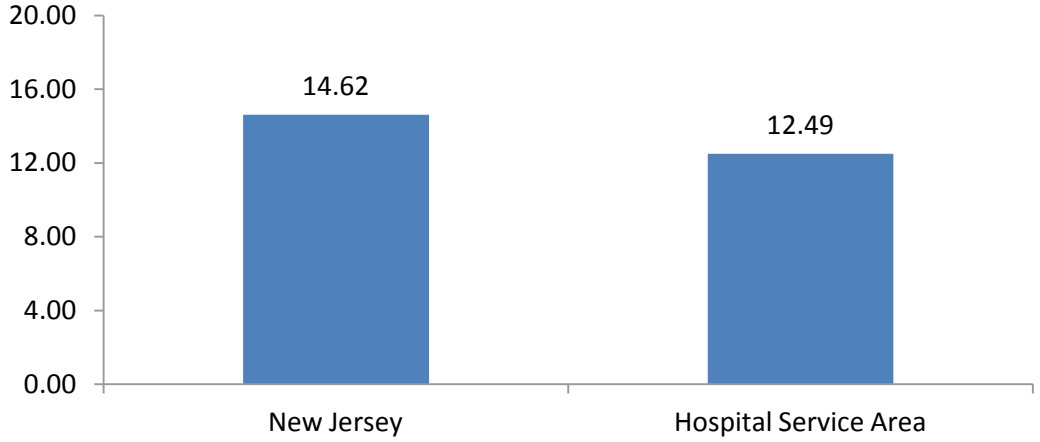
- Rates of all hospitalizations (per 100 population) were 12.15 and 13.32 for the combined service area and NJ respectively.
- Rates of all ED visits (per 100 population) were 26.24 and 31.14 for the combined service area and NJ respectively.
- The percentage of avoidable hospitalizations (out of all hospitalizations) was lower and the percentage of ED visits (out of all ED visits) was higher for the combined service area compared to NJ overall (11.78% v 12.97% and 47.61% v 46.94% respectively).

Figure 2.1: Avoidable Hospitalization Rate (per 100 population)



Note: Numerator: Average annual visits over 2008-10 Denominator: 2010 population from Nielsen Claritas.

Figure 2.2: Avoidable ED Visit Rate (per 100 population)



Note: Numerator: Average annual visits over 2008-10 Denominator: 2010 population from Nielsen Claritas.

Table 2.3 examines the acute and the chronic composite measures (see appendix 2C for the specific conditions) for avoidable hospitalizations that make up the overall composite measure.

- The acute and the chronic PQI rates for the combined service area were 0.53 and 0.90 per 100 population.
- The acute and chronic PQI rates for NJ overall were lower: 0.63 and 1.10 respectively.

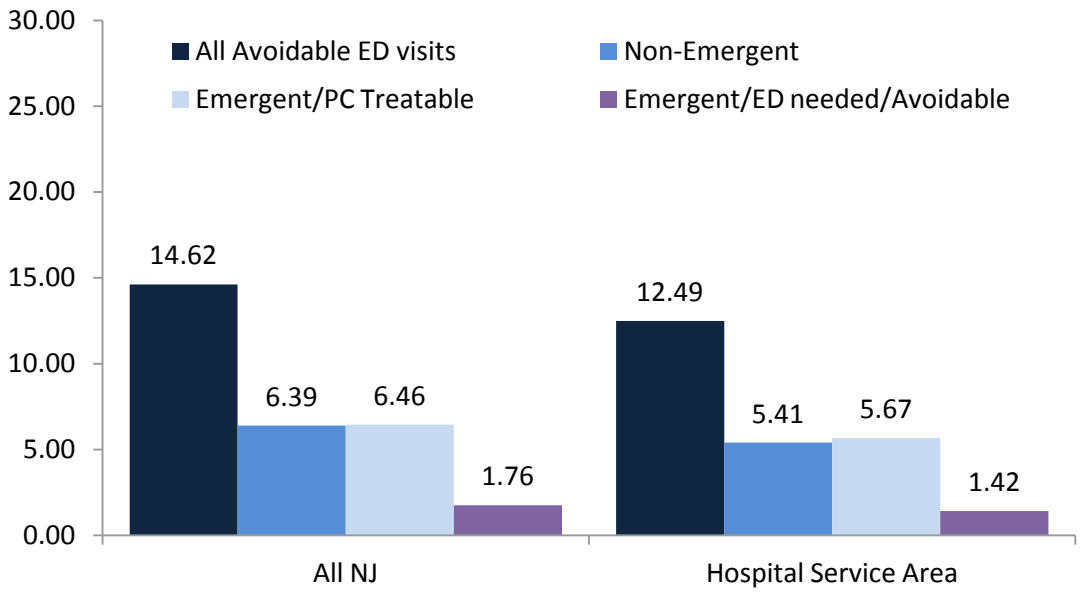
Table 2.4 reports the individual PQI measures (avoidable hospitalizations for individual conditions) as detailed in appendix 2.B.

- Within the combined service area of the hospitals, the highest rates of avoidable hospitalization were for the conditions - chronic obstructive pulmonary disease (COPD)/asthma in older adults and congestive heart failure (CHF) (0.42 and 0.36 per 100 population)
- For overall NJ, both rates were higher: COPD/asthma was at 0.52 per 100 population while CHF was at 0.41 per 100 population

Table 2.5 reports overall rates of avoidable ED visits as well as the type of visit based on the classification scheme mentioned earlier (also see Figure 2.3).

- Rate of avoidable ED visits per 100 population was 12.49 and 14.62 in the hospital service area and NJ overall respectively.
- Within the hospital service area we examined avoidable ED visits based on whether they were a) Non-emergent; b) Emergent/Primary Care Treatable; c) Emergent/ED care Needed/Preventable/Avoidable. Rates of ED visits based on these respective categories were 5.41, 5.67 and 1.42 per 100 population.
- The corresponding rates for NJ overall were higher at 6.39, 6.46, and 1.76, respectively.

Figure 2.3: Rates and Composition of Avoidable ED Visits (per 100 population)



Note: Numerator: Average annual visits over 2008-10 Denominator: 2010 population from Nielsen Claritas.

Distribution of Avoidable Visits: Patient and Payer Characteristics

Tables 2.6-2.9 characterize the avoidable hospitalizations and ED visits by examining distribution of patient and payer characteristics for these avoidable visits. Examining the demographic/payer characteristics of specifically those patients who had avoidable hospitalizations/ED visits may inform interventions within areas which experience high rates signifying barriers in access to care.

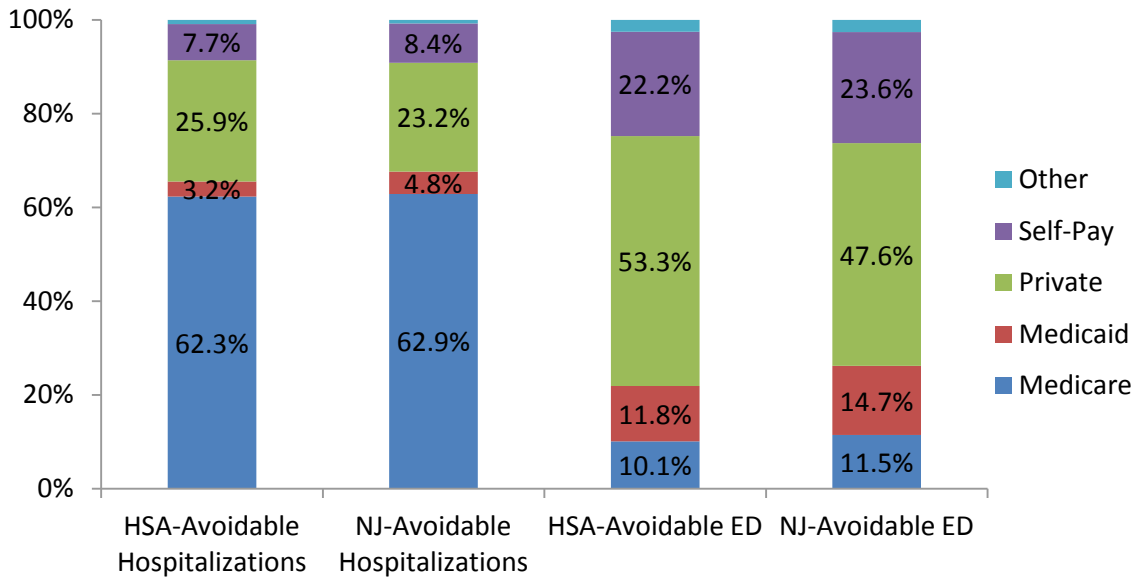
Tables 2.6a and 2.6b (and also Figure 2.4) examine the payer distribution of avoidable hospitalizations and ED visits. This answers questions such as: out of those hospitalizations that were found to be avoidable, what percentage were Medicare paid, what percentage were Medicaid paid and so on.

- The payer distribution for avoidable hospitalizations, as well as avoidable ED visits was similar between NJ overall and the hospital service area (see Table 2.6a and Figure 2.4).
- For the hospital service area, the majority (62.33%) of avoidable hospitalizations was Medicare-paid and more than a quarter (25.87%) was paid for by private insurance.
- While the dominant payer was Medicare, there was substantial variation across towns in the percentage of avoidable hospitalizations paid by Medicare. This varied from 40.60% in Dayton to 79.86% in Monroe Township; some of this variation was likely

driven by the age distribution within these avoidable hospitalizations (See Table 2.6a for these details).

- The payer distribution for avoidable ED visits was strikingly different from the above (Table 2.6b and Figure 2.4). The majority of the avoidable ED visits were private insurance-paid (53.33% for the combined hospital service area and 47.56% for NJ overall).
- Next to private pay, visits from self-pay/uninsured patients comprised the highest percentage of avoidable ED visits. This was 22.22% for the combined service area and 23.63% for NJ overall.
- The high percentage of self-pay patients among avoidable ED visits highlights the significant barriers to primary care that are faced by the uninsured population who subsequently visit the ED.
- The higher percentage of Medicare-paid discharges within avoidable hospitalizations suggests patients for whom barriers in access resulted in a hospitalization primarily constituted the elderly.

Figure 2.4: Payer Distribution of Avoidable Hospitalizations and ED Visits



Note: HSA: Hospital service area; visits assessed over 2008-2010.

Table 2.7 examines the age distribution of avoidable hospitalizations and ED visits.

- The majority of the avoidable hospitalizations were by the elderly (age 65+) as the results above (relating to Medicare being a primary payer) had suggested.

- For the combined hospital service area, 61.89% of the discharges representing an avoidable hospitalization was by an elderly person. The corresponding percentage for NJ overall was 60.94%.
- Those who had an avoidable ED visit were less likely to be elderly and more likely to be in the age group 18-39. The percentages of avoidable ED visits that were in this latter age group for the combined hospital service area and NJ overall were 36.64% and 37.73% respectively.

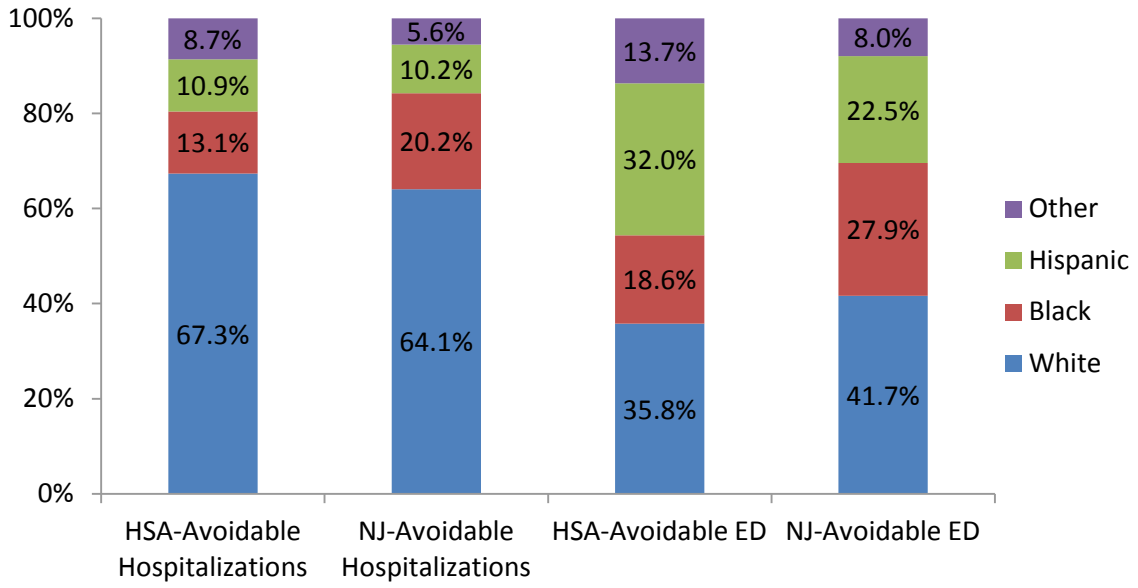
Table 2.8 examines the gender distribution of avoidable hospitalizations and ED visits.

- There was little difference in the gender distribution between the hospital service area and NJ overall.
- For avoidable hospitalizations, the percentage of females were slightly lower for the hospital service area (55.19%) compared to NJ overall (55.86%).
- Similarly for avoidable ED visits, the percentage of females were slightly lower for the hospital service area (58.98%) compared to NJ overall (59.18%).

Tables 2.9a and 2.9b (along with Figure 2.5) examine the race/ethnicity distribution of avoidable hospitalizations and ED visits.

- Within the combined hospital service area, the majority of the avoidable hospitalizations comprised patients who were white (67.33%) followed by blacks (13.08%) and Hispanics (10.94%) (see Table 2.9a and Figure 2.5).
- This was similar to the percentage composition of avoidable hospitalizations for NJ overall for white and Hispanics, but not blacks: - whites comprised 64.07% of avoidable hospitalizations and Hispanics comprised 10.21%, but the percentage of avoidable hospitalizations that constituted blacks was considerably higher in NJ (20.16%) than in the service area (13.08%).
- The racial and ethnic distribution of avoidable ED visits is markedly different from those for avoidable hospitalizations (See Table 2.9b and Figure 2.5). The percentage of whites decreases (35.79% for hospital service area and 41.67% for NJ overall), while the percentage of Hispanics increases sharply to 31.98% for hospital service area and 22.45% for NJ overall.
- The composition of minority patients among avoidable ED visits is different for the hospital service area compared to NJ overall.
    - Hispanics comprised the largest segment of minority patients with avoidable ED visits (31.98%) for the combined hospital service area. In fact, this was only marginally lower than the percentage for whites (35.79%).
    - For NJ overall, blacks accounted for the largest proportion of avoidable ED visits by minorities (27.89%) followed by Hispanics at 22.45%.

Figure 2.5: Race-Ethnicity Distribution of Avoidable Hospitalizations and ED Visits



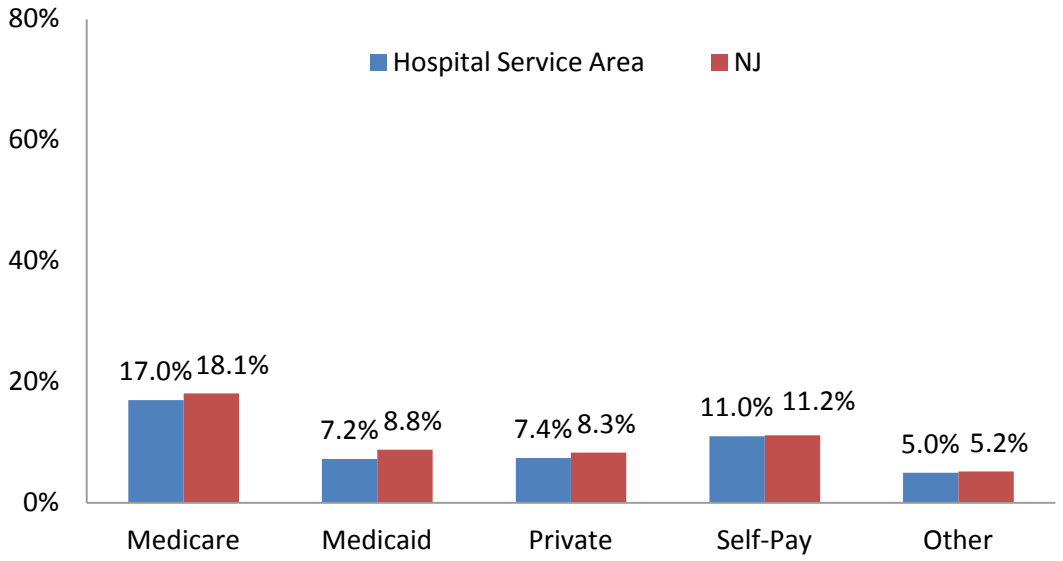
Note: HSA: Hospital service area; visits assessed over 2008-2010.

Avoidable Visits Stratified by Patient and Payer Characteristics

Tables 2.10-2.12 report percentages of avoidable hospitalizations and ED visits out of all hospitalizations and ED visits during 2008-2010 stratified by patient demographics and payer type. (also see Figures 2.6-2.9 for stratification of these rates by payer category and patient race). These inform us as to which patient groups (based on demographic characteristics and insurance type) have the greatest likelihood of facing barriers to care within the community. This in turn allows better targeting of interventions to vulnerable and high need patient groups.

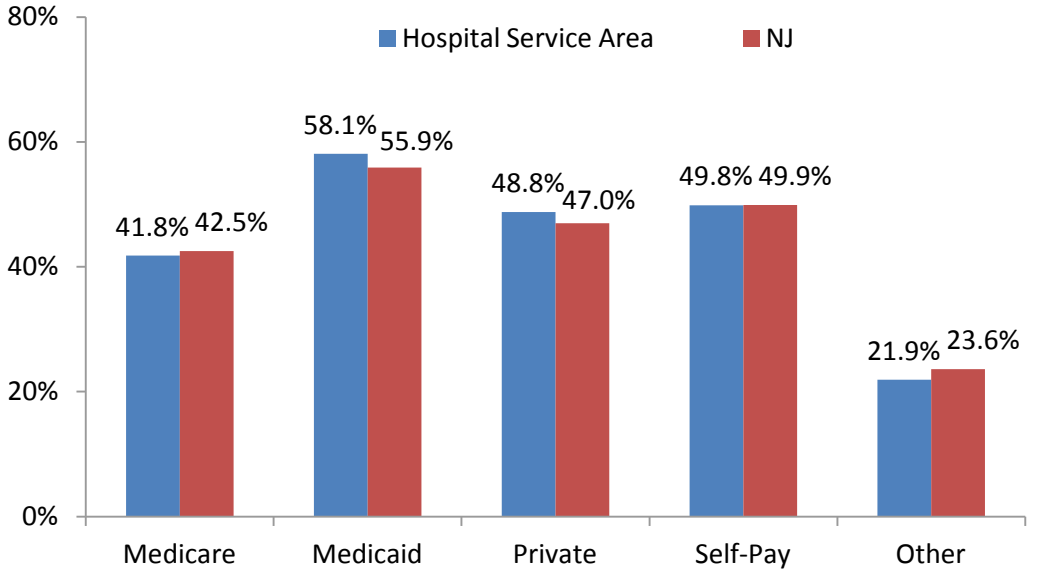
- For the combined hospital service area, the percentage of avoidable hospitalizations were highest within Medicare-paid hospitalizations -out of all hospitalizations that were Medicare paid, 17.0% were deemed avoidable. This was followed by hospitalizations that belonged to payer type uninsured/self pay (11.0%) (See Table 2.10a and Figure 2.6).
- For NJ overall, the percentages of Medicare and self pay inpatient discharges that were avoidable were similar to the service area, but slightly higher (18.09% and 11.19% respectively).
- For avoidable ED visits (see Table 2.10b and Figure 2.7), unlike avoidable hospitalizations, Medicaid-paid visits had the highest percentage of avoidable visits (58.08% of Medicaid paid visits in the service area and 55.88% in NJ were avoidable).
- The next highest group for avoidable ED visits was again the self pay/uninsured group (49.83% for the combined hospital area and 49.91% for the state).

Figure 2.6: Percent of Avoidable Hospitalizations by Payer



Note: Visits assessed over 2008-2010.

Figure 2.7: Percent of Avoidable ED Visits by Payer

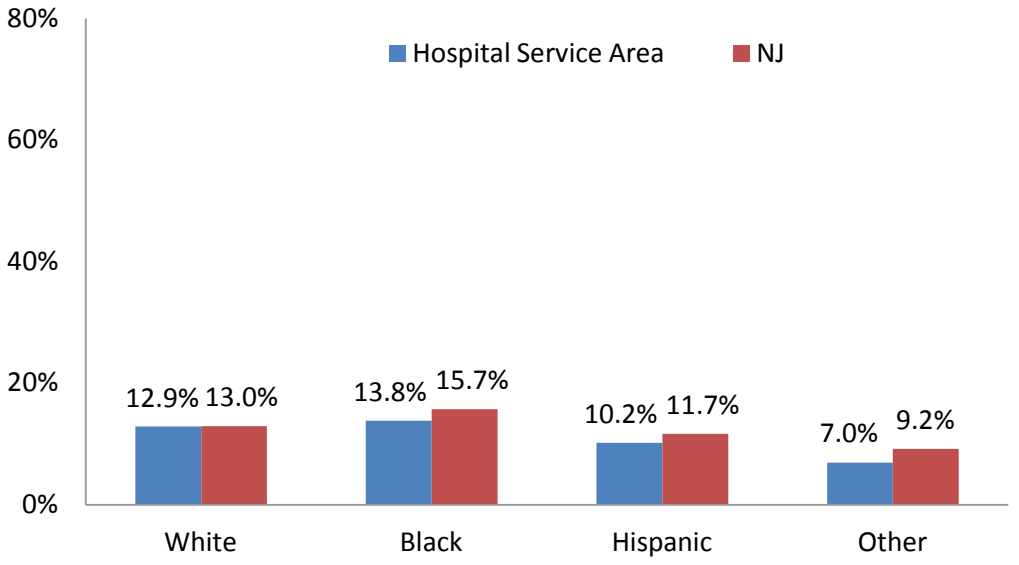


Note: Visits assessed over 2008-2010.

Tables 2.11a and Figure 2.8 examine percentages of avoidable hospitalizations among all hospitalizations characterized by race/ethnicity. Similarly Table 2.11b and Figure 2.9 examine percentages of avoidable ED visits among all ED visits characterized by race/ethnicity.

- Percentage of avoidable hospitalizations out of all hospitalizations was highest for black patients (13.82% for the hospital service area and 15.72% for NJ overall) (see Table 2.11a and Figure 2.8).
- This was followed by whites: 12.88% for the hospital service area and 12.95% for NJ overall.
- For the hospital service area, the highest percentages of avoidable ED visits out of all ED visits were for Hispanic and black patients-(56.31% and 52.78% respectively) (see Table 2.11b and Figure 2.9).
- New Brunswick had the highest percentage of avoidable ED visits out of all ED visits in the Hispanic population at 59.32%.
- The percentages of avoidable ED visits (out of all ED visits) for NJ overall were similar, although slightly lower than the combined service area for Hispanics (54.42% v 56.31%) and slightly higher for blacks (54.14% v 52.78%).
- These findings point to racial disparities in access to care within the combined service area as well as NJ overall: being a minority patient increased the likelihood of the ED visit being avoidable.

Figure 2.8: Percent of Avoidable Hospitalizations by Race



Note: Visits assessed over 2008-2010.

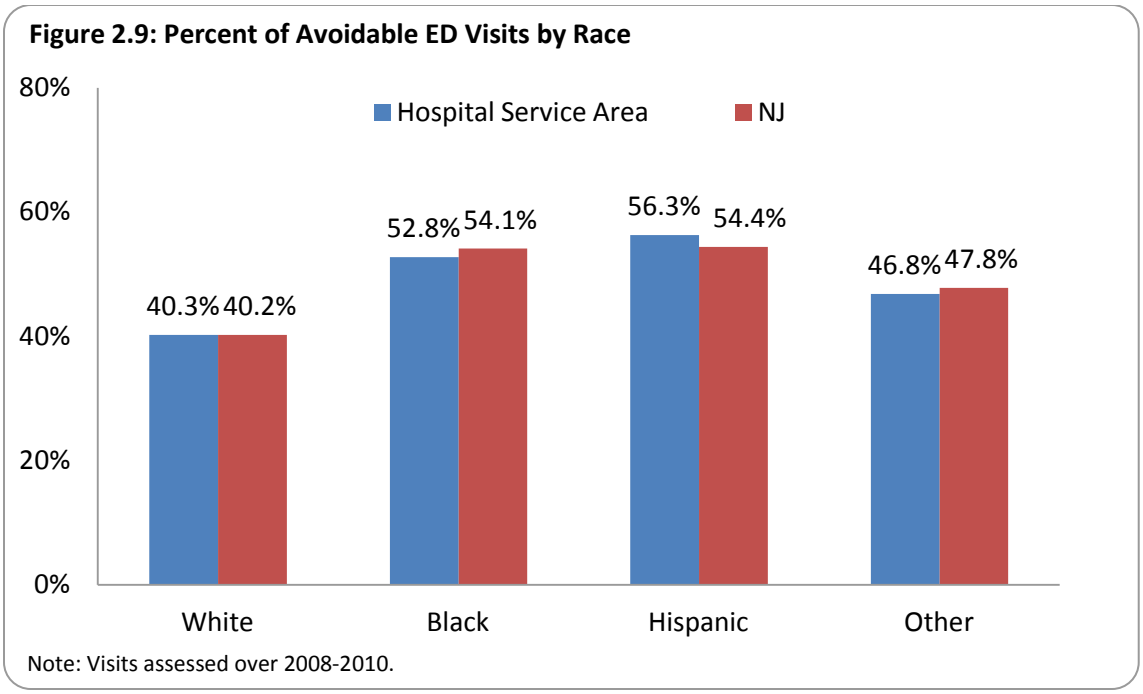


Table 2.12a examines percentages of avoidable hospitalizations out of all hospitalizations characterized by age and gender. Similarly Table 2.12b examines percentages of avoidable ED visits out of all ED visits characterized by age and gender.

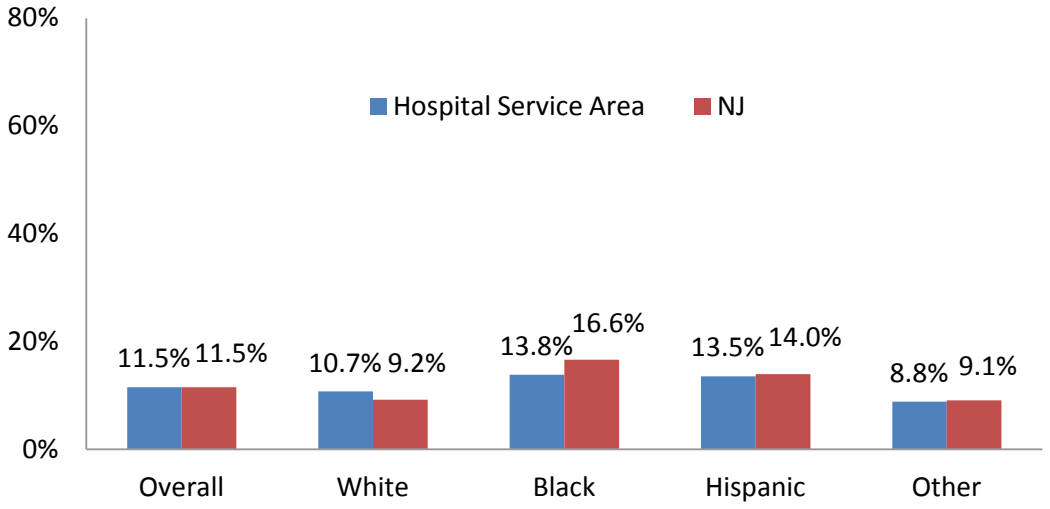
- Avoidable hospitalizations comprised a higher percentage of all hospitalizations for male patients than for female patients in the combined hospital service area as well as NJ overall (see Table 2.12a).
- Examining hospitalizations categorized by age, we find that the percentage of avoidable hospitalizations was highest out of hospitalizations by the elderly population.
- 13.32% of hospitalizations by male patients, 10.77% of hospitalizations belonging to female patients, and 16.84% of hospitalizations belonging to patients in the age group 65 and above were avoidable hospitalizations (for the combined service area).
- Avoidable ED visits showed a different trend for both gender and age (See Table 2.12b). The percentage of avoidable ED visits out of all ED visits was higher for female patients (51.90%) relative to male patients (42.55%) for the combined service area. It was also the highest for the age group of 18-39 (49.36%).

Avoidable Pediatric Hospitalizations

Tables 2.13 and Figure 2.10 report AHRQ Pediatric Quality Indicators (PDIs) that assess access to and quality of ambulatory care in a given area (Battelle 2012) by examining an overall composite rate for avoidable pediatric hospitalizations. Due to the comparatively fewer number of discharges, we are not able to calculate rates for individual cities and the reported rates must be interpreted with caution. Here, we examine overall rates for the combined service area and compare to overall NJ as benchmark.

- The overall composite rate of avoidable pediatric hospitalizations within the service area of the hospitals was 2.0 per 1000 population - similar to that of NJ overall which was 1.9 per 1000 population.
- There was no difference in avoidable hospitalizations as a percentage of all pediatric hospitalizations between the combined service area and NJ overall (11.49%).
- The majority of the avoidable pediatric hospitalizations were private insurance-paid (77.89% for the combined service area and 71.91% for NJ overall).
- The racial distribution of avoidable hospitalizations within the combined service area was different from NJ overall. Hispanics comprised a higher percentage of avoidable pediatric hospitalizations compared to blacks within the combined hospital service area (26.26% v 19.72%). Whites comprised 39.07% of avoidable hospitalizations. For NJ overall, Hispanics accounted for a lower percentage of avoidable hospitalizations compared to blacks (22.46% v 27.62%). Whites comprised 40.55% of the avoidable hospitalizations.

Figure 2.10: Percent of Avoidable Hospitalization among Pediatric Hospitalizations - Overall and by Race



Note: Visits assessed over 2008-2010.

We also examined percentage of avoidable hospitalizations stratified by payer type and race. This is information such as - what was the percentage of avoidable hospitalizations among all pediatric hospitalizations by black patients or hospitalizations where Medicaid was the primary payer (see Figure 2.10).

- Medicaid-paid pediatric hospitalizations had the highest percentage of avoidable hospitalizations: 16.20% for the combined hospital service area and 12.46% for NJ overall. 10.98% of all private insurance-paid hospitalizations in the hospital service area were avoidable hospitalizations. 11.53% of private-insurance paid hospitalizations in NJ overall were avoidable hospitalizations.
- Hospitalizations belonging to
    - black children had the highest likelihood of being avoidable (13.80% for the hospital service area compared to 16.62% for NJ overall);
    - followed by those belonging to Hispanic children (13.53% for the combined hospital service area and 13.96% for NJ overall);
    - and white children (the percentages were 10.72% for the hospital service area and 9.22% for NJ overall).

Conclusions

In this chapter we examined rates of avoidable hospitalizations and ED visits calculated using methodologies provide by AHRQ and New York University Center for Health and Public Service Research and based on New Jersey Uniform Billing hospital discharge data. These are conditions that could have been avoided with 'high quality community-based primary care' (AHRQ 2012a). These thus inform us as to the availability of primary care and more generally the quality of community level health services within the combined service area of the hospitals. We further examine the distribution as well as stratify these rates of avoidable hospitalizations and ED visits by patient and health insurance payer characteristics. These sub-group analysis shed light on the composition of patients facing barriers to ambulatory care as well as those who are at the highest risk of facing access problems. Information on these patient and payer characteristics can then help in developing interventions and can also be used to assess how emerging policy initiatives at the state and federal levels will impact these problems.

Our results indicate that population-based rates of avoidable hospitalizations and ED visits are lower for the combined service area of the hospitals compared to NJ overall, suggesting higher access to health care resources that ensure adequate primary care. Some of the more granular findings are informative to policy. Outside of Medicare patients, self-pay/uninsured patients had the highest rate of avoidable hospitalizations within the combined service area (11%). For

ED visits within the service area of the hospitals, Medicaid-paid ED visits had the highest percentage of avoidable visits (58.08%) followed by ED visits with payer type self-pay /uninsured (49.83%). For NJ overall too, the payer category with the highest percentage of avoidable ED visits was Medicaid (55.88%) followed by self pay/uninsured (49.91%).

These high rates for self-pay patients highlight the significant barriers to primary care that is faced by the uninsured population who subsequently visit the ED. There are several provisions within the Affordable Care Act that are expected to decrease the number of uninsured. These are the mandatory health insurance provision, the provision for Medicaid eligibility expansion to 133% of the Federal Poverty Line and the setting up of health insurance exchanges that are expected to ensure higher access to affordable health insurance. In the long run if these measures successfully provide health insurance to currently uninsured patients who face barriers to care (reflected in high rates of ACS conditions), they may have relatively lower rates of avoidable hospitalizations and ED visits due to improved access to ambulatory care within communities. However several caveats remain. First, significant proportions of the population in the combined hospital service area may not be US citizens and thus not eligible for some of the benefits of the Affordable Care Act. Alongside an increase in health insurance coverage, availability (on the supply side) of primary care is a necessary prerequisite along with community level interventions that address non-insurance related barriers to accessing care. Overall, a consistent multipronged initiative may be necessary to address barriers to primary care that are reflected in high rates of avoidable hospitalizations and ED visits.

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Table 2.1: Rates of Avoidable Hospitalizations and ED visits (per 100 population)

Town	Hospital PQI (age ge 18)	Avoidable ED Visits (age <18)	Avoidable ED Visits (age ge 18)	Avoidable ED Visits (all ages)
Avenel	1.18	12.05	8.82	9.51
Carteret	1.72	20.73	13.99	15.58
Colonia	1.50	9.37	8.86	8.98
Cranbury	1.36	10.04	11.41	11.03
Dayton	0.81	5.73	6.57	6.32
Dunellen	1.43	9.25	9.04	9.09
East Brunswick	1.16	6.81	6.88	6.86
Edison	1.15	9.88	8.03	8.45
Fords	1.34	10.97	9.76	10.03
Helmetta	1.30	10.30	10.83	10.71
Highland Park	1.15	10.77	9.92	10.10
Iselin	1.63	9.33	8.89	8.99
Keasbey	2.48	39.55	27.90	31.25
Kendall Park	0.99	4.17	5.84	5.34
Metuchen	1.24	8.09	7.36	7.53
Middlesex	1.60	10.70	10.60	10.63
Milltown	1.33	7.37	7.63	7.57
Monmouth Junction	0.95	7.37	9.13	8.65
Monroe Township	2.17	8.09	7.36	7.50
New Brunswick	1.21	61.53	24.74	32.72
North Brunswick	1.30	15.14	11.99	12.72
Old Bridge	1.63	9.01	10.36	10.03
Parlin	1.58	11.78	10.73	10.98
Perth Amboy	2.16	39.91	24.78	28.92
Piscataway	1.01	10.28	7.52	8.11
Plainsboro	0.45	6.31	7.05	6.87
Port Reading	2.09	12.38	11.45	11.66
Sayreville	1.36	12.36	10.19	10.72
Sewaren	1.60	13.18	10.70	11.22
South Amboy	1.89	12.85	12.04	12.22
South Plainfield	1.58	9.93	9.09	9.29
South River	1.76	20.68	14.22	15.72
Spotswood	2.26	9.21	10.71	10.38
Woodbridge	1.84	14.46	12.00	12.54
Franklin Park	0.68	6.73	7.15	7.05
Somerset	1.46	18.70	12.88	14.19
All towns combined	1.43	16.16	11.39	12.49
All NJ	1.73	16.05	14.18	14.62

PQI: Composite measure of avoidable hospitalizations.

Numerator: Annual average visits over 2008-2010; Denominator: 2010 Population from Nielsen/Claritas.

Table 2.2: Rates of Hospitalizations and ED Visits: Total and Avoidable

Town	Inpatient	ED	Inpatient	ED
	Avoidable visits as % of all visits		All visits per 100 population	
Avenel	12.44	45.99	9.48	20.68
Carteret	13.92	50.72	12.35	30.72
Colonia	12.13	41.41	12.36	21.68
Cranbury	11.33	44.88	12.02	24.56
Dayton	9.41	41.98	8.60	15.05
Dunellen	11.43	43.56	12.51	20.86
East Brunswick	10.92	39.10	10.64	17.56
Edison	11.22	44.40	10.28	19.02
Fords	11.72	44.76	11.47	22.41
Helmetta	10.14	40.61	12.79	26.38
Highland Park	11.50	45.78	10.00	22.07
Iselin	12.55	43.53	13.01	20.65
Keasbey	15.73	53.83	15.75	58.06
Kendall Park	10.89	39.98	9.12	13.36
Metuchen	11.15	39.67	11.09	18.98
Middlesex	12.04	45.66	13.27	23.27
Milltown	11.42	39.02	11.64	19.41
Monmouth Junction	10.21	43.55	9.27	19.86
Monroe Township	12.54	38.85	17.32	19.30
New Brunswick	11.20	57.27	10.79	57.14
North Brunswick	11.63	48.87	11.20	26.02
Old Bridge	12.00	41.32	13.55	24.28
Parlin	12.13	44.57	13.05	24.63
Perth Amboy	12.91	55.07	16.72	52.52
Piscataway	10.60	46.40	9.51	17.49
Plainsboro	6.71	41.20	6.76	16.67
Port Reading	14.55	42.44	14.40	27.46
Sayreville	11.39	45.90	11.93	23.35
Sewaren	13.24	43.82	12.06	25.61
South Amboy	12.01	42.30	15.71	28.88
South Plainfield	13.19	44.11	12.00	21.06
South River	12.61	47.56	13.96	33.05
Spotswood	13.84	41.49	16.34	25.01
Woodbridge	13.66	45.30	13.48	27.69
Franklin Park	6.97	44.68	9.81	15.77
Somerset	10.85	49.31	13.48	28.78
All towns combined	11.78	47.61	12.15	26.24
All NJ	12.97	46.94	13.32	31.14

Note: For population based denominator - Numerator: Annual average visits over 2008-10;

Denominator: 2010 Population from Nielsen/Claritas.

Otherwise both numerator and denominators are annual average discharges over 2008-2010.

Table 2.3: Rates of Overall, Acute and Chronic Composite Indicators of Avoidable Hospitalizations (per 100 population)

Town	Overall Composite	Acute Composite	Chronic Composite
Avenel	1.18	0.36	0.82
Carteret	1.72	0.56	1.15
Colonia	1.50	0.53	0.97
Cranbury	1.36	0.58	0.79
Dayton	0.81	0.24	0.57
Dunellen	1.43	0.64	0.79
East Brunswick	1.16	0.48	0.68
Edison	1.15	0.46	0.69
Fords	1.34	0.47	0.87
Helmetta	1.30	--	0.82
Highland Park	1.15	0.51	0.64
Iselin	1.63	0.64	0.99
Keasbey	2.48	0.65	1.83
Kendall Park	0.99	0.41	0.59
Metuchen	1.24	0.50	0.73
Middlesex	1.60	0.61	0.99
Milltown	1.33	0.56	0.76
Monmouth Junction	0.95	0.36	0.59
Monroe Township	2.17	0.91	1.26
New Brunswick	1.21	0.40	0.80
North Brunswick	1.30	0.45	0.85
Old Bridge	1.63	0.58	1.05
Parlin	1.58	0.52	1.07
Perth Amboy	2.16	0.67	1.49
Piscataway	1.01	0.39	0.62
Plainsboro	0.45	0.19	0.26
Port Reading	2.09	0.80	1.30
Sayreville	1.36	0.43	0.93
Sewaren	1.60	0.64	0.96
South Amboy	1.89	0.77	1.12
South Plainfield	1.58	0.62	0.96
South River	1.76	0.64	1.12
Spotswood	2.26	0.71	1.55
Woodbridge	1.84	0.71	1.13
Franklin Park	0.68	0.25	0.43
Somerset	1.46	0.55	0.91
All towns combined	1.43	0.53	0.90
All NJ	1.73	0.63	1.10

Rates calculated out of 100 population; suppressed when numerator < 30.

Numerator: Annual average visits over 2008-2010; Denominator: 2010 Population from Nielsen/Claritas.

Table 2.4: Rates of Individual Ambulatory Care Sensitive Conditions (per 100 population)

Town	Diabetes Short term	Perforated Appendix*	Diabetes Long-term	COPD- Older Adults
Avenel	--	--	0.10	0.44
Carteret	--	--	0.15	0.59
Colonia	--	--	0.09	0.30
Cranbury	--	--	--	0.34
Dayton	--	--	--	--
Dunellen	--	--	0.15	0.35
East Brunswick	--	--	0.11	0.28
Edison	0.02	3.23	0.08	0.30
Fords	--	--	--	0.32
Helmetta	--	--	--	--
Highland Park	--	--	--	0.32
Iselin	--	--	0.10	0.51
Keasbey	--	--	--	1.46
Kendall Park	--	--	--	0.27
Metuchen	--	--	0.09	0.30
Middlesex	--	--	0.14	0.38
Milltown	--	--	--	0.34
Monmouth Junction	--	--	0.10	0.30
Monroe Township	--	2.89	0.11	0.42
New Brunswick	0.06	--	0.12	0.52
North Brunswick	--	--	0.14	0.35
Old Bridge	--	--	0.14	0.50
Parlin	--	--	0.15	0.53
Perth Amboy	0.09	1.73	0.22	0.82
Piscataway	0.03	--	0.06	0.30
Plainsboro	--	--	--	--
Port Reading	--	--	--	0.57
Sayreville	--	--	0.08	0.40
Sewaren	--	--	--	--
South Amboy	--	--	0.15	0.68
South Plainfield	0.06	--	0.07	0.47
South River	--	--	0.11	0.62
Spotswood	--	--	--	0.83
Woodbridge	--	--	0.12	0.47
Franklin Park	--	--	--	--
Somerset	0.05	--	0.12	0.36
All towns combined	0.04	2.21	0.11	0.42
All NJ	0.05	2.38	0.14	0.52

*out of 10 discharges.

Numerator: Annual average visits over 2008-2010; Denominator: 2010 Population from Nielsen/Claritas;

Rates suppressed when numerator < 30.

Table 2.4: Rates of Individual Ambulatory Care Sensitive Conditions (per 100 population)

(continued)

Town	Congestive Heart Failure	Dehydration	Bacterial Pneumonia	Urinary Tract Infection
Avenel	0.31	0.09	0.17	0.10
Carteret	0.40	0.12	0.26	0.19
Colonia	0.54	0.14	0.27	0.12
Cranbury	0.31	--	0.23	0.21
Dayton	0.18	--	--	--
Dunellen	0.30	0.19	0.26	0.19
East Brunswick	0.27	0.12	0.20	0.16
Edison	0.32	0.10	0.23	0.13
Fords	0.41	0.15	0.20	0.12
Helmetta	--	--	--	--
Highland Park	0.25	0.16	0.22	0.12
Iselin	0.41	0.17	0.30	0.17
Keasbey	--	--	--	--
Kendall Park	0.24	0.09	0.19	0.12
Metuchen	0.28	0.15	0.23	0.12
Middlesex	0.48	0.23	0.25	0.13
Milltown	0.36	--	0.25	0.18
Monmouth Junction	0.20	0.09	0.17	0.10
Monroe Township	0.65	0.22	0.43	0.26
New Brunswick	0.27	0.09	0.18	0.14
North Brunswick	0.32	0.11	0.22	0.12
Old Bridge	0.41	0.12	0.26	0.20
Parlin	0.35	0.13	0.21	0.18
Perth Amboy	0.44	0.14	0.29	0.24
Piscataway	0.26	0.10	0.18	0.11
Plainsboro	0.07	--	0.09	--
Port Reading	0.56	--	0.39	--
Sayreville	0.42	0.14	0.20	0.09
Sewaren	0.59	--	--	--
South Amboy	0.34	0.19	0.37	0.22
South Plainfield	0.45	0.16	0.31	0.16
South River	0.41	0.18	0.29	0.17
Spotswood	0.62	--	0.34	0.27
Woodbridge	0.51	0.14	0.35	0.22
Franklin Park	0.16	--	--	--
Somerset	0.35	0.14	0.24	0.17
All towns combined	0.36	0.13	0.24	0.16
All NJ	0.41	0.15	0.28	0.20

Numerator: Annual average visits over 2008-2010; Denominator: 2010 Population from Nielsen/Claritas.

Rates suppressed when numerator < 30.

Table 2.4: Rates of Individual Ambulatory Care Sensitive Conditions (per 100 population)

(continued)

Town	Angina without Procedure	Uncontrolled Diabetes	Adult Asthma in Younger Adults	Lower-extremity Amputation among Patients with Diabetes
Avenel	--	--	--	--
Carteret	--	--	--	--
Colonia	--	--	--	--
Cranbury	--	--	--	--
Dayton	--	--	--	--
Dunellen	--	--	--	--
East Brunswick	--	--	--	--
Edison	0.02	0.01	--	--
Fords	--	--	--	--
Helmetta	--	--	--	--
Highland Park	--	--	--	--
Iselin	--	--	--	--
Keasbey	--	--	--	--
Kendall Park	--	--	--	--
Metuchen	--	--	--	--
Middlesex	--	--	--	--
Milltown	--	--	--	--
Monmouth Junction	--	--	--	--
Monroe Township	0.03	--	--	--
New Brunswick	--	0.03	0.07	--
North Brunswick	--	--	--	--
Old Bridge	0.03	--	--	--
Parlin	--	--	--	--
Perth Amboy	0.04	0.10	0.09	--
Piscataway	--	--	0.06	--
Plainsboro	--	--	--	--
Port Reading	--	--	--	--
Sayreville	--	--	--	--
Sewaren	--	--	--	--
South Amboy	--	--	--	--
South Plainfield	--	--	--	--
South River	--	--	--	--
Spotswood	--	--	--	--
Woodbridge	--	--	--	--
Franklin Park	--	--	--	--
Somerset	--	--	--	--
All towns combined	0.02	0.02	0.06	0.01
All NJ	0.03	0.03	0.08	0.02

Numerator: Annual average visits over 2008-2010; Denominator: 2010 Population from Nielsen/Claritas.

Rates suppressed when numerator < 30.

Table 2.5: Rates of Avoidable ED Visits and Various Categories (per 100 population)

Town	Total	NE*	EPCT^	EDCNPA§
Avenel	9.51	4.00	4.32	1.19
Carteret	15.58	6.71	6.99	1.88
Colonia	8.98	3.78	4.13	1.08
Cranbury	11.03	4.97	4.92	1.13
Dayton	6.32	2.81	2.88	0.63
Dunellen	9.09	3.92	4.25	0.91
East Brunswick	6.86	2.98	3.13	0.76
Edison	8.45	3.63	3.82	1.00
Fords	10.03	4.25	4.60	1.18
Helmetta	10.71	4.42	5.07	1.23
Highland Park	10.10	4.54	4.51	1.06
Iselin	8.99	3.86	4.03	1.09
Keasbey	31.25	13.47	14.02	3.76
Kendall Park	5.34	2.26	2.44	0.65
Metuchen	7.53	3.22	3.44	0.87
Middlesex	10.63	4.69	4.78	1.16
Milltown	7.57	3.24	3.54	0.79
Monmouth Junction	8.65	3.89	3.84	0.91
Monroe Township	7.50	3.24	3.50	0.77
New Brunswick	32.72	14.32	14.86	3.54
North Brunswick	12.72	5.63	5.69	1.39
Old Bridge	10.03	4.24	4.61	1.18
Parlin	10.98	4.66	5.05	1.28
Perth Amboy	28.92	12.47	13.11	3.34
Piscataway	8.11	3.47	3.71	0.93
Plainsboro	6.87	3.01	3.14	0.72
Port Reading	11.66	5.02	5.23	1.40
Sayreville	10.72	4.51	4.96	1.25
Sewaren	11.22	4.84	5.10	1.29
South Amboy	12.22	5.30	5.46	1.45
South Plainfield	9.29	3.87	4.28	1.14
South River	15.72	7.06	7.09	1.56
Spotswood	10.38	4.51	4.71	1.16
Woodbridge	12.54	5.33	5.55	1.66
Franklin Park	7.05	3.07	3.30	0.67
Somerset	14.19	6.26	6.31	1.62
All towns combined	12.49	5.41	5.67	1.42
All NJ	14.62	6.39	6.46	1.76

*NE: Non-emergent; ^EPCT: Emergent/Primary Care Treatable; §EDCNPA: Emergent, ED Care Needed, Preventable/Avoidable.

Numerator: Annual average visits over 2008-2010; Denominator: 2010 Population from Nielsen/Claritas.

Table 2.6a: Payer Distribution of Avoidable Hospitalizations

Town	% Medicare	% Medicaid	% Private	% Self Pay	% Other
Avenel	58.86	5.27	24.89	8.02	2.95
Carteret	57.37	5.05	27.37	10.21	0.00
Colonia	74.88	1.16	19.01	3.64	1.32
Cranbury	56.94	3.56	28.83	10.32	0.36
Dayton	40.60	0.75	45.86	12.03	0.75
Dunellen	62.79	0.70	30.23	5.58	0.70
East Brunswick	63.09	1.06	29.71	4.50	1.64
Edison	67.34	2.52	24.19	4.82	1.13
Fords	63.25	2.50	28.00	4.25	2.00
Helmetta	58.33	1.67	38.33	1.67	0.00
Highland Park	62.37	2.78	27.02	7.83	0.00
Iselin	62.75	2.63	25.81	8.19	0.62
Keasbey	42.54	18.66	16.42	22.39	0.00
Kendall Park	64.93	1.12	29.10	4.48	0.37
Metuchen	61.79	2.18	29.48	5.46	1.09
Middlesex	66.73	0.20	25.92	6.73	0.41
Milltown	64.57	1.18	31.89	0.79	1.57
Monmouth Junction	50.00	3.37	36.81	8.59	1.23
Monroe Township	79.86	0.92	16.95	2.00	0.28
New Brunswick	45.70	3.14	31.29	19.68	0.20
North Brunswick	53.42	2.34	34.89	8.85	0.50
Old Bridge	66.44	2.96	26.56	3.63	0.40
Parlin	57.64	4.97	27.20	7.83	2.36
Perth Amboy	55.62	11.41	15.57	16.06	1.34
Piscataway	59.79	1.54	32.69	5.10	0.89
Plainsboro	49.21	5.82	34.92	9.52	0.53
Port Reading	72.16	0.57	22.16	4.55	0.57
Sayreville	59.25	1.87	28.18	9.85	0.85
Sewaren	75.73	0.00	18.45	3.88	1.94
South Amboy	62.49	2.89	24.76	8.68	1.18
South Plainfield	71.83	0.98	22.26	4.18	0.74
South River	50.08	2.20	33.54	12.91	1.26
Spotswood	66.04	1.42	27.12	3.07	2.36
Woodbridge	71.12	4.57	17.93	5.78	0.60
Franklin Park	51.03	1.38	38.62	8.28	0.69
Somerset	59.09	1.58	31.27	7.39	0.67
All towns combined	62.33	3.20	25.87	7.70	0.90
All NJ	62.87	4.78	23.18	8.38	0.79

Note: Numerator and denominator are average annual visits over 2008-2010.

Table 2.6b: Payer Distribution of Avoidable ED Visits

Town	% Medicare	% Medicaid	% Private	% Self Pay	% Other
Avenel	10.42	13.79	51.99	19.62	4.17
Carteret	8.61	23.05	41.70	23.72	2.93
Colonia	19.04	5.28	59.16	10.97	5.55
Cranbury	9.69	13.92	46.61	27.81	1.97
Dayton	6.54	5.27	71.27	14.09	2.83
Dunellen	11.09	4.84	58.10	22.07	3.89
East Brunswick	12.82	4.43	65.63	14.77	2.35
Edison	13.44	7.54	59.29	15.87	3.86
Fords	11.90	9.69	54.79	18.19	5.44
Helmetta	6.22	6.30	69.94	15.74	1.80
Highland Park	13.13	4.75	60.00	20.76	1.36
Iselin	16.98	8.22	54.58	15.48	4.74
Keasbey	9.10	32.22	34.39	21.28	3.01
Kendall Park	12.43	3.61	69.46	12.62	1.88
Metuchen	14.74	6.30	59.70	14.18	5.09
Middlesex	11.77	3.21	58.76	24.11	2.16
Milltown	14.96	2.12	65.30	15.82	1.80
Monmouth Junction	9.76	5.32	63.00	19.96	1.96
Monroe Township	28.68	5.57	50.82	12.68	2.25
New Brunswick	4.13	4.28	56.89	33.93	0.78
North Brunswick	7.58	4.06	64.73	21.91	1.72
Old Bridge	13.48	9.15	58.72	15.53	3.11
Parlin	9.72	13.72	55.42	17.57	3.56
Perth Amboy	7.36	36.74	27.95	25.55	2.40
Piscataway	9.80	4.99	64.62	17.27	3.32
Plainsboro	6.51	8.07	65.57	17.47	2.38
Port Reading	11.20	11.86	53.38	17.87	5.68
Sayreville	8.03	11.40	56.22	20.97	3.38
Sewaren	9.33	14.88	50.10	19.60	6.09
South Amboy	10.64	15.51	48.88	21.84	3.13
South Plainfield	14.18	7.53	55.74	17.47	5.08
South River	7.84	7.87	53.38	29.33	1.59
Spotswood	14.90	5.84	57.93	17.90	3.43
Woodbridge	14.47	14.54	49.42	17.82	3.75
Franklin Park	6.84	3.40	71.56	15.04	3.16
Somerset	9.49	3.83	63.35	21.80	1.53
All towns combined	10.06	11.82	53.33	22.22	2.57
All NJ	11.46	14.71	47.56	23.63	2.63

Note: Numerator and denominator are average annual visits over 2008-2010.

Table 2.7: Age Distribution of Avoidable Hospitalizations and ED Visits

	Avoidable hospitalizations			Avoidable ED visits			
Town	**% 18 - 39**	**% 40-64**	**% 65+**	**% 0 - 17**	**% 18 - 39**	**% 40-64**	**%65+**
Avenel	8.44	35.86	55.70	27.08	35.13	29.79	8.00
Carteret	12.63	32.63	54.74	31.33	37.93	23.87	6.87
Colonia	5.29	19.34	75.37	24.15	29.10	28.98	17.77
Cranbury	9.25	32.38	58.36	25.45	36.30	30.24	8.02
Dayton	8.27	44.36	47.37	27.18	31.37	34.66	6.78
Dunellen	5.12	32.33	62.56	24.90	37.53	29.41	8.15
East Brunswick	7.20	27.00	65.79	22.90	32.54	31.97	12.59
Edison	6.28	25.17	68.55	26.34	35.13	26.51	12.02
Fords	4.75	26.75	68.50	24.64	35.71	29.08	10.57
Helmetta	13.33	20.00	66.67	20.52	43.88	30.69	4.91
Highland Park	4.04	34.34	61.62	22.96	35.78	31.43	9.83
Iselin	6.18	31.68	62.13	22.22	31.70	30.05	16.03
Keasbey	17.16	46.27	36.57	36.43	39.09	21.64	2.84
Kendall Park	5.97	19.03	75.00	23.31	33.71	31.20	11.78
Metuchen	6.11	27.95	65.94	25.01	30.22	30.19	14.59
Middlesex	3.88	25.51	70.61	24.15	37.73	28.57	9.55
Milltown	3.54	26.38	70.08	20.93	35.71	29.98	13.38
Monmouth Junction	14.11	36.81	49.08	23.43	39.60	30.48	6.49
Monroe Township	2.72	16.83	80.46	20.03	26.29	25.79	27.89
New Brunswick	16.14	39.16	44.70	40.80	38.92	17.54	2.74
North Brunswick	9.10	36.81	54.09	27.56	39.77	26.67	6.00
Old Bridge	6.59	29.25	64.16	21.79	36.68	30.04	11.49
Parlin	7.58	35.40	57.02	25.30	37.02	29.42	8.26
Perth Amboy	12.63	39.45	47.92	37.78	36.15	21.15	4.92
Piscataway	9.22	28.07	62.70	27.20	37.57	26.21	9.01
Plainsboro	21.16	35.45	43.39	22.51	44.27	28.47	4.76
Port Reading	5.11	18.18	76.70	23.46	37.42	28.40	10.72
Sayreville	10.02	33.62	56.37	27.92	40.23	24.97	6.88
Sewaren	7.77	24.27	67.96	25.00	37.82	29.09	8.09
South Amboy	8.36	34.41	57.23	23.21	39.18	29.57	8.04
South Plainfield	5.41	21.89	72.69	24.98	33.94	28.53	12.55
South River	10.24	36.06	53.70	30.50	38.59	24.83	6.08
Spotswood	4.95	25.94	69.10	19.72	37.41	30.02	12.85
Woodbridge	9.39	32.97	57.64	25.48	37.03	28.93	8.56
Franklin Park	8.97	35.86	55.17	23.93	39.23	29.82	7.02
Somerset	8.00	28.36	63.64	29.75	37.37	24.52	8.36
All towns combined	8.18	29.93	61.89	29.97	36.64	25.06	8.33
All NJ	7.97	31.09	60.94	25.85	37.73	27.23	9.19

Note: Numerator and denominators denote average annual discharges/visits over 2008-2010.

Table 2.8: Gender Distribution of Avoidable Hospitalizations and ED Visits

	Inpatient Visits		ED visits	
Town	**% Male**	**% Female**	**% Male**	**% Female**
Avenel	46.84	53.16	41.66	58.34
Carteret	41.26	58.74	38.65	61.35
Colonia	50.25	49.75	44.77	55.23
Cranbury	39.15	60.85	41.87	58.13
Dayton	59.40	40.60	41.97	58.03
Dunellen	48.60	51.40	38.17	61.83
East Brunswick	44.35	55.65	41.90	58.10
Edison	44.85	55.15	41.14	58.86
Fords	49.25	50.75	38.46	61.54
Helmetta	33.33	66.67	39.57	60.43
Highland Park	39.90	60.10	38.94	61.06
Iselin	46.37	53.63	43.60	56.40
Keasbey	37.31	62.69	33.86	66.14
Kendall Park	46.27	53.73	43.59	56.41
Metuchen	40.17	59.83	44.11	55.89
Middlesex	46.53	53.47	39.11	60.89
Milltown	40.16	59.84	40.17	59.83
Monmouth Junction	38.65	61.35	38.81	61.19
Monroe Township	47.76	52.24	40.43	59.57
New Brunswick	47.83	52.17	42.58	57.42
North Brunswick	43.82	56.18	40.14	59.86
Old Bridge	44.59	55.41	40.74	59.26
Parlin	46.83	53.17	40.44	59.56
Perth Amboy	43.97	56.03	40.98	59.02
Piscataway	43.28	56.72	41.09	58.91
Plainsboro	45.50	54.50	41.79	58.21
Port Reading	44.32	55.68	39.53	60.47
Sayreville	48.39	51.61	41.41	58.59
Sewaren	63.11	36.89	40.30	59.70
South Amboy	38.59	61.41	41.27	58.73
South Plainfield	47.36	52.64	40.10	59.90
South River	46.30	53.70	41.90	58.10
Spotswood	42.92	57.08	41.13	58.87
Woodbridge	43.44	56.56	41.12	58.88
Franklin Park	32.41	67.59	36.37	63.63
Somerset	43.03	56.97	40.05	59.95
All towns combined	44.81	55.19	41.02	58.98
All NJ	44.14	55.86	40.82	59.18

Note: Numerator and denominator are average annual visits over 2008-2010.

Table 2.9a: Race-Ethnicity Distribution of Avoidable Hospitalizations

Town	% White	% Black	% Hispanic	% Other
Avenel	73.84	12.03	6.75	7.38
Carteret	55.89	16.63	19.26	8.21
Colonia	83.14	7.77	3.64	5.45
Cranbury	71.53	6.76	11.74	9.96
Dayton	68.42	12.78	3.01	15.79
Dunellen	75.12	3.49	6.05	15.35
East Brunswick	80.93	4.01	3.85	11.21
Edison	72.95	8.88	3.99	14.18
Fords	76.25	4.50	10.75	8.50
Helmetta	96.67	0.00	1.67	1.67
Highland Park	77.02	12.37	5.81	4.80
Iselin	73.57	7.88	3.71	14.84
Keasbey	20.90	16.42	55.22	7.46
Kendall Park	76.12	10.82	1.87	11.19
Metuchen	82.75	5.46	3.93	7.86
Middlesex	86.94	4.49	4.29	4.29
Milltown	97.64	0.79	0.39	1.18
Monmouth Junction	69.02	12.88	4.91	13.19
Monroe Township	89.69	4.24	2.12	3.96
New Brunswick	26.35	46.36	21.41	5.87
North Brunswick	59.52	22.37	8.18	9.93
Old Bridge	82.65	4.51	4.03	8.81
Parlin	73.29	8.70	8.57	9.44
Perth Amboy	28.20	11.65	55.83	4.32
Piscataway	51.70	25.97	4.53	17.80
Plainsboro	50.26	19.05	6.35	24.34
Port Reading	86.93	5.11	6.25	1.70
Sayreville	78.10	10.36	4.58	6.96
Sewaren	77.67	7.77	7.77	6.80
South Amboy	84.89	3.54	5.25	6.32
South Plainfield	80.44	9.35	2.95	7.26
South River	80.79	8.98	4.72	5.51
Spotswood	93.63	2.12	2.83	1.42
Woodbridge	75.93	8.42	8.42	7.22
Franklin Park	47.59	27.59	1.38	23.45
Somerset	50.12	34.73	5.88	9.27
All towns combined	67.33	13.08	10.94	8.65
All NJ	64.07	20.16	10.21	5.56

Note: Numerator and denominator are average annual visits over 2008-2010.

Table 2.9b: Race-Ethnicity Distribution of Avoidable ED Visits

Town	% White	% Black	% Hispanic	% Other
Avenel	42.88	21.22	15.86	20.04
Carteret	25.66	22.07	38.93	13.34
Colonia	68.40	11.36	9.61	10.64
Cranbury	42.31	13.41	31.59	12.69
Dayton	43.20	20.13	7.41	29.26
Dunellen	54.13	10.65	17.55	17.67
East Brunswick	65.02	8.03	8.09	18.86
Edison	45.27	17.17	12.78	24.78
Fords	50.30	11.20	23.65	14.84
Helmetta	84.38	5.07	3.59	6.96
Highland Park	48.23	22.89	14.20	14.68
Iselin	44.11	13.72	10.17	32.00
Keasbey	17.01	14.03	62.14	6.83
Kendall Park	60.65	14.35	4.40	20.60
Metuchen	65.43	11.33	8.96	14.28
Middlesex	65.32	11.49	14.17	9.02
Milltown	81.92	3.44	7.52	7.12
Monmouth Junction	46.36	24.49	9.14	20.00
Monroe Township	77.00	6.65	8.14	8.22
New Brunswick	10.17	22.55	56.20	11.08
North Brunswick	29.71	30.15	24.14	16.00
Old Bridge	70.77	8.35	8.36	12.52
Parlin	52.22	17.33	14.54	15.92
Perth Amboy	9.01	8.36	78.40	4.24
Piscataway	28.59	35.94	12.94	22.53
Plainsboro	42.37	20.83	10.66	26.14
Port Reading	59.65	10.64	19.68	10.04
Sayreville	50.62	20.17	14.81	14.39
Sewaren	56.37	15.09	22.40	6.13
South Amboy	67.94	8.88	13.45	9.73
South Plainfield	52.55	17.31	16.47	13.67
South River	48.29	14.29	25.04	12.38
Spotswood	82.60	4.97	5.40	7.03
Woodbridge	45.85	16.70	23.87	13.57
Franklin Park	32.43	39.02	6.60	21.95
Somerset	22.06	43.45	20.52	13.97
All towns combined	35.79	18.58	31.98	13.65
All NJ	41.67	27.89	22.45	7.99

Note: Numerator and denominator are average annual visits over 2008-2010.

Table 2.10a: Percent of Avoidable Hospitalizations by Type of Payer

Town	Medicare	Medicaid	Private	Self Pay	Other
Avenel	19.84	8.45	7.21	11.01	11.11
Carteret	19.35	7.96	10.55	12.09	0.00
Colonia	17.86	7.95	5.81	8.66	6.25
Cranbury	15.30	12.20	7.61	11.69	--
Dayton	15.13	--	6.87	15.38	--
Dunellen	16.16	2.83	7.79	9.68	4.41
East Brunswick	15.02	6.99	7.09	9.77	10.42
Edison	17.46	7.97	6.00	9.70	5.24
Fords	17.35	6.13	7.70	7.30	7.69
Helmetta	16.75	--	7.08	--	--
Highland Park	15.37	11.70	7.53	11.23	--
Iselin	17.52	8.59	7.84	13.12	3.67
Keasbey	22.80	15.92	7.80	22.06	--
Kendall Park	15.66	--	6.54	14.63	--
Metuchen	15.09	8.13	7.57	11.36	4.72
Middlesex	18.93	1.41	6.67	10.89	3.08
Milltown	18.49	--	6.92	1.82	--
Monmouth Junction	18.15	12.36	6.36	11.07	6.15
Monroe Township	14.72	9.13	7.99	8.58	2.92
New Brunswick	18.64	2.35	10.99	9.20	1.23
North Brunswick	18.75	7.29	7.79	11.34	2.93
Old Bridge	16.47	10.58	7.74	8.61	2.40
Parlin	18.06	10.58	7.40	12.26	8.80
Perth Amboy	17.57	8.51	8.33	14.01	6.06
Piscataway	17.47	7.04	6.54	8.91	4.14
Plainsboro	17.03	8.53	3.50	8.26	--
Port Reading	20.68	--	8.46	12.12	--
Sayreville	18.96	5.09	6.45	13.52	4.46
Sewaren	24.00	--	5.48	--	--
South Amboy	16.20	6.18	8.05	11.77	6.15
South Plainfield	19.99	5.26	6.89	11.00	3.87
South River	16.75	5.43	9.87	13.18	8.25
Spotswood	17.76	9.68	9.67	8.18	12.99
Woodbridge	20.79	12.26	6.20	12.40	3.62
Franklin Park	11.76	--	4.51	9.38	--
Somerset	14.82	5.68	7.63	10.68	3.99
All towns combined	17.00	7.23	7.40	11.00	4.98
All NJ	18.09	8.81	8.30	11.19	5.18

Note:

Numerator and denominator denote annual average discharges over 2008-2010.

Denominator comprises discharges characterized by payer; rates suppressed when denominator < 50.

Table 2.10b: Percent of Avoidable ED Visits by Type of Payer

Town	Medicare	Medicaid	Private	Self Pay	Other
Avenel	42.22	48.26	48.21	50.14	24.24
Carteret	44.92	60.06	51.48	52.09	22.37
Colonia	42.66	49.16	42.31	44.28	25.82
Cranbury	37.33	57.13	42.05	55.39	17.23
Dayton	38.45	50.64	44.14	39.82	20.23
Dunellen	36.38	55.09	45.43	48.72	22.80
East Brunswick	37.59	48.79	40.28	41.19	17.10
Edison	41.70	55.51	46.16	45.64	23.83
Fords	43.28	52.90	45.99	48.87	25.54
Helmetta	38.07	43.22	43.93	37.32	12.90
Highland Park	41.36	60.46	47.28	46.07	19.90
Iselin	44.52	52.08	44.78	46.22	23.19
Keasbey	48.45	59.67	55.20	55.14	24.88
Kendall Park	39.27	47.57	41.89	39.90	14.01
Metuchen	39.04	50.78	39.76	43.77	26.22
Middlesex	45.01	49.26	46.51	52.49	15.29
Milltown	37.89	48.33	39.49	43.74	16.53
Monmouth Junction	45.35	50.90	44.30	45.12	17.50
Monroe Township	36.12	49.86	40.06	45.54	18.60
New Brunswick	49.38	55.35	61.88	53.19	27.79
North Brunswick	42.41	55.72	50.89	48.93	22.89
Old Bridge	40.11	49.68	42.16	46.50	18.00
Parlin	41.93	55.07	45.30	47.61	20.98
Perth Amboy	47.71	63.76	56.06	52.98	23.00
Piscataway	44.04	56.70	48.92	45.55	22.96
Plainsboro	38.37	46.32	41.54	47.97	16.87
Port Reading	38.57	49.39	43.44	48.32	25.06
Sayreville	41.72	53.57	46.80	50.93	21.11
Sewaren	41.89	56.81	43.01	48.75	26.42
South Amboy	38.49	51.51	42.58	47.39	17.61
South Plainfield	41.73	53.86	45.96	46.66	25.34
South River	40.35	55.32	49.90	48.48	17.38
Spotswood	40.62	42.97	43.10	43.08	23.19
Woodbridge	40.55	57.22	46.43	48.26	22.99
Franklin Park	38.92	51.38	46.43	46.37	24.21
Somerset	41.42	53.89	51.86	50.61	20.27
All towns combined	41.78	58.08	48.78	49.83	21.93
All NJ	42.51	55.88	46.98	49.91	23.61

Note:

Numerator and denominator denote average annual discharges over 2008-2010.

Denominator visits characterized by payer.

Table 2.11a: Percent of Avoidable Hospitalizations by Patient Race

Town	White	Black	Hispanic	Other
Avenel	15.45	11.29	10.63	4.74
Carteret	15.25	16.12	13.27	7.93
Colonia	12.66	14.07	9.36	7.42
Cranbury	11.61	9.31	11.15	11.20
Dayton	11.70	11.04	4.94	5.25
Dunellen	11.96	6.52	9.74	11.70
East Brunswick	11.48	11.29	10.78	8.02
Edison	13.45	11.99	8.73	6.18
Fords	12.85	11.54	11.29	6.77
Helmetta	11.05	--	--	--
Highland Park	12.17	12.31	13.22	5.22
Iselin	15.42	12.69	10.00	6.72
Keasbey	13.79	18.80	17.41	9.35
Kendall Park	11.47	15.59	7.04	7.06
Metuchen	11.93	11.57	9.09	6.96
Middlesex	12.63	10.78	7.61	9.77
Milltown	12.38	--	1.35	2.44
Monmouth Junction	12.12	10.42	10.88	5.46
Monroe Township	12.76	15.84	9.76	8.58
New Brunswick	12.96	18.24	6.25	6.32
North Brunswick	13.08	13.97	9.42	6.29
Old Bridge	12.57	12.34	8.82	9.39
Parlin	13.18	13.92	13.02	6.74
Perth Amboy	13.38	16.57	12.66	8.25
Piscataway	12.50	12.15	6.91	7.12
Plainsboro	7.70	10.78	8.05	4.18
Port Reading	15.58	14.75	10.68	4.69
Sayreville	12.92	10.65	7.80	5.92
Sewaren	13.86	11.94	9.20	--
South Amboy	12.64	10.25	9.40	8.95
South Plainfield	14.95	12.04	6.52	7.48
South River	13.72	16.76	5.49	8.56
Spotswood	14.38	--	12.77	3.57
Woodbridge	15.52	15.09	11.27	6.44
Franklin Park	7.44	7.95	2.94	5.85
Somerset	10.84	13.39	8.46	7.09
All towns combined	12.88	13.82	10.22	6.96
All NJ	12.95	15.72	11.67	9.18

Note:

Numerator and denominator are calculated average annual discharges over 2008-2010.

Denominator comprises discharges characterized by race; rates suppressed when denominator < 50.

Table 2.11b: Percent of Avoidable ED Visits by Patient Race

Town	White	Black	Hispanic	Other
Avenel	41.91	49.67	51.87	47.90
Carteret	43.19	53.99	56.08	48.60
Colonia	39.10	52.53	46.75	43.65
Cranbury	36.90	51.68	57.83	46.06
Dayton	37.57	48.56	49.65	43.77
Dunellen	40.13	51.18	49.77	45.79
East Brunswick	36.84	51.15	46.79	40.78
Edison	40.63	52.55	51.88	43.87
Fords	40.99	52.50	48.92	47.86
Helmetta	39.92	47.74	38.34	46.70
Highland Park	39.99	55.04	54.83	48.40
Iselin	39.73	50.48	49.34	45.12
Keasbey	46.53	54.86	56.41	50.64
Kendall Park	38.09	49.13	43.66	39.95
Metuchen	37.23	50.02	44.56	42.54
Middlesex	42.88	51.86	55.77	47.18
Milltown	38.02	51.58	45.15	40.68
Monmouth Junction	40.21	50.95	48.56	42.19
Monroe Township	37.25	44.85	53.96	39.58
New Brunswick	48.40	55.53	59.32	60.73
North Brunswick	41.14	53.99	56.59	47.16
Old Bridge	39.47	50.57	49.36	42.81
Parlin	40.42	54.11	52.38	44.99
Perth Amboy	43.73	54.05	57.11	51.41
Piscataway	40.46	50.51	52.24	46.06
Plainsboro	37.68	50.81	51.44	38.13
Port Reading	39.95	53.06	43.86	46.90
Sayreville	41.56	54.51	52.60	46.62
Sewaren	40.25	51.06	49.08	47.44
South Amboy	39.62	51.83	49.46	47.20
South Plainfield	40.39	49.60	50.36	47.13
South River	42.23	56.23	55.19	49.31
Spotswood	40.64	53.64	47.43	41.00
Woodbridge	39.99	51.37	52.76	47.91
Franklin Park	39.67	51.03	52.57	41.37
Somerset	40.50	51.72	58.62	47.65
All towns combined	40.26	52.78	56.31	46.82
All NJ	40.24	54.14	54.42	47.83

Note:

Numerator and denominator are calculated asaverage annual discharges over 2008-2010.

Denominator discharges characterized by race.

Table 2.12a: Percent of Avoidable Hospitalizations by Patient Gender and Age

Town	Male	Female	Age 18 to 39	Age 40-64	Age 65+
Avenel	13.54	11.61	3.58	12.46	19.88
Carteret	14.70	13.42	6.55	12.90	20.08
Colonia	13.94	10.73	3.42	7.69	18.02
Cranbury	11.47	11.24	4.56	10.62	15.56
Dayton	14.03	6.35	2.72	9.80	15.52
Dunellen	13.63	9.91	2.81	10.52	16.21
East Brunswick	11.56	10.45	4.46	9.11	14.36
Edison	13.36	9.92	2.64	9.84	17.23
Fords	13.70	10.28	2.44	9.20	18.63
Helmetta	7.66	12.08	5.00	5.33	19.32
Highland Park	12.07	11.16	2.06	12.84	15.17
Iselin	14.40	11.29	3.34	13.21	16.69
Keasbey	19.08	14.24	6.63	19.38	26.49
Kendall Park	11.95	10.13	3.52	6.63	16.26
Metuchen	11.75	10.78	3.21	10.27	15.18
Middlesex	13.30	11.13	2.33	8.97	18.61
Milltown	11.14	11.61	1.94	8.56	18.20
Monmouth Junction	11.29	9.63	4.19	10.02	17.84
Monroe Township	13.62	11.69	3.57	10.07	14.51
New Brunswick	14.86	9.13	4.14	14.54	19.13
North Brunswick	13.38	10.55	3.49	12.25	18.09
Old Bridge	13.33	11.11	4.06	10.59	16.24
Parlin	13.45	11.16	3.76	11.95	17.45
Perth Amboy	13.88	12.25	5.58	14.15	17.80
Piscataway	12.32	9.59	3.36	9.22	17.21
Plainsboro	9.67	5.35	3.06	6.80	15.62
Port Reading	15.20	14.06	4.02	9.73	20.55
Sayreville	13.57	9.90	3.94	10.71	18.18
Sewaren	16.58	9.84	4.52	8.39	23.10
South Amboy	11.61	12.28	4.73	11.92	15.57
South Plainfield	15.28	11.74	3.34	9.52	19.85
South River	14.29	11.46	5.09	12.87	17.25
Spotswood	14.58	13.33	4.21	11.42	18.29
Woodbridge	15.44	12.55	4.91	13.22	19.79
Franklin Park	7.83	6.63	1.75	7.91	11.76
Somerset	12.50	9.86	3.49	10.23	15.30
All towns combined	13.32	10.77	3.87	11.09	16.84
All NJ	14.08	12.21	4.46	12.12	18.15

Note:

Numerator and denominator are calculated as average annual discharges over 2008-2010.

Denominator discharges characterized by patient age or gender.

Table 2.12b: Percent of Avoidable ED Visits by Patient Gender and Age

Town	Male	Female	Age 0 to 18	Age 18 to 39	Age 40-64	Age 65+
Avenel	41.84	49.49	45.31	48.02	46.01	40.47
Carteret	45.10	55.04	54.23	51.62	47.92	42.69
Colonia	38.11	44.54	37.57	43.38	42.43	42.48
Cranbury	40.87	48.31	44.13	49.01	44.35	35.02
Dayton	38.34	45.06	41.37	42.74	42.25	39.70
Dunellen	37.33	48.57	44.54	46.99	42.39	33.45
East Brunswick	34.66	43.09	35.67	42.46	39.73	36.57
Edison	39.48	48.64	45.25	46.44	43.16	40.14
Fords	38.82	49.48	45.55	46.33	43.88	40.68
Helmetta	34.61	45.80	36.25	45.43	38.94	34.41
Highland Park	40.67	49.78	47.05	47.67	45.13	39.43
Iselin	39.61	47.13	42.65	44.74	43.49	42.53
Keasbey	49.23	56.54	57.82	52.52	51.68	44.07
Kendall Park	36.09	43.62	37.17	41.53	41.51	37.92
Metuchen	35.93	43.23	37.40	41.78	39.92	39.13
Middlesex	40.02	50.20	44.25	48.58	44.80	41.50
Milltown	33.46	43.91	34.34	43.73	39.67	35.09
Monmouth Junction	38.76	47.25	40.22	47.24	42.52	40.94
Monroe Township	34.64	42.36	36.92	45.01	39.24	35.30
New Brunswick	51.91	62.03	63.94	55.17	50.75	48.23
North Brunswick	44.02	52.76	50.96	50.90	46.31	40.41
Old Bridge	36.33	45.63	37.05	45.32	41.24	39.04
Parlin	39.02	49.35	44.34	46.79	43.90	39.05
Perth Amboy	49.62	59.62	62.51	54.23	48.65	44.68
Piscataway	41.34	50.74	48.26	47.71	43.95	43.41
Plainsboro	36.46	45.43	36.78	43.87	41.66	38.70
Port Reading	36.49	47.51	39.33	46.12	41.91	39.63
Sayreville	41.07	50.07	47.66	48.53	41.91	40.98
Sewaren	38.31	48.53	44.76	43.56	43.32	44.06
South Amboy	37.39	46.60	41.69	45.36	40.96	36.26
South Plainfield	38.46	48.91	44.56	46.37	42.58	41.17
South River	41.98	52.60	53.91	48.20	42.55	39.81
Spotswood	36.15	46.26	35.58	45.65	42.04	39.84
Woodbridge	40.16	49.75	47.39	46.53	43.68	40.44
Franklin Park	38.78	48.93	43.09	47.68	43.94	38.71
Somerset	44.55	53.10	52.01	51.39	47.02	40.35
All towns combined	42.55	51.90	50.90	49.36	44.63	40.04
All NJ	41.81	51.29	47.36	49.74	45.39	40.68

Note:

Numerator and denominator are calculated as average annual visits over 2008-2010.

Denominator vists characterized by patient age or gender.

Table 2.13: Total and Avoidable Pediatric Hospitalizations

	All Towns	All NJ
Rates out of 100 population		
Composite Inpatient (IP) PQI (age>=6 and age<18)	0.20	0.19
All IP discharges (age>=6 and age<18)	1.78	1.65
Avoidable hospitalizations as % of all discharges (age>=6 and age<18)	11.49	11.49
Payer distribution of avoidable Pediatric discharges (%)		
Medicare	0.13	0.09
Medicaid	15.95	22.06
Private	77.89	71.91
Self pay	3.39	4.58
Other	2.64	1.36
Race-ethnicity distribution of avoidable pediatric hospitalizations (%)		
White	39.07	40.55
Black	19.72	27.62
Hispanic	26.26	22.46
Other	14.95	9.38
Gender distribution of avoidable pediatric hospitalizations (%)		
Male	48.37	49.85
Female	51.63	50.15
Avoidable pediatric discharges by payer (%)		
Medicare	--	5.34
Medicaid	16.20	12.46
Private	10.98	11.53
Self pay	9.75	10.21
Other	9.77	5.85
Avoidable pediatric discharges by race (%)		
White	10.72	9.22
Black	13.80	16.62
Hispanic	13.53	13.96
Other	8.84	9.06
Avoidable pediatric discharges by gender (%)		
Male	10.24	10.69
Female	12.97	12.42

Note: figures suppressed when denominator < 50.

Appendix 2.A: 2010 Population from Nielsen/Claritas

Town	Zip code	Population with age <18	Population with age >=18	Total population
Avenel	07001	3,640	13,398	17,038
Carteret	07008	5,672	18,414	24,086
Colonia	07067	4,046	13,445	17,491
Cranbury	08512	2,666	6,878	9,544
Dayton	08810	2,341	5,474	7,815
Dunellen	08812	3,247	10,022	13,269
East Brunswick	08816	10,520	35,050	45,570
Edison	08817,08820,08837	22,354	76,870	99,224
Fords	08863	2,885	9,919	12,804
Helmetta	08828	419	1,543	1,962
Highland Park	08904	3,149	11,474	14,623
Iselin	08830	3,599	13,214	16,813
Keasbey	08832	729	1,803	2,532
Kendall Park	08824	3,826	8,992	12,818
Metuchen	08840	3,744	12,345	16,089
Middlesex	08846	3,224	10,218	13,442
Milltown	08850	1,745	6,373	8,118
Monmouth Junction	08852	4,353	11,476	15,829
Monroe Township	08831	8,754	38,413	47,167
New Brunswick	08901	11,464	41,373	52,837
North Brunswick	08902	9,239	30,654	39,893
Old Bridge	08857	9,767	30,488	40,255
Parlin	08859	5,231	16,950	22,181
Perth Amboy	08861	14,283	37,881	52,164
Piscataway	08854	11,161	40,839	52,000
Plainsboro	08536	4,511	13,895	18,406
Port Reading	07064	794	2,801	3,595
Sayreville	08872	4,616	14,444	19,060
Sewaren	07077	582	2,151	2,733
South Amboy	08879	4,666	16,484	21,150
South Plainfield	07080	5,225	17,125	22,350
South River	08882	3,626	12,018	15,644
Spotswood	08884	1,787	6,252	8,039
Woodbridge	07095	4,270	15,047	19,317
Franklin Park	08823	2,359	7,065	9,424
Somerset	08873	10,972	37,631	48,603
All town combined		195,466	648,419	843,885
All NJ		2,050,846	6,661,027	8,711,873

Appendix 2.B: AHRQ PQI Conditions

INDICATOR	LABEL
PQI 01	Diabetes Short-Term Complications Admission Rate
PQI 02	Perforated Appendix Admission Rate
PQI 03	Diabetes Long-Term Complications Admission Rate
PQI 05	Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate
PQI 07	Hypertension Admission Rate
PQI 08	Congestive Heart Failure (CHF) Admission Rate
PQI 10	Dehydration Admission Rate
PQI 11	Bacterial Pneumonia Admission Rate
PQI 12	Urinary Tract Infection Admission Rate
PQI 13	Angina Without Procedure Admission Rate
PQI 14	Uncontrolled Diabetes Admission Rate
PQI 15	Asthma in Younger Adults Admission Rate
PQI 16	Rate of Lower-Extremity Amputation Among Patients With Diabetes
PQI 90	Overall PQI Composite (PQIs 1, 3, 5, 7, 8, 10, 11, 12, 13,14,15 and 16)
PQI 91	Acute PQI Composite (PQIs 10, 11 and 12)
PQI 92	Chronic PQI Composite (PQIs 1, 3, 5, 7, 8, 13,14, 15 and 16)

Appendix 2.C: AHRQ PQI Composites and Constituents

Overall Composite (PQI #90)	
PQI #01 Diabetes Short-Term Complications Admission Rate*	PQI #11 Bacterial Pneumonia Admission Rate
PQI #03 Diabetes Long-Term Complications Admission Rate**	PQI #12 Urinary Tract Infection Admission Rate
PQI #05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate	PQI #13 Angina without Procedure Admission Rate
PQI #07 Hypertension Admission Rate	PQI #14 Uncontrolled Diabetes Admission Rate
PQI #08 Congestive Heart Failure (CHF) Admission Rate	PQI #15 Asthma in Younger Adults Admission Rate
PQI #10 Dehydration Admission Rate	PQI #16 Rate of Lower-Extremity Amputation Among Patients With Diabetes

Acute Composite (PQI #91)	
PQI #10 Dehydration Admission Rate	PQI #12 Urinary Tract Infection Admission Rate
PQI #11 Bacterial Pneumonia Admission Rate	

Chronic Composite (PQI #92)	
PQI #01 Diabetes Short-Term Complications Admission Rate	PQI #13 Angina without Procedure Admission Rate
PQI #03 Diabetes Long-Term Complications Admission Rate	PQI #14 Uncontrolled Diabetes Admission Rate***
PQI #05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate	PQI #15 Asthma in Younger Adults Admission Rate
PQI #07 Hypertension Admission Rate	PQI #16 Rate of Lower-Extremity Amputation Among Patients With Diabetes
PQI #08 Congestive Heart Failure (CHF) Admission Rate	

Note:

*Examples of diabetes short term complications include ketoacidosis, hyperosmolarity.

**Examples of diabetes long term complications include renal, eye, neurological, circulatory, or complications not otherwise specified.

***A discharge is categorized as uncontrolled diabetes when it has a principal diagnosis code for uncontrolled diabetes, without mention of a short-term or long-term complication.

Source: Prevention Quality Indicators Technical Specifications - Version 4.4, March 2012; http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx.

Appendix 2.D: Classification of Emergency Department Visits

Type Description	Diagnoses
Non-Emergent: The patient's initial complaint, presenting symptoms, vital signs, medical history, and age indicated that immediate medical care was not required within 12 hours.	Headache, Dental disorder, Types of migraine
Emergent, Primary Care Treatable: Conditions for which treatment was required within 12 hours, but care could have been provided effectively and safely in a primary care setting. The complaint did not require continuous observation, and no procedures were performed or resources used that are not available in a primary care setting (e.g., CAT scan or certain lab tests)	Acute bronchitis, Painful respiration, etc
Emergent, ED Care Needed, Preventable/Avoidable: Emergency department care was required based on the complaint or procedures performed/resources used, but the emergent nature of the condition was potentially preventable/avoidable if timely and effective ambulatory care had been received during the episode of illness	flare-ups of asthma, diabetes, congestive heart failure, etc
Emergent, ED Care Needed, Not Preventable/Avoidable: Emergency department care was required and ambulatory care treatment could not have prevented the condition	trauma, appendicitis, myocardial infarction

Note: The first three categories are considered to be avoidable/preventable.

Type descriptions taken from http://wagner.nyu.edu/faculty/billings/nyued-background.php.

Chapter 3: Health, Health Care Utilization, and Access: An Interpretation of 2012 Community Phone Survey

Introduction

This chapter presents an interpretation of findings from the 2012 Community Health Needs Assessment Survey conducted by Professional Research Consultants, Inc. (PRC) for St. Peter's University Hospital and Robert Wood Johnson University Hospital. The survey instrument was designed by researchers at the Rutgers University Center for State Health Policy with input from hospital staff and the project advisory board.

English and Spanish versions of the survey questionnaire can be found at this link: http://www.cshp.rutgers.edu/Downloads/PRC/2012 PRC CHNA Survey.pdf.

A detailed report of all survey methods and results can be found at: http://www.cshp.rutgers.edu/Downloads/PRC/2012 PRC CHNA Report Middlesex County NJ.pdf.

Methods

The survey was conducted between May 21, 2012, and August 1, 2012. It was a random-digit dial telephone survey of non-institutionalized New Jersey adults ages 18 and over residing in Middlesex County or two zip codes in Somerset County (08873, 08823) that directly border Middlesex County. These two Somerset County zip codes are for the townships of Somerset and Franklin Park. This area was previously defined by hospital staff as their main patient service area. Interviews were completed for 1000 respondents; 750 of the completed interviews were conducted via landline telephone, while 250 were conducted via cellular telephone. Proportionate samples were drawn from each of the zip codes in the sampling area in order to ensure representativeness. Table 3.1 contains the number of interviews completed from each zip code. The overall cooperation rate for the survey was 55.9%.

The questionnaire was administered to a randomly selected adult in the household and is representative of adults living in the sampled area. Adults living in the area primarily to attend college were excluded from eligibility. In those households with children, respondents also

answered a subset of the same questions for a randomly selected child. Of the 1000 total interviews, 287 were completed by adults from households with children. A Spanish-translated version of the survey was administered when needed to Spanish-only-speaking adults by a bi-lingual interviewer (13 of the 1000 interviews, 1.3% of the total). The survey averaged 22.15 minutes in length. Fifty pretest interviews were conducted to ensure proper question sequencing and respondent understanding.

The data was weighted to 2010 Census population estimates for the geographic area sampled for age, gender, race-ethnicity, and poverty status. These weights adjust for differences in probability of selection of households and for any biases due to non-response or sample frame coverage gaps.

The full survey report contains frequencies and cross-tabulations by five measures for most items. The five measures used in the cross-tabulations were:

- **Age**
- **Gender**
- **Race-ethnicity**
- **Income** (percent of federal poverty level, % FPL)
- **Health insurance coverage** (non-elderly)
    - Note: In the full survey report, only a few of the measures were cross-tabulated with health insurance coverage. ***This chapter also includes additional results of the cross-tabulations by non-elderly insurance status for the remaining variables not included in the full report.***

All results shown in the full survey report and reported here use weighted data ***with the exception of*** Table 3.1 (unweighted sample sizes for each zip code), Table 3.2 (unweighted frequencies of the five crosstab variables separately by county and both counties combined, adults), Table 3.3 (unweighted crosstabs of these same five demographic variables by the landline/cell phone items, adults), and Table 3.6 (unweighted frequencies of the five crosstab variables, children) at the end of this chapter. These tables are included for reference only in order to fully describe the sample.

Estimates are not described if the unweighted denominator for the cross-tabulation is less than 50 as the estimate would not be reliable. For adults, this impacts all the cross-tabulations by race-ethnicity for the “other non-Hispanic” sub-group (see yellow highlighted cell in Table 3.2). For children, this impacts all the cross-tabulations by race-ethnicity for the black non-Hispanic, Asian non-Hispanic, and other non-Hispanic sub-groups, all the cross-tabulations by income for the low income sub-group, and all the cross-tabulations by health insurance coverage for the

uninsured sub-group (see yellow highlighted cells in Table 3.6). In addition, this impacts selected other cross-tabulations, particularly in the child results section, so they are not shown.

Most of the survey questions had item non-response below 5%. For these variables, missing values are excluded from the analysis and therefore cell sizes may not total 100%. For income, a separate "don't know/refused" category is included as 23.4% of the respondents did not provide their income (see green highlighted cell in Table 3.2).

The results section is divided into two parts: the first part contains key findings for the randomly selected adult and the second for the randomly selected child (households with children only). For each measure, the overall prevalence is presented first and then the statistically significant ($p<.05$) cross-tabulated results are discussed. All results shown below are for the combined county sample with the exception of Table 3.2 and Table 3.4, which also provide breakdowns by county.

Findings

Adults

Table 3.1 contains the unweighted sample size for the number of interviews completed in each of the eligible zip codes of the hospitals' primary service area.

Table 3.2 contains the unweighted frequencies for the five measures used in the cross-tabulations. These are shown separately for the two county sub-samples and for both counties combined so that the demographic make-up of the two sub-samples can be observed and small cell sizes can be detected.

Table 3.3 contains the unweighted frequencies for the same five measures by the type of telephone (landline or cell) on which the interview was completed. These are shown for the combined county sample. Overall, 75% of the interviews were conducted via landline and 25% were conducted via cell phone.

- Younger adults were more likely than older adults to complete the interview via cell phone.
- Males were more likely than females to complete the interview via cell phone.
- Non-white respondents were more likely than white non-Hispanics to complete the interview via cell phone. There were no differences among black non-Hispanics, Asian non-Hispanics, and Hispanics.
- There were no differences by income or insurance status.

Description of Crosstab Groups (Age, Gender, Race-Ethnicity, Income, Health Insurance Coverage)

Table 3.4 contains the weighted frequencies for the five measures used in the cross-tabulations. These are shown separately for Middlesex County and the two zip codes in Somerset County. They are also shown for the combined sample and for New Jersey overall (state data from the 2010 BRFSS).

Age. Older adults comprise 18% of the sample, which is identical to that overall for the state of New Jersey in the 2010 state BRFSS data. A further breakdown of the non-elderly age groups (not shown in Table 3.4) reveals that 39.0% are ages 18-39, while 43.0% are ages 40-64. Of the 18% in the older group, about a third are over age 75. The two county samples do not significantly differ by age.

Gender. Males and females are about evenly distributed across both of the county samples, the combined sample, and the state.

Race-Ethnicity. The racial-ethnic distribution of the combined sample is as follows:

- 51.1% white non-Hispanics
- 12.7% black non-Hispanic
- 14.9% Asian non-Hispanic
- 17.8% Hispanic
- 3.4% other

A higher proportion of Hispanics and a lower proportion of white non-Hispanics are in the two zip codes of Somerset County compared to Middlesex County and New Jersey overall. Both county samples have a higher proportion of Asian non-Hispanics than New Jersey overall.

Income. Income level is presented as a percentage of the 2011 federal poverty level (% FPL). This measure is calculated from total household income and number of household members. The table below shows the federal poverty level (100% FPL) for households of different sizes using 2011 income:

2011 HHS Poverty Guidelines	
Persons in Family	**Annual Household Income (48 Contiguous States and D.C.)**
1	$10,890
2	14,710
3	18,530
4	22,350
5	26,170
6	29,990
7	33,810
8	37,630
For each additional person, add	3,820

Source: *Federal Register*, Vol. 76, No. 13, January 20, 2011, pp. 3637-3638.

For this survey, the FPL categories used match those of the Patient Protection & Affordable Care Act (the new health reform law) in determining subsidy levels for health insurance purchase in state exchanges. The income distribution of the sample is as follows:

- 11.0% low income (<138% FPL)
- 22.7% middle income (139-400% FPL)
- 45.6% high income (>400% FPL)
- 20.7% refused or did not know their income

(Note: these income levels are referred to as very low, low-mid, and high in the full survey report.)

The county samples do not differ significantly by income.

- Older adults were more likely to be middle income, while younger adults were more likely to be high income.
- Asian non-Hispanics and Hispanics were more likely to be low income, black non-Hispanics and Hispanics were more likely to be middle income, and white non-Hispanics and black non-Hispanics were more likely to be high income.
    - 4.8% of black non-Hispanics were low income (0-138% FPL).
        - *Note: In the 2010 BRFSS for Middlesex County, 22.5% of black non-Hispanics had incomes below $25,000 and for Somerset County, 35.7% of black non-Hispanics had incomes below $25,000.*
    - 21.8% of Asian non-Hispanics were low income (0-138% FPL).
        - *Note: For Asian non-Hispanics, the 2010 BRFSS indicates that 6.6% in Middlesex County and 3.1% in Somerset County had incomes below $25,000.*

- *Caution should be used in interpreting any results involving low income for both black non-Hispanics and Asian non-Hispanics as they may not be representative.*

- The uninsured were more likely to be low or middle income, the publicly insured were more likely than the privately insured to be middle income, and the privately insured were more likely to be high income.

Health Insurance Status. Respondents were asked what type of health insurance they had, if any. Frequencies are provided below for broad coverage categories (public, private, uninsured) separately for all adults and for just the non-elderly. The uninsured rate is lower when older adults are included in the sample as most of them are insured through Medicare (as shown in the two red highlighted cells in the table below). In the combined county sample, 80.1% of older adults were covered by Medicare, and all the remaining older adults except for one person had some other type of coverage (mainly employer-sponsored as some older adults still work past retirement age). Older adults make up 54.4% of those publicly insured when looking at the insurance status of all adults (shown in the green highlighted cell of the table below).

Insurance Status	**All Adults**	**Non-Elderly**
	%	**%**
Public (Medicaid, Medicare, Other Public)	28.4	16.1
Private (Employer, Other Private)	64.9	75.8
Uninsured	6.7	8.2

A further breakdown of the insurance categories (not shown in Table 3.4) for ***all adults*** (non-elderly and elderly) is as follows:

- 16.1% Medicare
- 3.4% Medicaid or New Jersey FamilyCare
- 8.9% Other public
- 54.1% Employer-sponsored
- 10.8% Other private
- 6.7% Uninsured

Cross-tabulation results below and throughout the remainder of the chapter are provided for ***non-elderly*** insurance status only.

- Middlesex County has a higher non-elderly uninsured rate, while the two Somerset County townships have a higher privately insured rate.
- The non-elderly uninsured rate for the combined county samples (8.2%) is considerably lower than for New Jersey overall (13.7%).

    - Black non-Hispanics and lower income respondents were more likely to be uninsured. In addition, if adults ages 18-64 are further divided into two groups, those ages 18-39 are more likely to be uninsured.
- The non-elderly publicly insured rate for the combined county samples is 16.1%.
    - Hispanics and low income respondents were more likely to have public coverage, while Asian non-Hispanics were least likely to have public coverage.

Finally, if respondents indicated that they had "other private" or "other coverage", they were then asked if that coverage is part of a program such as New Jersey FamilyCare or Medicaid. This reveals that 4.1% of these adults were actually covered by Medicaid or FamilyCare.

Community Problem Perception

Respondents were asked to rate how big of a problem each of nine issues was in their community: availability of affordable child care, domestic violence, abuse or neglect of older adults, sexually transmitted diseases including HIV-AIDS, unemployment or job security, finding a suitable place for exercise and recreation, finding fresh fruits and vegetables, alcohol or drug abuse, and cancer. In addition, they were asked to rate how safe they felt in their neighborhood.

- About 80% of the respondents perceived that unemployment or job security were problems in their community.
- Cancer, affordable childcare, and alcohol or drug abuse were perceived to be problematic in the community for over 50% of the sample.
- Problem perception varied across issues by gender, age, race-ethnicity, income, and insurance status.
    - Concerns with affordable childcare, STDs, and availability of exercise facilities or fresh fruits and vegetables decline with older age.
    - Women are more concerned than men about unemployment or job security, cancer, and alcohol or drug abuse in their community.
    - Unemployment/job security and cancer were not reported as highly problematic for Asian non-Hispanic respondents but they rated the availability of exercise and recreational facilities as relatively more problematic compared to the other racial-ethnic groups.
    - Hispanics were more likely than other groups to be concerned about STDs and elder abuse/neglect in their community.
    - White and black non-Hispanics differed little across the nine issues.
    - Low income participants were more likely than other income groups to rate the availability of fresh fruits and vegetables as a major problem in the community,

while middle income participants were more likely than other income groups to be concerned with unemployment or job security and alcohol or drug abuse.
    - The uninsured were more likely to rate elder abuse, unemployment or job security, and finding fresh fruits and vegetables as problems in their community, and less likely to rate affordable childcare and alcohol or drug abuse as problems. Publicly insured adults were less likely to rate elder abuse or alcohol or drug abuse as problems in their community. Publicly and privately insured adults differed little across most of the issues.
- About a third of participants reported feeling somewhat or very unsafe in their neighborhood.
    - This differed little by age or gender.
    - Hispanics and black and Asian non-Hispanics were more likely to feel unsafe in their neighborhood.
    - Low and middle income participants were more likely to feel unsafe in their neighborhood.
    - The uninsured were more likely to feel unsafe in their neighborhood.

Health Status

Three measures of health status were examined: overall health status, dental health status, and mental health status (each rated as excellent, very good, good, fair, or poor).

- For the full sample, 14.2% reported fair or poor ***overall health***. Older adults and middle income respondents were more likely to report fair or poor health.
- For dental health, 18.9% overall reported fair or poor ***dental health***. Older adults, middle income respondents, and the uninsured were more likely to report fair or poor dental health
- Overall, 5.9% reported fair or poor ***mental health***. Middle-age adults and middle income respondents were more likely to report fair or poor mental health.

Chronic Conditions

Each of four chronic conditions (asthma, diabetes, high blood pressure, 'any other type of medical condition that was serious, long-lasting, or chronic') were assessed. For example, for asthma, the following question was asked: "Have you ever been told by a doctor, nurse, or other health care professional that you had asthma?". The same question format was used for the other chronic conditions.

- Overall, 56.2% reported at least one chronic condition.
- ***Asthma:*** 17.3% reported ever being diagnosed with asthma. Younger adults, low income respondents, and those publicly insured had higher rates of diagnosis, while Asian non-Hispanics and the uninsured had lower rates.

- ***Diabetes:*** 14.0% reported ever being diagnosed with diabetes. Older adults, males, Asian non-Hispanics, and middle income respondents were more likely to report having been diagnosed, while Hispanics were less likely.
- ***High blood pressure:*** 30.8% reported ever being diagnosed with high blood pressure. Older adults, white non-Hispanics, black non-Hispanics, and middle income respondents had higher diagnosis rates, while Hispanics had lower rates.
- ***Other chronic condition:*** 24.8% reported ever being diagnosed with any other serious, long-lasting, or chronic medical condition. Older adults, women, and white non-Hispanics had higher diagnosis rates, while Asian non-Hispanics had lower rates.

Obesity

To assess overweight and obesity, body mass index (BMI) was calculated from reported height and weight. Respondents were then grouped into three categories: not overweight (BMI < 25), overweight (BMI 25 to < 30), obese (BMI 30+). Here is an example of weight ranges and BMI categories for someone who is 5'9" as shown on the CDC website:

Height	Weight Range	BMI	Weight Status
5' 9"	124 lbs or less	Below 18.5	Underweight
	125 lbs to 168 lbs	18.5 to 24.9	Normal
	169 lbs to 202 lbs	25.0 to 29.9	Overweight
	203 lbs or more	30 or higher	Obese

Source: http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html#Interpreted.

In addition, respondents were asked to assess their own weight status (very underweight, somewhat underweight, about the right weight, somewhat overweight, very overweight) and whether a doctor, nurse, or other health professional had given them advice about their weight in the previous 12 months.

- Overall, more than a third (38.0%) of the sample was overweight and over a quarter (28.0%) was obese.
    - Males, Asian non-Hispanics, Hispanics, and middle income respondents were more likely to be ***overweight***.
    - Females, black non-Hispanics, and low income respondents were more likely to be ***obese***, while Asian non-Hispanics were less likely.

- Overall, 59.0% felt they were somewhat or very overweight, slightly less than the proportion of those that were actually overweight or obese. However, very few (10.8%) rated themselves as very overweight, while a much larger percentage thought they were somewhat overweight (48.2%).
    - Males, Asian non-Hispanics, Hispanics, and those publicly insured or uninsured were less likely to feel they were overweight.
- Despite about 2/3 of the sample being overweight or obese, only 24.8% reported that a doctor or other health professional had advised them about their weight in the previous year.
    - Males, Hispanics, Asian non-Hispanics, and the uninsured were even less likely to report weight advice from a doctor.

Smoking

Respondents were asked if smoking was allowed in their home.

- Overall, 10.9% lived in homes where smoking was allowed. Males, adults ages 40-64, low/mid income participants, and Asian non-Hispanics were more likely to live in homes where smoking was allowed, while Hispanics and black non-Hispanics were less likely.

Medical Utilization

Respondents were asked how many times in the past 12 months they had been to an emergency department (ED), to a doctor or other health professional for preventive care, to a specialist, or to a doctor or other health professional for any other health care, and how many times they had called a doctor or other health professional. Additional questions assessed the main reason they visited an emergency department and waiting time there before receiving treatment.

- At least one ED visit was reported by 20.1% of the sample. Younger adults and low income respondents, and those publicly insured or uninsured were more likely to report at least one ED visit, while Asian non-Hispanics were less likely.
- 5.9% of the respondents had more than one ED visit in the past year. Black non-Hispanics and those publicly insured or uninsured were over twice as likely to visit the ED more than once in the past year, while middle income participants were about 1.5 times more likely to do so.
- The most common reasons for using the ED instead of a regular doctor were “emergency or life-threatening situation” (63.1%), “after hours or the weekend” (17.6%), and difficulty accessing primary care such as convenience and being uninsured (9.6%).

- Among those who visited the ED in the past year, 61.4% reported their waiting time before receiving treatment was 15 minutes or less. An additional 19.7% waited between 16-30 minutes.
- About one in five participants (19.5%) had not had a physical check-up in the past year. Younger adults, males, Hispanics, lower income respondents, and the uninsured were less likely to have had a check-up. Publicly insured respondents were more likely to have had a check-up (94.5%).
- Overall, 52.8% had seen a specialist at least once in the previous year. Older adults, women, white non-Hispanics, Hispanics, and those publicly insured were more likely to see a specialist, while black non-Hispanics and the uninsured were less likely.
- A third (33.3%) had seen a doctor or other health provider at least once in the previous year for care other than check-ups or specialty visits. Older adults, white non-Hispanics, and middle income respondents were more likely to visit a doctor for other care, while Asian non-Hispanics were less likely.
- About one-half of respondents (48.3%) had called a doctor or other health provider at least once about their health in the previous year. Older adults, females, white non-Hispanics, and black non-Hispanics were more likely to call, while Hispanics, Asian non-Hispanics, and the uninsured were less likely.

Dental Utilization

Dental utilization was assessed using four measures: number of visits and number of check-ups (including cleaning visits) in the past year, insurance for dental care, and usual source of dental care.

- Three-quarters (75.1%) visited a dentist at least once in the past year and over half (54.0%) had two or more dental visits. Younger adults, males, non-whites, lower income respondents, and those without dental or health insurance were less likely to have seen a dentist in the past year.
- 71.7% had a dental check-up in the past year, and the same groups as above were less likely to have had a check-up.
- 70.5% had some type of dental insurance. Older adults, males, lower income respondents, and the uninsured (health coverage) were less likely to have dental coverage, while those privately insured were more likely. Only 6.2% of those without health insurance had dental coverage.
- The majority of respondents went to a private dentist's office for their dental care (82.5%). Dental clinics were used by 8.5% of respondents, while 7.0% reported not having a regular dentist. Males, Asian non-Hispanics, low income respondents, and those publicly insured or uninsured were more likely to use some type of clinic for their dental care, while Hispanics were more likely to report not having a regular dentist.

Mental Health Utilization

Mental health utilization was assessed using two measures: number of visits to a provider (doctor, therapist, minister, or school counselor) in the past 12 months and insurance for mental health care.

- 8.1% of adults had at least one mental health visit in the previous 12 months. Females, white non-Hispanics, and those who reported fair or poor mental health were more likely to have a mental health visit.
- Of those who visited a mental health professional, 75.0% had insurance that paid for part or all of their mental health care.

Prescription Medicines

Respondents were asked if they had taken any prescription medicines in the past month and, if so, how many different prescriptions of medicines had they taken.

- About six in 10 adults (60.6%) reported taking at least one prescription medicine in the previous month.
    - About 2/3 (67.0%) of middle-aged adults and nine in 10 older adults (90.0%) took at least one prescription medicine in the past month.
    - Older adults, females, white non-Hispanics, and middle income respondents were more likely to have taken at least one prescription medicine in the past month, while Hispanics, Asian non-Hispanics, and the uninsured were less likely.

Sources of Health Information and Health Promotion Events

Respondents were asked to rate how often on a four-point scale (never, rarely, sometimes, or often) they used each of five different sources of health information (the Internet, social media such as Facebook, television, friends or family, and church or faith organizations). They were also asked how many organized health promotion events or activities such as health fairs, health screenings, or seminars they had attended in the previous 12 months.

- Overall, the ***Internet*** was used most often as a source of health information (62.5% reported sometimes or often using the Internet for health information) followed closely by ***friends or family*** (57.8%).
    - Younger adults, women, and high income respondents are more likely to use the Internet for health information, while those publicly insured are less likely.
    - Younger adults and women were more likely to get health information from friends and family.
- Overall, less than 10% of adults sometimes or often got health information from ***social media*** like Facebook or from ***church or faith organizations***.

    - Younger adults, Hispanics, Asian non-Hispanics, low income respondents, and those publicly insured were more likely to use social media like Facebook for health information.
    - Black non-Hispanics were about twice as likely as others to use church or faith organizations for health information.
- Over a third (35.2%) sometimes or often got health information from ***television***.
    - Older adults and Asian non-Hispanics were more likely to get health information from television.
- 18.3% had attended some type of health promotion event in the past year.
    - Black non-Hispanics and high income respondents were more likely to attend.
    - Hispanics, Asian non-Hispanics, low income respondents, and the uninsured were less likely to attend.

Usual Source of Care

Usual source of care was assessed using two items: what type of place and what type of doctor or other health provider they used for regular care. In addition, typical length of time spent in the waiting room at their usual place of care was assessed.

- 13.7% reported that they did not have a usual place of care. Younger adults, males, Hispanics, low income respondents, and the uninsured were less likely to have a usual place of care.
- 76.5% went to a private doctor's office, 8.3% went to a clinic, and 1.6% went to an emergency department for regular care.
    - Males were more likely than females to go to a clinic for regular care.
    - Non-whites were more likely than white non-Hispanics to go to a clinic for regular care.
    - Black non-Hispanics were more likely to go to the ED for regular care.
    - Low income respondents were more likely than other income groups to go to either a clinic or the ED for regular care.
    - The uninsured were much more likely than the insured groups to go the ED for regular care.
    - The publicly insured were more likely to go to a clinic for regular care.
- 52.8% of the sample saw a family medicine/general practitioner and 21.6% saw a general internist as their regular doctor, while 9.6% saw a specialist and 3.8% saw an OB/GYN as their regular doctor.
    - Older adults were more likely to report that their regular doctor was a specialist. Nearly one in five (19.0%) older adults sees a specialist for regular care.
    - White non-Hispanics, low-middle income respondents, and those publicly insured were also more likely to report that their regular doctor was a specialist.

- Over half (57.7%) report spending less than 15 minutes in the waiting room at their regular doctor's office, and nearly another third (31.7%) wait 16-30 minutes.
    - About one in ten (10.5%) wait more than 30 minutes at their regular doctor's office.
    - Younger adults, males, Hispanics, low income respondents, and the uninsured reported longer times spent in the waiting room at their regular doctor's office.

Barriers to Care

Respondents were asked whether in the past year they had not been able to get different types of care when they wanted it (medical care or surgery, mental health care or counseling, dental care, prescription medicines). Then they were asked to rate how much of a problem (major problem, minor problem, or not a problem) for them or their family was each of six reasons why people might not be able to get the care they want (finding transportation, finding day care, finding available parking, finding a health provider who speaks the same language, time when provider is available are inconvenient, and having to wait too long to get an appointment). In addition, respondents were asked how they were treated because of their race while seeking medical care (better than, same as, or worse than others).

- About one in four (27.0%) adults reported at least one barrier to some type of care. Younger adults, females, Hispanics, low income respondents, and the uninsured were more likely to report at least one barrier. Those publicly insured and privately insured did not differ on any of the barrier measures.
- 8.3% reported a barrier to medical care, 3.0% reported a barrier to mental health care, 8.6% reported a barrier to dental care, 15.4% did not get or delayed getting a prescription filled, and 11.3% skipped doses or took smaller doses of a prescribed medication in order to make the prescription last longer and save costs.
    - ***Medical care barriers:*** younger adults, females, Hispanics, black non-Hispanics, and the uninsured were more likely to report a barrier.
    - ***Mental health care barriers:*** younger adults, Hispanics, lower income respondents, and the uninsured were more likely to report a barrier.
    - ***Dental care barriers:*** younger adults, Hispanics, black non-Hispanics, lower income respondents, and the uninsured were more likely to report a barrier.
    - ***Prescribed medicine barrier #1*** (did not get or delayed getting): younger adults, females, Hispanics, low income respondents, and the uninsured were more likely to report a barrier.
    - ***Prescribed medicine barrier #2*** (skipped doses or took smaller doses to save costs)***:*** females, Hispanics, and lower income respondents were more likely to report a barrier.

- When seeking medical care, over half (52.9%) reported at least one major or minor problem. Younger adults, females, and Asian non-Hispanics were more likely to report at least one major or minor problem.
    - Specifically, 7.6% reported problems finding transportation, 10.7% reported problems finding day care, and 16.0% had difficulty finding available parking when seeking medical care.
        - ***Problems finding transportation:*** older adults, Asian non-Hispanics, lower income respondents, and the uninsured were more likely to report a problem.
        - ***Problems finding day care:*** younger adults, Asian non-Hispanics, and lower income respondents were more likely to report a problem.
        - ***Problems finding available parking:*** Asian non-Hispanics, Hispanics, lower income respondents, and those publicly insured or uninsured were more likely to report a problem.
    - Provider characteristics were also cited as reasons why people may not get the medical care they need. 8.0% reported problems finding a health provider who speaks their language, 35.3% said that the provider's hours did not fit their schedule, and 34.8% said they had to wait too long to get an appointment.
        - ***Problems finding provider who speaks their language:*** females were more likely to report a major problem.
        - ***Problems with provider's available hours:*** younger adults and Asian non-Hispanics were more likely to report a problem, while those publicly insured were less likely.
        - ***Problems waiting too long to get an appointment:*** younger adults, females, Asian non-Hispanics, and the uninsured were more likely to report a problem.
- Only 1.9% said that they were treated worse due to their race when seeking medical care. Black non-Hispanics, Hispanics, and the uninsured were more likely to report this.

<u>Attitudes about Health and Health Care</u>

Respondents reported their level of agreement (strongly agree, somewhat agree, somewhat disagree, or strongly disagree) with seven statements about health and health care:

1. "Having my routine medical needs taken care of at a public or free clinic is just fine with me."
    - Overall, 41.3% agreed with this statement.
    - Younger adults, males, Asian non-Hispanics, lower income respondents, and those publicly insured or uninsured were more likely to agree.

2. “Having my routine medical needs taken care of at the emergency room is just fine with me.”
    - Overall, 34.2% agreed with this statement.
    - Males, Hispanics, Asian non-Hispanics, lower income respondents, and those publicly insured or uninsured were more likely to agree.
3. “If you are healthy, having health insurance is still a necessity.”
    - Overall, 96.3% agreed with this statement.
    - Black non-Hispanics, lower income respondents, and the uninsured were ***less*** likely to agree.
4. “If you wait long enough, most health problems go away by themselves.”
    - Overall, 29.7% agreed with this statement.
    - Younger adults, males, Asian non-Hispanics, and lower income respondents were more likely to agree.
5. “For the most part, I only go to the doctor when a health problem gets bad.”
    - Overall, 57.6% agreed with this statement.
    - Younger adults, Asian non-Hispanics, Hispanics, lower income respondents, and the uninsured were more likely to agree, while publicly insured respondents were less likely to agree.
6. “Even when I am sick, I prefer not to take medicines.”
    - Overall, 40.1% agreed with this statement.
    - Younger adults were more likely to agree, while Hispanics and those publicly insured were less likely to agree.
7. “I am a lot more likely to take risks than the average person.”
    - Overall, 34.2% agreed with this statement.
    - Younger adults, males, Asian non-Hispanics, Hispanics, lower income respondents, and the uninsured were more likely to agree.

Emergency Preparedness

Two items were used to assess whether respondents were prepared for a disaster such as a major hurricane or terrorist attack. They were asked whether their family had “a specific plan for where to go in the event of an evacuation” and whether they had “essential documents such as birth certificates and insurance policies and other special items you may need such as medicine and baby formula organized and ready to be taken with you during an evacuation”.

- Overall, only 30.0% had a specific plan for where to go in the event of an evacuation. Hispanics and those publicly insured were more likely to have a specific plan, while Asian non-Hispanics and the uninsured were less likely.

- About half (49.6%) had essential documents and other special items organized and ready for an evacuation. Older adults, Hispanics, and those publicly insured were more likely to report this, while Asian non-Hispanics and the uninsured were less likely.

Socio-demographics

In addition to age, gender, race-ethnicity, and income which were used in the cross-tabulations and were described earlier, several other socio-demographic characteristics were assessed: country of birth, citizenship status, time in US if an immigrant, primary language spoken at home, number of people in the household, own or rent home, marital status, education, employment status, and receipt of government assistance (SSI, SSDI, TANF, food stamps, WIC). The first three were combined into immigration status (US born US citizen, foreign-born US citizen, non-citizen in US more than 5 years, non-citizen in US less than 5 years.)

- 75.2% were US-born US citizens, 19.2% were foreign-born US citizens, 3.6% were non-citizens who had been in the US more than 5 years, and 2.0% were newly immigrated non-citizens.
    - Younger adults, males, and Asian non-Hispanics were more likely to be both foreign-born US citizens and non-citizens.
    - Hispanics, lower income respondents, and the uninsured were more likely to be foreign-born US citizens.
    - Those privately or publicly insured were more likely to be US born US citizens.
- English was the primary language spoken at home for 85.8% of respondents.
    - 6.9% spoke a ***South Asian*** language at home.
    - 3.8% spoke ***Spanish*** at home.
    - 1.8% spoke a ***European*** language at home.
    - 1.2% spoke an ***East Asian*** language at home.
- On average, there were 3.5 people per household overall. Younger adults, males, Hispanics, Asian non-Hispanics, lower income respondents, and the uninsured reported larger households than average, while white non-Hispanics reported smaller households.
    - It is possible that the higher number of people in Hispanic and Asian non-Hispanic households may be contributing to higher rates of low income in these two sub-groups. Incomes were expressed as a percentage of the federal poverty level, which is calculated based on household income *and* number of people in the household.
- 81.1% owned their homes. Younger adults, black non-Hispanics, Hispanics, lower income respondents, and the uninsured were more likely to ***rent*** than other groups.

- 64.0% were married or living with a partner, 16.9% were single never married, 8.6% were widowed, and 10.4% were separated or divorced. 90.5% of Asian non-Hispanics were married.
- The sample was highly educated overall, with 53.4% reporting a college degree or higher. 18.3% had a high school diploma or less, while 27.5% had a post-graduate degree.
    - Older adults, lower income respondents, and those publicly insured or uninsured had less education.
    - Asian non-Hispanics had more education (over half of Asian had post-graduate degrees and another quarter had college degrees).
- 64.1% were employed, 8.9% were unemployed, 2.6% were unable to work, and 24.4% were not looking for work (homemaker, retired, student, etc.).
    - Of those who were unemployed, about half had been unemployed for more than a year.
    - Younger adults, females, non-whites, lower income respondents, and those publicly insured were more likely to be unemployed.
    - The uninsured and those privately insured did not differ as to whether they were employed (87.7% and 86.5% employed, respectively).
- 19.6% received some type of government assistance. Males, lower income respondents, those publicly insured, and the uninsured were more likely to receive assistance.

Cell Phone Usage

Researchers have found that, along with demographic differences such as age, gender, and race-ethnicity, some health measures also vary by wireless status (see early estimates of wireless substitution for January-June 2011 as reported by the National Health Interview Survey, NHIS, at http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201112.pdf). This report from the CDC-sponsored NHIS shows that those from cell phone only homes were more likely to binge drink, smoke, participate in regular leisure-time physical activity, lack health insurance, experience financial barriers to seeking medical care, or get tested for HIV and less likely to have a usual place for medical care, have ever been diagnosed with diabetes, or receive an influenza immunization than those in landline homes. These are likely due to demographic differences, as cell-phone users are more likely to be younger, males, minorities, and low income respondents. In fact, in the NHIS report, about 6 out of every 10 (58.1%) adults ages 25-29 lived in cell-phone only homes in the first half of 2011. All of these factors point to the importance of including cell phone users in a telephone survey.

Respondents here were asked how many different landline and cell phone numbers are in their households. If they had both landline and cell phone numbers, they were asked what percent of

calls were received on their cell phone. Non-telephone coverage was estimated by asking respondents about phone service interruptions in the past year. It has been shown that households with transient telephone coverage are much more similar to continuous non-telephone households than to continuous telephone households on both demographic variables and other variables such as health status and health insurance coverage (Keeter, S., 1995, Estimating telephone noncoverage bias with a telephone survey, Public Opinion Quarterly, 59, pp. 196-217). This technique is a cost-effective way to reduce the bias from telephone non-coverage.

Overall, 5.9% lived in landline-only households and 4.6% lived in cell phone-only households: the remaining (86.6%) lived in homes with both landlines and cell phones or did not answer the question (2.8%).

- *Note: The NHIS report referenced above shows that 31.6% of US households were cell phone-only households, and the rate is 1.5 to 2 times higher for younger adults. 11.2% of US households were landline-only households.*
    - *New Jersey has a lower prevalence of cell phone-only households than the US average (http://www.cdc.gov/nchs/data/nhsr/nhsr039.pdf). This report on the CDC website uses data from the years 2007-2010, so it is not exactly comparable, especially since the percentage of cell phone-only households has been growing 3 to 4 percentage points a year.*
    - *18.8% of households in the Northeast were cell-phone only households in January-June 2011 according to the NHIS report cited earlier.*
- Younger adults, males, Hispanics, and lower income respondents were more likely to live in cell phone-only households. Surprisingly, there were no differences for insurance status.
- Older adults, white non-Hispanics, and the uninsured were more likely to live in landline-only households.
- 30.0% of those with both a landline and cell phone reported that most (>75%) of their calls were received on their cell phone.
    - *This is nearly identical to the figure reported by the NHIS for cell phone-mostly households for January-June 2011 (29.8%).*
- 12.1% reported phone service interruptions of at least a week in the previous week. Younger adults and low income respondents were more likely to report a service interruption.

Children

In those households with children, the adult respondent also answered a subset of the same questions about a randomly selected child. This section presents an interpretation of those findings. Detailed descriptions of each item can be found in the adult section of the results. All results shown use weighted data.

Description of Crosstab Groups (Age, Gender, Race-Ethnicity, Income, Health Insurance Coverage)

Age. Frequencies are provided below for two different age breakdowns for children, while cross-tabulations are provided later for the broad categories:

- Detailed age groups
  - Ages 0-4 32.0%
  - Ages 5-9 30.7%
  - Ages 10-14 23.1%
  - Ages 15-17 14.1%
- Broad age groups
  - Ages 0-9 62.7%
  - Ages 10-17 37.3%

Gender. The gender breakdown for the children was as follows:

- Male 56.3%
- Female 43.7%

Race-Ethnicity. The racial-ethnic breakdown for the children was as follows:

- White non-Hispanic 37.8%
- Black non-Hispanic 11.1%
- Asian non-Hispanic 18.4%
- Hispanic 26.3%
- Other non-Hispanic 6.5%

As noted before, due to the small number of children in the black non-Hispanic, Asian non-Hispanic, and other non-Hispanic sub-groups, cross-tabulation results for these sub-groups will not be shown as they would not be statistically reliable.

Income. The income distribution for the children was as follows:

- Low income 12.2%
- Middle income 26.5%
- High income 46.4%

- Don't know/refused 14.8%

There were no differences in income by age or gender. Hispanic children were more likely to be lower income.

Health Insurance Status. Respondents were asked if the child was covered by their own health insurance. If not, the same coverage question was asked that was asked of the adults. Frequencies are provided below for two different health coverage breakdowns for children, while cross-tabulations are provided for the broad categories:

- 91.0% of the children were covered by the adult respondents' health insurance plans.
- Detailed health insurance coverage groups
    - Medicare 0.5%
    - Medicaid 3.8%
    - NJ FamilyCare 4.0%
    - Employer-provided 69.4%
    - Other private 13.4%
    - Other 9.0%
    - Uninsured 1.8%
- Broad health insurance coverage groups
    - ***Public*** (Medicare, Medicaid, NJ FamilyCare, Other) 17.1%
    - ***Private*** (employer-provided, other private) 81.1%
    - ***Uninsured*** 1.8%
- Hispanic children were more likely to have public coverage.
- Due to the low number of uninsured children, cross-tabulated results for the uninsured are not shown as they would not be statistically reliable.

Health Status

Respondents assessed the overall, dental, and mental health status of the randomly selected child. Findings for those in fair or poor health are shown.

- Only 3.2% of the children were reported to be in ***fair or poor overall health***. Cross-tabulated results are not shown as the number of children with fair or poor health (n=12) was too small for statistical reliability.
- ***Fair or poor dental health*** was reported for 5.2% of the children overall. Again, cross-tabulated results are not shown as the number of children with fair or poor health (n=20) was too small for statistical reliability.
- ***Fair or poor mental health*** was reported for 6.4% of the children. As before, cross-tabulated results are not shown as the number of children with fair or poor health (n=25) was too small for statistical reliability.

Chronic Conditions

Despite the low prevalence of fair or poor health reported for children, many of them were reported as having been diagnosed with chronic disease.

- 23.6% of the children had been diagnosed with ***at least one chronic condition***. Older children, children in high income households, and publicly insured children were more likely to have been diagnosed with at least one chronic condition.
- 15.5% of the children had been diagnosed with ***asthma***. Older children were more likely to have been diagnosed with asthma.
- Only 0.9% of the children had been diagnosed with ***diabetes***. Cross-tabulated results are not shown as the number of children diagnosed with diabetes (n=3) was too small for statistical reliability.
- Only 0.2% of the children had been diagnosed with ***high blood pressure***. Cross-tabulated results are not shown as the number of children diagnosed with high blood pressure (n=1) was too small for statistical reliability.
- 10.0% of the children had been diagnosed with some ***other chronic condition***. Cross-tabulated results are not shown as the number of children diagnosed with some other chronic condition (n=39) was too small for statistical reliability.

Medical Utilization

Emergency department (ED) visits, doctor visits for preventive care, specialty care, and other care, and calls to the doctor in the past 12 months were also asked of the random child, along with the same follow-up questions to the ED utilization item (main reason for using the ED and waiting time in the ED before treatment).

- 18.9% of the children visited an ED in the past 12 months.
    - Boys, Hispanic children, and publicly insured children were more likely to have visited an ED.
    - Only 2.7% of the children had more than one ED visit in the past 12 months.
    - Emergency (61.2%) and after hours (30.3%) were cited most often as the main reason an ED was visited instead of a doctor's office or clinic.
    - 37.9% waited less than 15 minutes, 38.7% waited 16-30 minutes, 11.7% waited 31-60 minutes, and 11.7% waited an hour or more in the ED before receiving treatment.
- 91.5% of the children had been to the doctor for at least one well-child visit in the past 12 months. Cross-tabulated results are not shown as the number of children without a well-child visit (n=33) was too small for statistical reliability.
- A third (33.0%) of the children had at least one visit to a specialist in the past 12 months, and nearly two-thirds (63.9%) of those children had more than one specialty visit. Older children, children in higher income households, and privately insured children were

more likely to have visited a specialist, and Hispanic children and publicly insured children were less likely.

- 38.7% of the children had been to the doctor for reasons other than check-ups or specialty care in the past 21 months, and nearly three-fourths (73.4%) of those children had two or more other doctor visits. Younger children and white non-Hispanic children were more likely to have had such visits, while publicly insured children were less likely.
- 60.4% reported at least one call to a doctor regarding the child's health in the past 12 months. Calls to the doctor were more likely among younger children, and children in middle income households, and less likely among publicly insured children.

Dental Utilization

The same dental questions asked of the respondent were also asked regarding the child (number of dental visits and number of dental check-ups including cleaning in the past 12 months, times since last dental visit, dental insurance coverage, and usual place for dental care).

- About three-fourths (72.4%) of the children had seen a dentist at least once in the past 12 months. Younger children, Hispanic children, and children in middle income households were less likely to have seen a dentist, while publicly insured children were more likely.
- A nearly-identical percentage (72.1%) of the children had at least one dental check-up in the past 12 months. Again, younger children, Hispanic children, and children in middle income households were less likely to have had a dental check-up, while publicly insured children were more likely to have had a dental check-up.
- 84.9% of the children had insurance that covered at least part of their dental care. Privately-(health) insured children were less likely to have dental insurance, while publicly-(health) insured children were more likely.
- 76.7% of children got their regular dental care at a private dentist's office, while 8.5% of children went to a dental clinic, 1.9% went a hospital dental clinic, and 12.1% did not have a usual place for dental care. Younger children, boys, and Hispanic children were less likely to use a private dentist's office.

Mental Health Utilization

As for the adults, respondents were asked if the child had received any care for a mental health problem in the past 12 months and if any part of the child's mental health care was covered by insurance.

- 8.1% had received care for a mental health problem in the past 12 months, and most (82.7%) of those children had 3 or more mental health visits. Older children were more likely to have received such care.

- Of those children who received mental health care, 83.7% had insurance that covered at least part of mental health care.
    - *Note: this question was only asked of those who sought mental health care.*

Prescription Medicines

Likewise, the same items were asked about the child regarding prescription medication use in the previous month.

- About three in 10 children (29.0%) had taken at least one prescription medicine in the past month. White non-Hispanic children and higher income children were more likely to do so, while Hispanic children were less likely.

Usual Source of Care

Respondents were also asked where the child usually went for health care and what type of doctor or other provider was used.

- 12.9% of the children did not have a usual source of care, and 0.3% usually went to the ED for care. 6.7% of children usually went to a clinic of some type.
    - Hispanic children and publicly insured children were less likely to have a usual source of care.
    - Publicly insured children were more likely to use a clinic.
- Only 0.9% of the children did not have a regular doctor.
    - Pediatricians (59.2%) were cited by most as the type of doctor they considered their child's regular doctor, followed by family medicine (29.6%).
    - 5.1% considered a specialist to be their child's regular doctor.

Barriers to Care

The same five items measuring whether there were barriers to different types of care (medical care or surgery, mental health care or counseling, dental care, and prescription medicines) in the previous 12 months were asked regarding the child. Due to the low number of children with barriers reported, cross-tabulated results are not shown for any of these measures as they would not be statistically reliable.

- Overall, 11.3% had at least one barrier to care.
- Medical care barriers were reported for 4.7% of the children overall.
- Mental health barriers were reported for only 0.6% of the children overall.
- Dental care barriers were reported for 4.0% of the children overall
- 2.5% of the children delayed or did not get a prescription filled due to cost, and 2.3% of the children took less of a prescribed medication in order to make it last longer and save costs.

Socio-demographics

In addition to age, gender, race-ethnicity, and income which were used in the cross-tabulations and described earlier, some of the additional socio-demographic questions asked of the respondent were also asked regarding the randomly selected child. As before, country of birth, citizenship status, and time in US if an immigrant were combined into immigration status. In addition, receipt of free or reduced-cost school meals was assessed.

- 96.1% of the children were US-born US citizens, 1.1% were foreign-born US citizens, 0.2% were non-citizens who had been in the US more than 5 years, and 2.7% were newly immigrated non-citizens.
- 9.3% of the children received free or reduced-cost breakfast or lunch at school or daycare.

Conclusions

Adults

Table 3.5 (8 pages) gives a summary of all the adult results. If a group is significantly more likely than the other groups on a measure, then the word "more" appears in the cell. Likewise, if the group is significantly less likely than the other groups on a measure, then the word "less" appears in the cell. For those measures that indicate a health-related vulnerability or health care access concern, color highlighting has been used. Some measures are not highlighted at all as it is unclear whether being more or less likely on these measures indicates a health concern; for example, being more likely to have a specialty visit could indicate poor health but it could also indicate better access to specialty care, so this measure is not highlighted for any sub-group. Similarly, only measures related to personal health or access concerns are highlighted; for example, feeling that cancer is a problem in one's community would never be highlighted as it does not mean that the respondent has cancer. Each sub-group has the same color highlighting across all measures. At the bottom of the table, the health vulnerabilities/access concerns are summed for each sub-group. For example, adults ages 65 and over are more likely than younger adults to report fair or poor overall health. So the word "more" appears in this cell. It is also highlighted in green, which means that this is a health-related vulnerability or concern. At the bottom of the column for older adults, there is a number "8" which indicates there are 8 total health or access concerns for older adults across all measures. Table 3.5a (4 pages) is an abbreviated version of Table 3.5 that contains *only* those items that indicate a health-related vulnerability or health care access concern.

Overall, 14.2% of adults reported fair or poor general health, 18.8% reported fair or poor dental health, and 5.9% reported fair or poor mental health. Over half (56.2%) of adults had been

diagnosed with at least one chronic condition; 30.8% had been diagnosed with high blood pressure. About two-thirds of adults (66.0%) were either overweight or obese, but only 24.8% had received advice about their weight from a health care provider in the past year. 20.1% of adults had visited the ED in the past year and about a third of those had visited the ED more than once. The majority (81.2%) spent less than 30 minutes in the ED before being seen by a health care provider. 80.5% had a physical check-up and 71.7% had a dental check-up in the past year. About a fourth (27.0%) reported at least one major barrier to wanted care. Over half (52.9%) reported at least one problem with navigating the health care system; inconvenient doctor's hours and having to wait too long to get an appointment were cited most often. Prescription medication use was high, with 60.6% of adults taking at least one prescription medicine in the past month and even higher rates among older adults, females, white non-Hispanics, middle-income respondents, and those publicly insured.

Younger adults had nearly three times as many total areas of concern as older adults. Similar to the BRFSS results, younger adults reported more problems with health care access measures than older adults, but older adults fared worse on the health status measures. There were a few exceptions: younger adults were more likely to have ever been diagnosed with asthma; older adults were less likely to have dental insurance and more likely to have transportation issues when seeking medical care. Younger adults were more likely than older adults to have at least one ED visit, less likely to have either a physical or dental check-up, less likely to have a usual source or care, and more likely to have a long wait in the waiting room when visiting their regular doctor. Younger adults were more likely to report not getting care when they wanted it for all types of care: medical, dental, mental health, and prescription medicines. They were also more likely to report specific barriers when seeking medical care such as daycare, inconvenient doctor's hours, and having to wait too long to get an appointment. Younger adults also took more chances with their health as they were more likely to agree that health problems will go away if you wait long enough, that they only go to the doctor if a problem gets bad, that they prefer not to take medicines when sick, and that they are more likely to take risks than others. Encouragingly, younger adults ages 18-39 and households with children were less likely to live in a house where smoking was allowed. Older adults were more likely to report fair or poor overall health and fair or poor dental health. Older adults were also more likely to be diagnosed with diabetes, high blood pressure, or other chronic condition.

Males had about 1.5 times as many total areas of concern as females. Again similar to the BRFSS results, males fared worse on health care utilization-related measures and risky health attitudes and behaviors, while females reported more problems with access. Males were less likely than females to have a physical or dental check-up, to have a usual source of care, or to perceive themselves as overweight, and more likely to live in a home where smoking is allowed,

to be diagnosed with diabetes, or to be overweight. Male were also more likely to agree that they are okay using the ED for routine care, that health problems will go away if you wait long enough, and that they are more likely to take risks than others. Females were more likely to be diagnosed with any other chronic condition, to be obese, and to not get wanted medical care or prescriptions. Females were also more likely to report language problems with the doctor and having to wait too long to get an appointment when seeking medical care.

Hispanics and Asian non-Hispanics had the most total areas of concern. However, a close inspection of Table 3.5 reveals that for Asians, most of their concerns deal with issues related to navigating the health care system. Asians are much more likely to report hassles such as finding transportation, child care, or parking when seeking medical care, and are also more likely to report that the doctor's hours are inconvenient or that they have to wait too long to get an appointment. However, Asians do not report any barriers to getting care when they want it and fare better on most health status and utilization measures. There are two exceptions: Asians are more likely to have ever been diagnosed with diabetes and less likely to get a dental check-up; the same exceptions for Asians were found in the BRFSS data. Hispanics, on the other hand, are much more likely to report basic access problems such as getting any type of wanted care (medical, dental, mental health, or prescription medicines). Hispanics are also less likely to have a usual source of care, less likely to get physical or dental check-ups. Both Hispanics and Asians are more likely to have risky health-related attitudes.

As shown on Table 3.5, Black non-Hispanics had a moderate number of concerns, but the total for blacks was about half the number for Hispanics and Asians. It is possible that health disparities may be improving for blacks in some areas. However, it should also be noted that the results for blacks should be interpreted with caution as there were fewer than five black adults in the low income group, which is not sufficient for statistical reliability and so results may not be representative of the low-income black population. There were still some areas of concern, though. Blacks were more likely to be uninsured, to have ever been diagnosed with high blood pressure, to be obese, to use the ED as their regular source of care, to not get wanted medical or dental care, and to report being treated worse due to race when seeking medical care. Blacks were less likely to have a dental check-up or dental insurance. On a positive note, blacks and whites were equally likely to have appropriate health-related attitudes, and blacks were most likely to feel that health insurance is necessary even if healthy. White non-Hispanics fared better on most measures, with the exception that they were more likely to have ever been diagnosed with high blood pressure or other chronic condition.

Both low and middle income respondents fared worse on many measures. Both groups were less likely to have health or dental insurance or to have had a physical or dental check-up. Both

groups were also more likely to report barriers to wanted dental or mental health care or hassles such as problems with transportation, day care, and parking when seeking medical care, and both groups had riskier health-related attitudes. But there were also some differences between the two groups. The middle income group fared worse on health status measures. They were more likely to report fair or poor overall health, dental health, and mental health, and also more likely to have ever been diagnosed with diabetes or high blood pressure. However, low income respondents were more likely to have been diagnosed with asthma. Middle income respondents were more likely to be overweight, while low income respondents were more likely to be obese. Low income respondents were more likely to have at least one ED visit and less likely to have a usual source of care.

Overall, the uninsured had the most health concerns or vulnerabilities compared to any other sub-group. They fared worse on dental health status although they were not significantly different from the publicly or privately insured for overall health status and mental health status. Surprisingly, they did not report higher diagnosis rates for any of the chronic conditions. This could be due to lower illness, but it could also be due to less opportunity for diagnosis since this group was much less likely to have had check-ups. The uninsured also fared worse on most health care utilization measures and access measures (both general and specific), and had riskier health-related attitudes.

Similar to the BRFSS findings, the health-related disparities among the lower income respondents and the uninsured are quite large, and it appears that some racial-ethnic disparities seem to be improving. However, many disparities remain, and there are new challenges with the growing Asian non-Hispanic population who seem to be facing specific problems with navigating the health care system.

Children

Table 3.8 (6 pages) gives a similar summary of all the results for children. Due to the low number of children in some sub-groups and for certain responses to some measures, cross-tabulation results for these groups or items are not displayed due to lack of statistical reliability. This limits the interpretation of results for these sub-groups and measures.

For those comparisons that were able to be made, Hispanic children and publicly insured children had the most health or access concerns, followed by children from middle income households. The number of uninsured children, low income children, black non-Hispanic children, Asian non-Hispanic children, and children of other race was too low to conduct cross-tabulations for any of the measures, but it is likely that many in these sub-groups also have more health or access concerns.

Younger children (ages 0-9) were less likely than older children to get a dental check-up and less likely to visit a private dentist's office for regular dental care. Older children (ages 10-17) were more likely to have ever been diagnosed with asthma or any chronic condition, and were more likely to have sought mental health care.

Boys were more likely than girls to have had at least one ED visit in the past 12 months and were less likely to visit a private dentist's office for regular dental care. Boys were also more likely to receive free or reduced cost breakfast or lunch at school.

Hispanic children were more likely to live in low-income households and to receive free or reduced cost breakfast or lunch at school, and were more likely to have had at least one ED visit in the past 12 months. Hispanic children were less likely to have a usual source for medical care, and were also less likely to have had a dental visit in the past year or to visit a private dentist's office for regular dental care.

Children in middle-income households were more likely than those in high-income households to receive free or reduced cost breakfast or lunch at school, and were less likely to have a usual source for medical care, to have had a dental check-up in the past 12 months, or to have dental insurance. Children in high-income households were more likely to have ever been diagnosed with asthma.

Publicly insured children were more likely to live in low-income households, to receive free or reduced cost breakfast or lunch at school, and to have had at least one ED visit in the past 12 months, and were less likely to have a usual source for medical care. They were also more likely to have ever been diagnosed with any chronic condition. However, publicly insured children fared well in the dental utilization measures as they were more likely to have had a dental check-up in the previous year and to have dental insurance. Privately insured children were less likely to have dental insurance.

In summary, not having a usual source for medical care was a problem across many sub-groups of children. One or more dental utilization measures were also problematic for nearly all groups. Over 15% of the children overall had ever been diagnosed with asthma, so this remains a concern. Nearly one in five children had at least one ED visit in the past year, and this was even more likely in several sub-groups of children. Taking at least one prescription medication in the past month was reported for nearly one in three children, and was even higher among white non-Hispanic children (44.9%) and children in high-income households (41.9%).

Table 3.1: Sample Size for Each Zip Code, Middlesex County and Two Somerest County Zip Codes

(unweighted)

Zip Code	N	
07001	21	
07008	22	
07064	4	
07067	24	
07077	4	
07080	30	
07095	20	
08512	14	
08536	20	
08810	10	
08812	17	
08816	54	
08817	53	
08818	1	
08820	45	
08823	16	(Somerset County)
08824	12	
08828	5	
08830	21	
08831	54	
08832	3	
08837	18	
08840	19	
08846	20	
08850	11	
08852	21	
08854	72	
08855	1	
08857	46	
08859	20	
08861	49	
08863	16	
08872	22	
08873	63	(Somerset County)
08879	30	
08882	18	
08884	8	
08901	54	
08902	42	
08903	2	
08904	18	
Total	**1,000**	

Source: Data from 2012 SPUH/RWJUH Community Health Needs Assessment Survey;
fieldwork & analysis by PRC; tabulations by Rutgers Center for State Health Policy.

Table 3.2: Individual Characteristics, Adults Ages 18+, Middlesex County and Two Zip Codes in Somerset County (separately and together)

(unweighted)

	Middlesex County	2 Somerset County Zips	Combined Sample
	N	N	N
Total Adult Sample	895	105	1,000
Age			
18-64	660	79	739
65+	219	25	244
Don't know/refused	16	1	17
Gender			
Male	294	39	333
Female	559	62	621
Don't know/refused	42	4	46
Race-ethnicity			
White non-Hispanic	638	64	702
Black non-Hispanic	71	20	91
Hispanic	78	9	87
Asian non-Hispanic	70	7	77
Other non-Hispanic	20	3	23
Don't know/refused	18	2	20
Income (household)			
Low	126	13	139
Middle	207	21	228
High	355	44	399
Don't know/refused	207	27	234
Health Insurance (18-64)			
Public	103	14	117
Private	498	64	562
Uninsured	55	1	56
Don't know/refused	4	0	4

Source: Data from 2012 SPUH/RWJUH Community Health Needs Assessment Survey; fieldwork & analysis by PRC; tabulations by Rutgers Center for State Health Policy.

Table 3.3: Phone Characteristics, Adults Ages 18+, Middlesex County and Two Zip Codes in Somerset County

(unweighted)

	Landline		Cell Phone	
	%	N	%	N
Total	75.0	750	25.0	250
Age				
18-64	72.5	536	27.5	203
65+	83.6	204	16.4	40
Gender				
Male	64.9	216	35.1	117
Female	78.6	468	21.4	133
Race-ethnicity				
White non-Hispanic	78.2	549	21.8	153
Black non-Hispanic	65.9	60	34.1	31
Hispanic	64.4	56	35.6	31
Asian non-Hispanic	67.5	52	32.5	25
Other non-Hispanic	73.9	17	26.1	6
Income (household)				
Low	74.8	104	25.2	35
Middle	75.0	171	25.0	57
High	74.2	296	25.8	103
Don't know/refused	76.8	179	23.2	54
Health Insurance (18-64)				
Public	72.6	85	27.4	32
Private	72.6	408	27.4	154
Uninsured	71.4	40	28.6	16

Source: Data from 2012 SPUH/RWJUH Community Health Needs Assessment Survey; fieldwork & analysis by PRC; tabulations by Rutgers Center for State Health Policy.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 3.4: Individual Characteristics, Adults Ages 18+, Middlesex County and Two Zip Codes in Somerset County and Total New Jersey

	Middlesex County		2 Somerset County Zips		Combined Sample		New Jersey*
	%	N	%	N	%	N	%
Total Adult Population	89.7	897	10.3	103	100.0	1,000	100.0
Age							
18-64	81.5	719	86.4	89	82.0	808	82.0
65+	18.5	163	13.6	14	18.0	177	18.0
Gender							
Male	48.9	417	52.9	54	49.3	470	48.3
Female	51.1	436	47.1	48	50.7	484	51.7
Race-ethnicity							
White non-Hispanic	53.0	466	35.0	36	51.1	502	62.1
Black non-Hispanic	12.8	113	11.7	12	12.7	125	13.1
Hispanic	15.5	136	37.9	39	14.9	175	14.5
Asian non-Hispanic	15.0	132	14.6	15	17.8	147	7.6
Other non-Hispanic	3.8	33	1.0	1	3.4	34	2.7
Income (household)**							
Low	11.6	103	5.8	6	11.0	109	16.4
Middle	23.3	207	18.4	19	22.7	225	17.3
High	44.5	395	54.4	56	45.6	451	49.5
Don't know/refused	20.6	183	21.4	22	20.7	205	16.8
Health Insurance (18-64)							
Public	16.0	113	16.7	15	16.1	128	86.3***
Private	74.9	529	82.2	74	75.8	603	
Uninsured	9.1	64	1.1	1	8.2	65	13.7

Source: Data from 2012 SPUH/RWJUH Community Health Needs Assessment Survey; fieldwork & analysis by PRC; tabulations by Rutgers Center for State Health Policy.

* Data from 2010 BRFSS.

** Survey data based on % Federal Poverty Level; state BRFSS data based on income only.

*** BRFSS reports only insured and uninsured.

Note: Don't know and refused responses excluded unless > 5%, so cell sizes may not total full sample size.

Table 3.5: Summary of Results - Adults, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	18-64	65+	Male	Female	White	Black	Asian	Hispanic
Age									
18-64	82.0								
65+	18.0								
Gender									
Males	49.3								
Females	50.7								
Race-Ethnicity									
White non-Hispanic	51.1								
Black non-Hispanic	12.7								
Asian non-Hispanic	14.9								
Hispanic	17.8								
Other	3.4								
Income (% FPL)									
Low	11.0							more	more
Middle	22.7		more				more		more
High	45.6	more				more	more		
Don't know/Refused	20.7								
Health Insurance Coverage									
Public	28.4							less	more
Private	64.9								
Uninsured	6.7						more		
Community Concerns									
Affordable childcare	58.8		less						
Domestic violence	49.8								
Elder abuse/neglect	46.2								more
STDs	40.9		less						more
Unemployment/job security	78.8				more			less	
Places to exercise	32.1		less					more	
Finding fresh fruits/veggies	24.6								
Alcohol/drug abuse	62.8				more				
Cancer	70.9				more			less	

Table 3.5: Summary of Results - Adults, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	18-64	65+	Male	Female	White	Black	Asian	Hispanic
Unsafe in Neighborhood	33.1						more	more	more
Health Status									
Overall health fair/poor	14.2		more						
Dental health fair/poor	18.8		more						
Mental health fair/poor	5.9								
Chronic Conditions									
Asthma	17.3	more							
Diabetes	14.0		more	more				more	
High blood pressure	30.8		more			more	more		less
Other chronic condition	24.8		more		more	more		less	
Any chronic condition	56.2								
Obesity									
Overweight	38.0			more				more	more
Obese	28.0				more		more		
Perceived overweight	60.0			less				less	less
Doc advice about weight	24.8			less				less	less
Smoking Allowed in Home	10.9			more			less	more	less
Medical Utilization									
ED visits	20.1	more							
>1 ED visit	5.9								
Main reason for ED visit was emerg	63.1	--	--	--	--	--	--	--	--
Waiting time in ED	81.2% <30 min	--	--	--	--	--	--	--	--
Check-ups	80.5	less		less					less
Specialty visits	52.8		more			more	less		more
Other doctor visits	33.3		more			more		less	
Calls to doctor	48.3		more		more	more	more	less	less
Dental Utilization									
Dental visits	75.1	less		less			less	less	less
Dental check-ups	71.7	less		less			less	less	less
Dental insurance	70.5		less**	less					
Usual Source of Dental Care									
Dental clinic	8.5			more				more	
No regular source of dental care	7.0								more

Table 3.5: Summary of Results - Adults, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	18-64	65+	Male	Female	White	Black	Asian	Hispanic
Mental Health Utilization									
Mental health visits	8.1				more	more			
Mental health coverage	75.0 who got care	--	--	--	--	--	--	--	--
Prescription Medicines									
Rx past month	60.6		more		more	more		less	less
Health Information Source									
Internet	62.4	more			more				
Social media	8.1	more						more	more
Television	35.2		more					more	
Friends or family	57.8	more			more				
Church	9.9						more		
Health Promotion Events	18.3						more	less	less
Usual Source of Medical Care									
Has usual place	86.3	less		less					less
Clinic is usual place	8.3			more			more	more	more
ED is usual place	1.6						more		
Reg doc is a specialist	9.6		more			more			
Long wait time at reg doc office	10.5 >30 min	more		more					more
Barriers to Care									
At least one barrier	27.0	more			more				more
Medical care	8.3	more			more		more		more
Mental health care	3.0	more							more
Dental care	8.6	more					more		more
Prescription meds - did not get	15.4	more			more				more
Prescription meds - reduce dose	11.3				more				more
Specific Barriers to Medical Care									
Any problem	52.9								
Transportation	7.6		more					more	
Day care (childcare)	10.7	more						more	
Parking	16.0							more	more
Doc doesn't speak same language	8.0				more				
Doc's hours inconvenient	35.3	more						more	
Wait too long to get appt	34.8	more			more			more	
Treated worse due to race	1.9						more		more

Table 3.5: Summary of Results - Adults, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	18-64	65+	Male	Female	White	Black	Asian	Hispanic
Attitudes re Health, Healthcare									
Public clinics ok	41.3	more		more				more	
ER ok for routine care	34.2			more				more	more
Health insur nec, even if healthy	96.3						less		
Wait, health probs go away	29.7	more		more				more	
Only go to doc if prob gets bad	57.6	more						more	more
Prefer not to take meds if sick	40.1	more							less
More likely to take risks	34.2	more		more				more	more
Emergency Preparedness									
Evacuation plan	30.0							less	more
Documents & essentials organized	49.6	less						less	more
Socio-Demographics									
Immigration status									
US born US citizen	75.2								
Foreign-born US citizen	19.2	more		more				more	more
Non-citizen	5.6	more		more				more	
English spoken at home	84.7	--	--	--	--	--	--	--	--
Number of adults in HH		--	--	--	--	--	--	--	--
Number of children in HH		--	--	--	--	--	--	--	--
Total number in HH		--	--	--	--	--	--	--	--
Own home (vs rent)	81.8	less					less		less
Married	64.0							more	
Education	53.4 college+		less					more	
Employed	64.1 emp, 9.0 unemp	less			less		less	less	less
Government assistance	19.6			more					
Phone Status									
Landline only	5.9		more			more			
Cell only	4.6	more		more					more
Landline + cell	86.6								
Service interruption	12.1	more							
Total Health-Related Concerns		**23**	**8**	**15**	**9**	**2**	**12**	**22**	**24**

Table 3.5: Summary of Results - Adults, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Age							
18-64	82.0						
65+	18.0						
Gender							
Males	49.3						
Females	50.7						
Race-Ethnicity							
White non-Hispanic	51.1						
Black non-Hispanic	12.7						
Asian non-Hispanic	14.9						
Hispanic	17.8						
Other	3.4						
Income (% FPL)		--	--	--			
Low	11.0						more
Middle	22.7				more		more
High	45.6					more	
Don't know/Refused	20.7						
Health Insurance Coverage					--	--	--
Public	28.4	more					
Private	64.9						
Uninsured	6.7	more	more				
Community Concerns							
Affordable childcare	58.8						less
Domestic violence	49.8						
Elder abuse/neglect	46.2				less		more
STDs	40.9						
Unemployment/job security	78.8		more				more
Places to exercise	32.1						
Finding fresh fruits/veggies	24.6	more					more
Alcohol/drug abuse	62.8		more		less		less
Cancer	70.9						

Table 3.5: Summary of Results - Adults, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Unsafe in Neighborhood	33.1	more	more				more
Health Status							
Overall health fair/poor	14.2		more		more		
Dental health fair/poor	18.8		more				more
Mental health fair/poor	5.9		more				
Chronic Conditions							
Asthma	17.3	more			more		less
Diabetes	14.0		more				
High blood pressure	30.8		more				
Other chronic condition	24.8						
Any chronic condition	56.2						
Obesity							
Overweight	38.0		more				
Obese	28.0	more					
Perceived overweight	60.0				less		less
Doc advice about weight	24.8						less
Smoking Allowed in Home	10.9		more				
Medical Utilization							
ED visits	20.1	more			more		more
>1 ED visit	5.9				more		more
Main reason for ED visit was emerg	63.1	--	--	--	--	--	--
Waiting time in ED	81.2% <30 min	--	--	--	--	--	--
Check-ups	80.5	less	less		more		less
Specialty visits	52.8				more		less
Other doctor visits	33.3		more				
Calls to doctor	48.3						less
Dental Utilization							
Dental visits	75.1	less	less				less
Dental check-ups	71.7	less	less				less
Dental insurance	70.5	less	less		more		less
Usual Source of Dental Care							
Dental clinic	8.5	more			more		more
No regular source of dental care	7.0						

Table 3.5: Summary of Results - Adults, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Mental Health Utilization							
Mental health visits	8.1						
Mental health coverage	75.0 who got care	--	--	--	--	--	--
Prescription Medicines							
Rx past month	60.6		more		more		less
Health Information Source							
Internet	62.4			more	less		
Social media	8.1	more			more		
Television	35.2						
Friends or family	57.8						
Church	9.9						
Health Promotion Events	18.3	less		more			less
Usual Source of Medical Care							
Has usual place	86.3	less					less
Clinic is usual place	8.3	more			more		
ED is usual place	1.6	more					more
Reg doc is a specialist	9.6		more		more		
Long wait time at reg doc office	10.5 >30 min	more					more
Barriers to Care							
At least one barrier	27.0	more					more
Medical care	8.3						more
Mental health care	3.0	more	more				more
Dental care	8.6	more	more				more
Prescription meds - did not get	15.4	more					more
Prescription meds - reduce dose	11.3	more	more				
Specific Barriers to Medical Care							
Any problem	52.9						
Transportation	7.6	more	more				more
Day care (childcare)	10.7	more	more				
Parking	16.0	more	more		more		more
Doc doesn't speak same language	8.0						
Doc's hours inconvenient	35.3				less		
Wait too long to get appt	34.8						more
Treated worse due to race	1.9						more

Table 3.5: Summary of Results - Adults, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Attitudes re Health, Healthcare							
Public clinics ok	41.3	more	more		more		more
ER ok for routine care	34.2	more	more		more		more
Health insur nec, even if healthy	96.3	less	less				less
Wait, health probs go away	29.7	more	more				
Only go to doc if prob gets bad	57.6	more	more		less		more
Prefer not to take meds if sick	40.1				less		
More likely to take risks	34.2	more	more				more
Emergency Preparedness							
Evacuation plan	30.0				more		less
Documents & essentials organized	49.6				more		less
Socio-Demographics							
Immigration status							
US born US citizen	75.2				more	more	
Foreign-born US citizen	19.2	more	more				more
Non-citizen	5.6						
English spoken at home	84.7	--	--	--	--	--	--
Number of adults in HH		--	--	--	--	--	--
Number of children in HH		--	--	--	--	--	--
Total number in HH		--	--	--	--	--	--
Own home (vs rent)	81.8	less	less				less
Married	64.0						
Education	53.4 college+	less	less		less		less
Employed	64.1 emp, 9.0 unemp	less	less		less		
Government assistance	19.6	more	more		more		more
Phone Status							
Landline only	5.9						more
Cell only	4.6	more	more				
Landline + cell	86.6						
Service interruption	12.1	more					
Total Health-Related Concerns		**30**	**27**	**0**	**10**	**0**	**32**

Table 3.5a: Access Concerns from Summary of Results - Adults, 2012 Phone Survey, Middlesex County + Two Zip Codes in Somerset County

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	18-64	65+	Male	Female	White	Black	Asian	Hispanic
Low income	11.0							more	more
Uninsured	6.7						more		
Unsafe in Neighborhood	33.1						more	more	more
Overall health fair/poor	14.2		more						
Dental health fair/poor	18.8		more						
Mental health fair/poor	5.9								
Asthma	17.3	more							
Diabetes	14.0		more	more				more	
High blood pressure	30.8		more			more	more		less
Other chronic condition	24.8		more		more	more		less	
Any chronic condition	56.2								
Overweight	38.0			more				more	more
Obese	28.0				more		more		
Perceived overweight	60.0			less				less	less
Doc advice about weight	24.8			less				less	less
Smoking Allowed in Home	10.9			more			less	more	less
ED visits	20.1	more							
>1 ED visit	5.9								
Check-ups	80.5	less		less					less
Dental check-ups	71.7	less		less			less	less	less
Dental insurance	70.5		less**	less					
No regular source of dental care	7.0								more
Health Promotion Events	18.3						more	less	less
Usual Source of Medical Care									
Has usual place	86.3	less		less					less
ED is usual place	1.6						more		
Long wait time at reg doc office	10.5 >30 min	more		more					more

Table 3.5a: Access Concerns from Summary of Results - Adults, 2012 Phone Survey, Middlesex County + Two Zip Codes in Somerset County

(continued)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	18-64	65+	Male	Female	White	Black	Asian	Hispanic
Barriers to Care									
At least one barrier	27.0	more			more				more
Medical care	8.3	more			more		more		more
Mental health care	3.0	more							more
Dental care	8.6	more					more		more
Prescription meds - did not get	15.4	more			more				more
Prescription meds - reduce dose	11.3				more				more
Specific Barriers to Medical Care									
Any problem	52.9								
Transportation	7.6		more					more	
Day care (childcare)	10.7	more						more	
Parking	16.0							more	more
Doc doesn't speak same language	8.0				more				
Doc's hours inconvenient	35.3	more						more	
Wait too long to get appt	34.8	more			more			more	
Treated worse due to race	1.9						more		more
Attitudes re Health, Healthcare									
ER ok for routine care	34.2			more				more	more
Health insur nec, even if healthy	96.3						less		
Wait, health probs go away	29.7	more		more				more	
Only go to doc if prob gets bad	57.6	more						more	more
Prefer not to take meds if sick	40.1	more							less
More likely to take risks	34.2	more		more				more	more
Emergency Preparedness									
Evacuation plan	30.0							less	more
Documents & essentials organized	49.6	less						less	more
Socio-Demographics									
Non-citizen	5.6	more		more				more	
Own home (vs rent)	81.8	less					less		less
Education	53.4 college+		less					more	
Employed	64.1 emp, 9.0 unemp	less			less		less	less	less
Government assistance	19.6			more					
Phone service interruption	12.1	more							
Total Health-Related Concerns		**23**	**8**	**15**	**9**	**2**	**12**	**22**	**24**

Table 3.5a: Access Concerns from Summary of Results - Adults, 2012 Phone Survey, Middlesex County + Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Low income	11.0						more
Uninsured	6.7	more	more				
Unsafe in Neighborhood	33.1	more	more				more
Overall health fair/poor	14.2		more		more		
Dental health fair/poor	18.8		more				more
Mental health fair/poor	5.9		more				
Asthma	17.3	more			more		less
Diabetes	14.0		more				
High blood pressure	30.8		more				
Other chronic condition	24.8						
Any chronic condition	56.2						
Overweight	38.0		more				
Obese	28.0	more					
Perceived overweight	60.0				less		less
Doc advice about weight	24.8						less
Smoking Allowed in Home	10.9		more				
ED visits	20.1	more			more		more
>1 ED visit	5.9				more		more
Check-ups	80.5	less	less		more		less
Dental check-ups	71.7	less	less				less
Dental insurance	70.5	less	less		more		less
No regular source of dental care	7.0						
Health Promotion Events	18.3	less		more			less
Usual Source of Medical Care							
Has usual place	86.3	less					less
ED is usual place	1.6	more					more
Long wait time at reg doc office	10.5 >30 min	more					more

Table 3.5a: Access Concerns from Summary of Results - Adults, 2012 Phone Survey, Middlesex County + Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Barriers to Care							
At least one barrier	27.0	more					more
Medical care	8.3						more
Mental health care	3.0	more	more				more
Dental care	8.6	more	more				more
Prescription meds - did not get	15.4	more					more
Prescription meds - reduce dose	11.3	more	more				
Specific Barriers to Medical Care							
Any problem	52.9						
Transportation	7.6	more	more				more
Day care (childcare)	10.7	more	more				
Parking	16.0	more	more		more		more
Doc doesn't speak same language	8.0						
Doc's hours inconvenient	35.3				less		
Wait too long to get appt	34.8						more
Treated worse due to race	1.9						more
Attitudes re Health, Healthcare							
ER ok for routine care	34.2	more	more		more		more
Health insur nec, even if healthy	96.3	less	less				less
Wait, health probs go away	29.7	more	more				
Only go to doc if prob gets bad	57.6	more	more		less		more
Prefer not to take meds if sick	40.1				less		
More likely to take risks	34.2	more	more				more
Emergency Preparedness							
Evacuation plan	30.0				more		less
Documents & essentials organized	49.6				more		less
Socio-Demographics							
Non-citizen	5.6						
Own home (vs rent)	81.8	less	less				less
Education	53.4 college+	less	less		less		less
Employed	64.1 emp, 9.0 unemp	less	less		less		
Government assistance	19.6	more	more		more		more
Phone service interruption	12.1	more					
Total Health-Related Concerns		**30**	**27**	**0**	**10**	**0**	**32**

Table 3.6: Individual Characteristics, Children Ages 0-17, Middlesex County and Two Zip Codes in Somerset County (combined)

(unweighted)

	Combined Sample
	N
Total Child Sample	287
Age	
0-9	142
10-17	145
Don't know/refused	0
Gender	
Male	151
Female	136
Don't know/refused	0
Race-ethnicity	
White non-Hispanic	142
Black non-Hispanic	30
Hispanic	50
Asian non-Hispanic	37
Other non-Hispanic	17
Don't know/refused	11
Income (household)	
<$25k	36
$25k to < $50k	84
$50k +	114
Don't know/refused	53
Health Insurance (18-64)	
Public	56
Private	222
Uninsured	3
Don't know/refused	6

Source: Data from 2012 SPUH/RWJUH Community Health Needs Assessment Survey; fieldwork & analysis by PRC; tabulations by Rutgers Center for State Health Policy.

Table 3.7: Individual Characteristics, Children Ages 0-17, Middlesex County and Two Zip Codes in Somerset County (combined)

	Combined Sample	
	%	N
Total Child Sample	100.0	397
Age		
0-9	62.7	243
10-17	37.3	144
Gender		
Male	56.3	223
Female	43.7	174
Race-ethnicity		
White non-Hispanic	37.8	139
Black non-Hispanic	11.1	41
Hispanic	26.3	96
Asian non-Hispanic	18.4	68
Other non-Hispanic	6.5	24
Don't know/refused	8.6	30
Income (household)		
<$25k	12.2	48
$25k to < $50k	26.5	105
$50k +	46.4	184
Health Insurance (18-64)		
Public	17.1	64
Private	81.1	305
Uninsured	1.8	7

Source: Data from 2012 SPUH/RWJUH Community Health Needs Assessment Survey; fieldwork & analysis by PRC; tabulations by Rutgers Center for State Health Policy.

Table 3.8: Summary of Results - Children, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

(--) data suppressed, denominator <50

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	0-9	10-17	Boys	Girls	White	Black	Asian	Hispanic
Age									
0-9	62.7								
10-17	37.3								
Gender									
Boys	56.3								
Girls	43.7								
Race-Ethnicity									
White non-Hispanic	37.8								
Black non-Hispanic	11.1								
Asian non-Hispanic	6.5								
Hispanic	26.3								
Other	6.5								
Income (% FPL)									
Low	12.2							--	more
Middle	26.5							--	more
High	46.4					more	--	--	
Don't know/Refused	14.8								
Health Insurance Coverage									
Public	17.1						--	--	more
Private	81.1								
Uninsured	1.8	--	--	--	--	--	--	--	--
Health status									
Overall health fair/poor	3.2	--	--	--	--	--	--	--	--
Dental health fair/poor	5.2	--	--	--	--	--	--	--	--
Mental health fair/poor	6.4	--	--	--	--	--	--	--	--
Chronic Conditions									
Asthma	15.5		more				--	--	
Diabetes	0.9	--	--	--	--	--	--	--	--
High blood pressure	0.2	--	--	--	--	--	--	--	--
Other chronic condition	10.0	--	--	--	--	--	--	--	--
Any chronic condition	23.6		more						

Table 3.8: Summary of Results - Children, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

(--) data suppressed, denominator <50

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	0-9	10-17	Boys	Girls	White	Black	Asian	Hispanic
Medical Utilization									
ED visits	18.9			more			--		more
>1 ED visit	2.7	--	--	--	--	--	--	--	--
Main reason for ED visit was emerg	61.2								
Waiting time in ED	76.6% <30 min								
Check-ups	91.5						--	--	
Specialty visits	33.0		more				--	--	less
Other doctor visits	38.7	more				more	--		
Calls to doctor	60.4	more					--	--	
Dental Utilization									
Dental visits	72.4	less					--	--	less
Dental check-ups	72.1	less					--	--	less
Dental insurance	84.9								
Usual Source of Dental Care									
Private dentist office	76.7	less		less			--	--	less
Dental clinic	8.5	--	--	--	--	--	--	--	--
Hospital dental clinic	1.9	--	--	--	--	--	--	--	--
No regular source of dental care	12.1						--	--	
Mental Health Utilization									
Mental health visits	8.1		more				--	--	
Mental health coverage	83.7 who got care						--	--	
Prescription Medicines									
Rx past month	29.0					more	--	--	less
Usual Source of Medical Care									
Has usual place	87.1						--	--	less
Clinic is usual place	6.7	--	--	--	--	--	--	--	--
ED is usual place	0.3	--	--	--	--	--	--	--	--
Reg doc is a specialist	5.1	--	--	--	--	--	--	--	--

Table 3.8: Summary of Results - Children, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

(--) data suppressed, denominator <50

		Age		Gender		Race-Ethnicity			
Measure	**Overall %**	0-9	10-17	Boys	Girls	White	Black	Asian	Hispanic
Barriers to Care									
At least one barrier	11.3	--	--	--	--	--	--	--	--
Medical care	4.7	--	--	--	--	--	--	--	--
Mental health care	0.6	--	--	--	--	--	--	--	--
Dental care	4.0	--	--	--	--	--	--	--	--
Prescription meds - did not get	2.5	--	--	--	--	--	--	--	--
Prescription meds - reduce dose	2.3	--	--	--	--	--	--	--	--
Other Socio-Demographics									
Immigration status									
US born US citizen	96.1			less			--	--	less
Foreign-born US citizen	1.1	--	--	--	--	--	--	--	--
Non-citizen	2.9	--	--	--	--	--	--	--	--
Free/reduced cost breakfast/lunch	9.3			more			--	--	more
Total Health-Related Concerns		**2**	**2**	**3**	**0**	**0**	**--**	**--**	**6**

Table 3.8: Summary of Results - Children, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

(--) data suppressed, denominator <50

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Age							
0-9	62.7						
10-17	37.3						
Gender							
Boys	56.3						
Girls	43.7						
Race-Ethnicity							
White non-Hispanic	37.8						
Black non-Hispanic	11.1						
Asian non-Hispanic	6.5						
Hispanic	26.3						
Other	6.5						
Income (% FPL)							
Low	12.2				--		--
Middle	26.5						--
High	46.4						--
Don't know/Refused	14.8						--
Health Insurance Coverage							
Public	17.1	--					--
Private	81.1						--
Uninsured	1.8	--	--	--	--	--	--
Health status							
Overall health fair/poor	3.2	--	--	--	--	--	--
Dental health fair/poor	5.2	--	--	--	--	--	--
Mental health fair/poor	6.4	--	--	--	--	--	--
Chronic Conditions							
Asthma	15.5	--		more			--
Diabetes	0.9	--	--	--	--	--	--
High blood pressure	0.2	--	--	--	--	--	--
Other chronic condition	10.0	--	--	--	--	--	--
Any chronic condition	23.6	--		more	more		--

Table 3.8: Summary of Results - Children, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

(--) data suppressed, denominator <50

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Medical Utilization							
ED visits	18.9	--			more		--
>1 ED visit	2.7	--	--	--	--	--	--
Main reason for ED visit was emerg	61.2						--
Waiting time in ED	76.6% <30 min						--
Check-ups	91.5	--					--
Specialty visits	33.0	--		more	less	more	--
Other doctor visits	38.7	--			less		--
Calls to doctor	60.4	--	more		less		--
Dental Utilization							
Dental visits	72.4	--	less		more		--
Dental check-ups	72.1	--	less		more		--
Dental insurance	84.9	--	less		more	less	--
Usual Source of Dental Care							
Private dentist office	76.7	--					--
Dental clinic	8.5	--	--	--	--	--	--
Hospital dental clinic	1.9	--	--	--	--	--	--
No regular source of dental care	12.1						--
Mental Health Utilization							
Mental health visits	8.1	--					--
Mental health coverage	83.7 who got care	--					--
Prescription Medicines							
Rx past month	29.0	--		more			--
Usual Source of Medical Care							
Has usual place	87.1	--	less		less		--
Clinic is usual place	6.7	--	--	--	--	--	--
ED is usual place	0.3	--	--	--	--	--	--
Reg doc is a specialist	5.1	--	--	--	--	--	--

Table 3.8: Summary of Results - Children, 2012 Phone Survey, Middlesex County and Two Zip Codes in Somerset County

(continued)

(Income and Insurance Coverage Groups)

** more = more likely, less = less likely than overall %*

*** highlighted cells indicate health access concern*

(--) data suppressed, denominator <50

		Income (% FPL)			Health Insurance Coverage		
Measure	**Overall %**	Low	Middle	High	Public	Private	Uninsured
Barriers to Care							
At least one barrier	11.3	--	--	--	--	--	--
Medical care	4.7	--	--	--	--	--	--
Mental health care	0.6	--	--	--	--	--	--
Dental care	4.0	--	--	--	--	--	--
Prescription meds - did not get	2.5	--	--	--	--	--	--
Prescription meds - reduce dose	2.3	--	--	--	--	--	--
Socio-Demographics							
Immigration status							
US born US citizen	96.1	--					--
Foreign-born US citizen	1.1	--	--	--	--	--	--
Non-citizen	2.9	--	--	--	--	--	--
Free/reduced cost breakfast/lunch	9.3	--	more		more		--
Total Health-Related Concerns		**--**	**4**	**1**	**5**	**1**	**--**

Chapter 4: Community Input: 2012 Key Informant Interviews and Consumer Focus Groups

Introduction

The qualitative study described in this report was conducted by researchers from Robert Wood Johnson Medical School (RWJMS) Department of Family Medicine and Community Health, Research Division. The primary objectives of the qualitative study were pursued through three questions:

1. What is the experience of Somerset/Middlesex County residents in accessing medical care?
2. What are the health services and resources most needed now to improve community member's health?
3. What are the barriers to accessing health care?

The Patient Protection Affordable Care Act requires that the community health needs assessment "takes into account input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge of or expertise in public health" (U.S. Congress 2010). To meet the objectives of the assessment and the requirements of the law, this qualitative study employed two data collection strategies: 1) key informant interviews with community stakeholders and leaders from Somerset/Middlesex Counties, and 2) focus groups with health care consumers (sometimes referred to as participants) who live in Somerset/Middlesex Counties. Because these two strategies entailed different subjects and different methods, we outline details of each separately below.

Methods

Key Informant Interviews

From mid-June to early August 2012, four field researchers (including one bi-lingual in Spanish/English) conducted key informant interviews with community stakeholders to develop a deeper understanding of health care needs and gaps in care in Middlesex and Somerset Counties. The field researchers used a semi-structured guide, which included key "grand tour" questions (see Appendix A) to ensure data collection consistency. This format allowed for

questions or probes to emerge during the conversation to elicit more in-depth responses to the three primary research questions (noted above).

Researchers interviewed 26 key informants who had particular knowledge about a topic (e.g., drug abuse) or setting (e.g., local health clinic) and were willing to serve as information sources for the researchers (DiCicco-Bloom and Crabtree 2006). All key informants were age 18 or older and had pertinent knowledge about health care service delivery in Middlesex and/or Somerset Counties. The two hospitals provided three community collaborators to the project. The RWJMS researchers used a purposive sampling strategy, for which the hospital collaborators provided contact information and helped facilitate subject recruitment. A purposive sampling strategy is an established qualitative method for recruiting key informants (Kuzel 1999). Researchers and hospital collaborators attempted to cover both a broad range of issues as well as the geographic areas served by both hospitals. Subjects were interviewed in an iterative fashion with ongoing analysis of interview data informing subsequent interviews.

Key informant subject recruitment included:

- Three safety net personnel
- Four staff members from community based organizations (CBO)
- Four government officials and health department personnel
- One staff member from a CBO focused on drug-alcohol addiction
- One staff member from a CBO focused on domestic violence
- One emergency medical personnel
- Two staff members from a CBO focused on mental health
- One staff member from higher education focused on developmental disabilities
- Four health care providers
- One pastor a community based church
- Two school nurses
- Two senior center directors

Subjects were interviewed at their preferred location, mostly in the subjects' personal offices. Field researchers on this project were trained to ensure privacy and confidentiality and obtained signed informed consent and audio consent forms from all subjects. All interviews were digitally audio-recorded (voice only) and professionally transcribed.

Focus Groups

Focus group facilitators conducted eight focus group discussions with health care consumers in order to develop a deeper understanding of health care needs and gaps in care in Middlesex/Somerset Counties. Four facilitators (two English language, one Spanish language, and one Hindi and Gujarati languages) were trained to guide the discussion, to probe for additional information, to be sensitive to subjects' concerns, and to manage group dynamics. Facilitators used a semi-structured guide, which included nine "grand tour" questions (see Appendix B) to ensure data collection consistency and to elicit perspectives from community members regarding the three primary research questions (posed in the Introduction).

Each group contained between eight and 15 participants who have utilized health care services in the hospitals' catchment area. A total of 94 individuals participated in these focus groups. All participants were age 18 and over, resided in Somerset or Middlesex County, and were able to answer questions and participate in the group discussion. Four focus groups were conducted in English, two in Spanish, one in Hindi, and one was conducted where participants spoke both Gujarati and Hindi. Observational data indicated that of the 94 participants, 71% were female and 29% male; 19% were African-American, 26% Hispanic, 32% South Asian, and 23% Caucasian.

Subjects were recruited from community organizations in Middlesex/Somerset counties. Hospital personnel organized and recruited participants for the English and Spanish language focus groups, and personnel from a community-based organization organized and recruited participants for the Hindi and Gujarati focus groups. Recruitment flyers (see Appendix C for a sample flyer) were posted and distributed, directing interested consumers to call a dedicated phone line for further information. When an individual called this number, the coordinators described the research study, explained the eligibility criteria, and answered any questions. If the individual was interested and eligible, they then coordinated the day/time and other logistics for the person to participate in a focus group. Subjects were picked sequentially as they met the study criteria.

The focus groups were held at eight different sites around the two counties:

- Mt. Zion AME Church, New Brunswick
- Offices of PRAB (Puerto Rican Action Board), Perth Amboy (conducted in Spanish)
- Offices of PRAB, New Brunswick (conducted in Spanish)
- Offices of the Woodbridge Department of Health and Human Service, Woodbridge
- Spotswood Middle School, Spotswood
- First Baptist Church of Lincoln Gardens, Somerset
- Offices of ParamCare, Iselin (conducted in Hindi)

- Banquet Room at Chutney Mary, South Brunswick (participants spoke Gujarati and Hindi)

Focus group facilitators and note takers were trained to ensure privacy and confidentiality and obtained signed informed consent and audio consent forms from all participants. Consent forms were available in English, Spanish, Hindi, or Gujarati (translated by certified translators). The focus groups lasted one and a half hours, usually with a short break midway. During each focus group, a field researcher took notes, which were used to facilitate data analysis. Each focus group was digitally audio-recorded (voice only) and professionally transcribed (and translated into English when necessary).

Data Analysis

The Institutional Review Boards of UMDNJ-Robert Wood Johnson Medical School and St. Peter's University Hospital, New Brunswick approved this study. All key informant interview and focus group documents were de-identified and imported into ATLAS.ti™ – a qualitative analysis software program. Researchers used a grounded theory approach – an inductive process of identifying themes as they emerge from the data (Strauss and Corbin 1990) – which resulted in a codebook of 34 codes (see Appendix D). Data from 20 key informant interviews were coded by two investigators. Data from the remaining 6 key informant interviews and 8 focus groups were then distributed to three group members for coding. Codes were merged into a single database and several immersion-crystallization cycles were conducted to identify themes and patterns in the data (Borkan 1999). Immersion-crystallization is a process in which the researchers immerse themselves in the data then step back and reflect on the data to identify and articulate patterns or themes that emerged during the immersion process. These cycles allowed the researchers to identify similar and discordant patterns across interviews and focus groups and to develop a robust understanding of the data.

Findings

The findings are grouped into four themes or sections each reflecting the range of information community stakeholder interview respondents and focus group participants shared. The first theme, "Perceptions of health care and community health," reports community stakeholder respondents' and focus group participants' understandings of the meaning of health care as well as their perceptions of the health status and common health conditions in their communities. The second theme, "Health care resources," outlines both the existing resources that emerged as well as suggestions for needed resources and resources that needed improvement. The third theme, "Barriers to health care," highlights a variety of obstacles both

community stakeholders and focus group participants described to receiving adequate health care, including navigating and accessing the health system, and coping with cultural issues and doctor-patient communication. The last theme, "Community perceptions of hospitals," concludes with perceptions of the two hospitals.

Theme 1: Perceptions of Health Care and Community Health

Meaning of Health Care: Patient Perspective

To gain insight into how community members define health care, focus group moderators began each focus group with the question, "What does health care mean to you?" A dominant perspective expressed in all of the focus groups was that health care meant having access to professional medical care when one needed it and, concomitantly, being able to pay for that care. Frequently, respondents equated 'health care' with insurance. For example, one focus group participant commented:

> "If you don't have health care, you don't know what type of care you're going to get when you go to a hospital. I mean, you can go to a hospital and get some type of care, but if you've got health care – Medicare, Aetna, or whatever health care you got – you seem to get better. You seem to get taken care of better than if you didn't have any." *(Focus group participant)*

Although this type of sentiment was frequently expressed, there was considerable breadth in how this was portrayed. Focus group participants spoke about health care in terms of living a healthy lifestyle including eating a nutritious diet, exercising, getting plenty of rest, having routine doctor visits, and engaging in preventive health behaviors. Overall, there was a distinction between those who defined health care as something 'done to you' vs. those who view it as something in which one has an active role.

Health Status

Some community stakeholders and focus group participants expressed that they believe the health status of their community is "pretty good" or "better than other communities," citing proximity to numerous health care facilities as a contributing factor. However, the "connection between the needs of people and health care resources" was highlighted as a primary obstacle to health and health care for uninsured residents, as many of these resources are perceived to be inaccessible to them.

Others believe that the health status in their communities is "not the best" because residents are "not taking as good care of themselves as they ought to." Obesity and lack of physical activity are commonly seen by community stakeholders and focus group participants as primary causes for their communities' subpar health status. Many interpret such observations in terms of social determinants of health[1], noting a variety of structural influences: the unavailability and unaffordability of fresh fruits and vegetables in some communities; the lack of transportation to get to grocery stores where fresh produce is available; living in dwellings without a kitchen or refrigerator, thus making fast food daily fare because it is the only affordable way to eat out. As one community stakeholder pointed out, "It is very expensive to eat a nutritious meal every day." These factors were raised in relation to both adult and childhood obesity, but several community stakeholders spoke repeatedly about two additional contributors to childhood obesity: the absence of parental supervision after school (when parents are working) thus allowing children to have "free reign" over the refrigerator and television, and the lack of safe places to play outside due to gang violence. For the undocumented community, there are additional negative impacts on their health status, including their transient lifestyle and the common occurrence of the breadwinner of the family being deported; the remaining parent is often unable to earn a living because there are young children to tend. One community stakeholder pointed out that community projects to address social determinants of health tend to "come and go" because of funding issues. This individual suggested that there ought to be a "cadre of people" whose permanent job is to work on these issues, as the longitudinal nature of such an approach may help to make the progress that is needed.

> *"I think we (in New Brunswick) fare better than most urban centers. I think that's because of the commitment that the health care community has made to New Brunswick. But because of the transitional nature of a large segment of our population – the immigrant population that's here, and the lower socio-economic aspects of some of our residents – that we could do a better job with the delivery of health care services and assisting folks to learn to better take care of themselves."*
>
> *Community stakeholder, 2012*

<u>Primary Health Conditions</u>

Our sample of community stakeholders and focus group participants was very diverse in terms of educational background, current fields of employment, and race/ethnicity. Given this diversity, there were striking commonalities in responses to questions pertaining to their

[1] According to the World Health Organization, "The social determinants of health are the conditions in which people are born, grow, live, work and age, including the health system. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries" (World Health Organization 2012).

perception of the primary health conditions 'in their communities'.[2] Our analysis yielded three perceived primary health conditions across Middlesex and Somerset counties: obesity, poor mental health, and diabetes.

The perception of **obesity** as a predominant health problem in their communities was strong and was discussed by focus group participants (mostly health care consumers) and community stakeholders who specialized in very different fields including nursing, community-based organizations, social services, senior centers/aging, emergency medicine, and public health. Many stakeholders specified that childhood obesity was a particular problem. Furthermore, most of these respondents articulated related sequelae of obesity including hypertension, heart disease, and diabetes.[3]

Poor mental health was another prominent area that was perceived by community stakeholders and focus group participants to be problematic. They spoke about this broad topic in different ways – some specified specific mental health conditions while others used the concept more generally. When specific mental health conditions were discussed, the most common included depression, anxiety, bi-polar disorder, and post-traumatic stress disorder. Depression and anxiety were clearly emphasized much more than the others. In addition, according to several community stakeholders people with mental health issues often have co-occurring disorders including obesity, cardiovascular disease, diabetes, and hypertension, which sometimes result from the anti-psychotic medications that cause significant weight gain.

Diabetes was also emphasized as a significant problem in stakeholder and focus group participants' communities. They typically spoke about this health condition being evident across the age spectrum in all communities, and some community stakeholders noted the concentration of diabetics in the Latino and African-American populations of their communities. In the South Asian focus groups diabetes was noted as one of the most prevalent health conditions in their communities. Similar to discussions of obesity, discussions of diabetes also frequently articulated the various consequences of the condition such as vision loss or amputations.

In addition to these three major health conditions, several other conditions were discussed with considerable frequency and emphasis: dental issues, hypertension, cancer, substance

[2] Questions on this topic for both the interviews and focus groups allowed individuals to respond based on their own definition of their community and based on their own framework for understanding the health status of this community.

[3] Diabetes was such a prominent response that we gave it its own section as one of the major conditions.

abuse/addictions, and communicable and infectious diseases such as HIV/AIDS, whooping cough, and sexually transmitted diseases.

Theme 2: Health Care Resources

Existing Resources

Community stakeholders and focus group participants named over 80 specific resources (see Appendix E). Researchers were able to sort these resources into three broad categories: physical well-being, mental well-being, and those that aid the social determinants of health (e.g., food pantries). Many of these resources are concentrated in the New Brunswick area with fewer found in the further reaches of the hospitals' catchment area. Many community stakeholders have developed strong in-house programming to assist their particular community members. For example, a local church has created a number of programs for its youngest to oldest community members, providing services that address many issues including wellness, self-care, mental health, and cyber bullying. Focus group participants indicated that there are many resources that are not well known.

> *"Well, obviously we have a lot of resources, and that's a strength. We have some of the largest and highest quality health care providers in the state, and probably the nation, right here in our community. And, you know, who could ask for more than that? We have on the part of the hospitals tremendous outreach efforts. They're out in the community; they've been terrific supporters of what happens here. You know, we have regular and ongoing interactions with RWJUH health promotion; SPUH mobile unit. The Promise Clinic, which is, you know, the medical school student-run health clinic, was created and operates across the street in St. John's, about to move down to Chandler, which services the patrons of the soup kitchen exclusively, that fall through the cracks. So, you know, we've got this really resource-rich outreach-oriented kind of health care system in town, and clearly health care providers that value outreach and connecting with populations. So that piece is there, and you know, they do a wonderful job."*
>
> *Community stakeholder, 2012*

Physical Well-Being. Resources for physical well-being include hospitals, clinical care sites, and programs leveraging assistance for special populations and aimed at specific diseases. Community stakeholders and focus group participants named many of the local hospitals (RWJUH, SPUH, Children's Specialized Hospital, and Bristol-Myers Squibb Children's Hospital) and their mobile units as good resources. Some focus group participants use other hospitals (e.g., JFK Medical Center and Raritan Bay Medical Center) because they are geographically closer to where they live.

New Brunswick-based outpatient clinical care sites are all recommended and widely used: Eric B. Chandler Health Center, Family Medicine at Monument Square, the How Lane Clinic, Promise Clinic, and St. John's Family Health Center. Community stakeholders and focus

group participants could name only a few outpatient clinical sites outside the New Brunswick area, including urgent care centers in Kendall Park and East Brunswick and a part time clinic in Zarephath – the Zarephath Health Center.

Some community stakeholders have developed relationships to leverage resources that address specific needs. For example, community stakeholders developed relationships with Lenscrafter and Walmart so children from low-income families could receive eye exams and purchase affordable eyeglasses. Other resources address specific diseases. For example, the Middlesex County Department of Public Health sponsors the CEED (Cancer Education and Early Detection) program for its residents.

> *"The For Keeps program, again being a partial day hospitalization program, is good for one end of the spectrum, kids that have severe issues – where they can get into it…With the patients we've sent them – they've been remarkable. Really done a nice job. And their program is, instead of a locked inpatient unit, the kids go during the week you know, 9:00 to 5:00…they have a great wealth, if that's the word, of services. They have child psychiatrists there, child psychologists, clinical social workers and counselors. They do individual counseling, group counseling. They have a nurse who does medication management, not just with the kids, but the parents come and do that. And they have all sorts of art therapy and pet therapy. They have teachers and tutors that come there so they can keep up their academics. And I think the kids wind up staying in that program around 8 weeks, 12 weeks, depending on how they're doing and what they need. I'm not sure the exact ages. I think it's probably 5 to 15…So that's a great resource, but you know, it's hard if you have someone who's really decompensated and they have to go on the waiting list and wait three months to get in."*
>
> *Community stakeholder, 2012*

Mental Well-Being (including mental health, domestic violence, substance abuse, and addiction). According to the community stakeholders and focus group participants, there are a number of good programs addressing mental health, but they are difficult to access because many of the existing programs are concentrated in the New Brunswick area. For example, the New Brunswick Methadone Maintenance Treatment Program assists individuals with heroin addiction including those who are uninsured. The two other methadone treatment programs mentioned are in South Amboy and Perth Amboy and require insurance or are self-pay.

Some resources in the community were developed in response to particular contemporary issues. For example, there is a church organization that conducts a workshop on cyber bullying and a community coalition that provides assistance to affected students in response to mass killings that dramatically unfold on television and in cyberspace.

Some organizations such as the Domestic Violence Coalition in New Brunswick have developed social norm campaigns that address issues of abuse.

Both community stakeholders and focus group participants noted the social diversity of the communities served by St. Peter's University Hospital and Robert Wood Johnson University Hospital. Some organizations such as the Multicultural Family Institute in Highland Park are designed to serve this diverse population while others have developed resources within their organization to address the population's diversity. For example, NCADD of Middlesex County (National Council on Alcoholism and Drug Dependence) has board members who speak seven different languages.

Both school nurses and senior center directors have developed programs addressing mental well-being in response to emerging issues in their respective communities. For example one school nurse described programs that her school has developed to address eating disorders, panic attacks, and students who are affected by sudden parental job loss. Senior center directors have instituted programs to address the mental health needs of their community. For example, one focus group participant noted: "At our senior center, we have social workers that you can go in and talk about anything and they are able to farm [sic] you out to what you need."

Social Determinants of Health. Many resources, particularly those noted by focus group participants, address the social determinants of health. Resources include food pantries, soup kitchens, community gardens, farmers' markets, transportation services, exercise classes and spaces, baby equipment loan programs, and arts programming. Unlike many of the resources addressing physical and mental well-being that are focused in New Brunswick, these resources are found throughout the hospitals' catchment area.

Many of these programs are sponsored by community-based organizations, but local governments sponsor some as well. For example, focus group participants noted how involved the local Woodbridge Health Department was in developing programs such as the Mayor's Wellness Coalition, which sponsors regular walks with the mayor, and Drop A Ton, a weight loss campaign in which the mayor challenged residents to lose more weight than he did during a three month period.

Needed Resources or Resources Needing Improvements

Our analysis of resources that reportedly are either needed or exist but need improvement revealed three primary themes. First, community stakeholders and focus group participants overwhelmingly requested resources for one primary health condition – obesity. Second, many

wanted educational programs and awareness campaigns on a variety of topics for both patients and providers. Lastly, both community stakeholders and focus group participants wanted comprehensive medical and mental health services. A common thread of all three themes was that resources be developed locally and not concentrated in the New Brunswick area, as they believe is currently the case.

Obesity. Community stakeholders and focus group participants highlighted the need for a broad range of resources to address obesity. They specifically called for safe places to exercise and play that were easily accessible. For example, Spotswood residents drive to other towns to reach safe walking spaces because their town does not have sidewalks, has locked school facilities (e.g., tracks), and has vandalized play spaces. Some health care providers identified the need for on-site exercise equipment at work to combat the deleterious effects of working long hours and eating convenience store food or fast food. Community stakeholders in New Brunswick and Franklin noted that people stayed in their homes because they perceived that town facilities (e.g., parks) and streets were unsafe because of drug- and gang-related violence.

Both community stakeholders and focus group participants described a broad range of needed nutrition and food-related programming. These included educational programs that teach the nutritional value of various foods, trainings on reading and understanding nutrition labels and portion size, and guided walks through grocery stores explaining healthy eating on a budget. Some noted "food deserts" that are heavily concentrated with fast food establishments (e.g., the Route 27 corridor in New Brunswick and Franklin Township) and recommended that new educational resources would help people make better food choices.

Education and Awareness. Most focus group participants wanted education programs and awareness campaigns for community members, and some community stakeholders described the need for training to assist health care providers. Education and awareness programming for community members included when to call the EMS or use the ER, prevention education, particularly as related to keeping people from getting sick (e.g., hand washing campaigns), coping with loneliness particularly for senior citizens, physical abuse awareness campaigns, substance abuse and cessation, as well as effects of social media and the Internet on children. Some community stakeholders suggested new delivery modes for these programs. For example, one community stakeholder suggested capitalizing on existing services by providing educational information and training while people are waiting in line for social services (e.g., while applying for WIC or Social Security benefits). Another community stakeholder suggested that educational programming be conducted regularly in churches and senior centers as well as at health fairs. Many focus group participants wanted educational programs to be conducted

locally and at various times (including evenings and weekends) so that more people have access.

Community stakeholders wanted training programs to assist health care providers because they felt that many providers are unable to properly diagnose and refer for mental health issues, developmental disabilities, domestic violence and abuse, and substance abuse and addiction, as well as to help providers learn how to work with community resource providers. One stakeholder suggested trainings on recognition of the early signs of addiction and referral for treatment so that addicts would be healthier and health care costs reduced. Another community stakeholder believed that health care providers were often unaware of the many services available in the local community to augment medical care and suggested "community resource rotations" to help providers understand the available resources and how to work with and refer to these resources.

One health care provider believed that health literacy training would be beneficial to both patients and providers. This provider often had to explain complex concepts to patients after seeing a physician. As an example, this provider described an interaction with a woman who had been diagnosed with chlamydia by a physician. She thought the word sounded like a flower so she assumed she got it while working as a farm hand. The provider then had to explain to the woman that this was a sexually transmitted disease.

Comprehensive Medical and Mental Health Services. In general, community stakeholders and focus group participants described the need for local comprehensive medical and mental health services. Many services are covered in the "Access" section of this report, so this section focuses on different resources that community stakeholders and focus group participants need to be extended, replicated, or created. Many wanted to see elderly home-based health care extended. Most reported that they do not have access to reasonably priced home-based health care ranging from assistance with cooking and housekeeping chores to medication management. Many community stakeholders felt that these resources would ameliorate long-term costs resulting from poor nutrition, falls, and medication errors. In addition, some thought that some unique programs should be replicated in other areas. For example, one community provider wanted to see the Parent Infant Care Center program in New Brunswick schools replicated as a centralized Middlesex County program because most schools deal with teenage parents who drop out or have high absenteeism rates. Some wanted new resources to be created; for example, several community stakeholders wanted a "sick-child daycare" so parents would not have to choose between exposing other children to illness and losing their jobs.

Funding

Community stakeholders described how funding levels affect services. In general, many community stakeholders discussed how the loss of funding reduced services or how they have tried to address complex needs with inadequate resources. In addition, service providers mentioned increased pressure on services by people living outside the area they serve. In addition, several stakeholders noted the existence of unique funding sources in certain limited geographical areas.

Community stakeholders primarily discussed how the loss of funding curtailed services. In many cases services were lost completely, but sometimes limited funding was used for interventions that providers deemed inadequate. An example of lost services is Legal Services of New Jersey, which provided free legal services for patients (e.g., help accessing public benefits or help with immigration issues) until the program ended; now a similar program is about to end. As funding diminished, sometimes service providers obtained one-year grants to "fill the gap" but, as one service provider noted, one-year interventions for complex issues such as obesity are inadequate. A few service providers have "filled the gap" by going "above and beyond" and helping clients and their families obtain additional services outside of their purview. For example, one service provider helped families of low-income children access the local food bank so that the family could get additional food or free meals. Other service providers found inventive ways to extend services. One service provider manages a thrift shop and uses the proceeds to purchase grocery store gift cards, which she gives to fixed-income clients.

Several community stakeholders found that people outside their service area were increasingly seeking their services. For example, one church started limiting its services to "members only" after noticing an increase in people outside their church accessing their services. A women's health clinic experienced an increasing number of men seeking services. Service providers' comments reflect that they are keenly aware of the inability to meet the need.

Community stakeholders also noted that funding tends to be more available for greater New Brunswick area programming, including resources provided by federal, state, and local governments, local health departments, major philanthropic organizations, and community-based organizations.

Theme 3: Barriers to Health Care

Health System Navigation

A common response from both the community stakeholders and community members was that New Brunswick (in particular) is a very health resource-rich area in terms of the number and kinds of health services and health information available; however, there are various barriers

that inhibit many people from being aware of these resources or understanding the system well enough to navigate it effectively. Several structural and cultural barriers were noted that shape how people use (or fail to use) the health care system, including language differences, lack of coordination between the hospitals and other health care facilities, insurance and ability to pay for services, and financial disincentives or penalties that work against effective/efficient use of the health care system.

Some community stakeholders voiced perspectives that the New Brunswick immigrant population often does not feel entitled to health care and has a distrust of the health care system. Moreover, because many of these individuals are not familiar with how to navigate the health care system, the typical entry point is the emergency room. Focus group participants added perspectives that had not been expressed by the community stakeholders about how they work around barriers to get their medical needs addressed. For example, one participant noted how she has found a "trick" for gaining access to emergency medical services by using certain trigger words during triage. Other participants spoke about how people in need of prescription medications will seek out community members who will sell prescription medicine for a discounted rate compared to what one would pay at a pharmacy. It was noted that the 'sellers' may in fact be ill themselves (and therefore obtain their prescription legitimately) but choose to sell it out of financial need. Some focus group participants commented that it is possible to purchase prescription medications from local bodegas or online. Extended discussions about the pitfalls of these strategies revealed that community members are aware of the potential dangers, yet often financial pressures shape decisions to take these risks. Multiple participants also discussed how they (or their family or friends) have sought health care outside of the U.S. – typically in their country of origin (e.g., Dominican Republic and India). These participants described how, even though the costs of traveling to their home country would be great, it would still be less than what they would pay for health care if they received treatment in the U.S. Moreover, they perceived the care in their home country to be comparable or even better than that in the U.S.

Health Care Information

An important part of health care system navigation is having adequate information (see Appendix F for Sources of Health Care Information). There was evidence suggesting mixed perspectives regarding how participants trusted certain sources of information. Importantly, some participants commented that they do not rely solely on their physician for information. Participants voiced varying reasons for this. For example, one participant commented: "I truly believe that doctors are just human and they can't do everything, and you need to research yourself. You need to do it yourself." Other participants have had bad experiences with their physicians, which have created distrust in the doctor-patient relationship. In some cases,

participants maintained a sense that physicians tend to make decisions about their patients' health care for financial reasons and not necessarily the health of the patient. Frequently, community members cited the use of the Internet to acquire information about diseases, medications, or physicians/medical facilities.

Health Care Access

The most pronounced barrier to care – discussed commonly by both community stakeholders and focus group participants – was access. A prominent perception was that primary and subspecialty care was accessible for insured patients, with the two hospitals, Cancer Institute of New Jersey, Child Health Institute, University Behavioral Health Care, and several walk-in urgent care centers cited as valuable local resources. Some insured patients, however, reported difficulty finding specialists in their local area who take their insurance. Additionally, outpatient addiction rehabilitation is considered to be scarce regardless of insurance status. According to one stakeholder, this is a statewide problem, suggesting that the state can meet only a fraction of the demand for such services and even less of the actual need. Some mentioned that it is unfortunate that the addiction resources that used to be offered by the two hospitals are no longer available. A similar scarcity was highlighted related to group homes and supervised apartments for adults with developmental disabilities.

For uninsured patients, access problems are prolific in all types of care. Many talked about the difficulty of getting timely care, outside of using the hospitals' EDs. The clinics that accept uninsured and Medicaid patients are considered to be "maxed out," making it difficult to be seen by a doctor in a timely manner. One suggested solution to this problem was that perhaps the hospitals could expand their outpatient clinics to accommodate the overflow from the community clinics. Others suggested that "more low income clinics" are needed and that they should be "spread throughout the area" because transportation to the clinics is an important barrier to access. As one community member pointed out, "New Brunswick is one of the hardest places to get to, transportation-wise." A community stakeholder suggested that one of the local clinics is actually under-utilized because of transportation issues. Transportation barriers were also noted to be of particular concern for the elderly (highlighting the need for more home care) and children whose working parents are unavailable to take them for medical care (suggesting more health care services in school

> *"Accessing treatment, just having to get there, is a huge barrier… Having a full continuum of care available locally would be huge. Because as soon as people hear that they have to go a distance, that's a discouragement to go to treatment…If you know that you're going to have to go out of county for it, that's a barrier. "*
>
> *Community stakeholder, 2012*

settings as a part of the solution). In a similar vein, the inability of some children to get sports/camp physicals prevents them from participation in these health-promoting activities.

Accessing specialty care using Charity Care was also described as potentially prohibitive. As one community stakeholder articulated: "If you have Charity Care, you can wait for months or even a year for an appointment with a specialist… so they (uninsured patients) end up using the ED." Some, however, "will never qualify for Charity Care . . . they're really out on a limb." This is particularly true for undocumented immigrants, who do not qualify for a variety of services. This population was commonly mentioned as having the poorest health status, due to their having the least access to health care. Adding to the complexity of the situation, one stakeholder pointed out that these families often have unequal access to health care services within their own family: they may have children born in the U.S. who are eligible for services and other children born out of the country who are not eligible.

Mental health care and dental care are widely considered to be the most difficult services to access for the uninsured.

Several stakeholders complained about the mental health resources that have been cut in recent years, and pointed out that those that exist are plagued by "long waits" and transportation barriers. In addition, these services tend to "treat and release" and there are "very few options for long term care." The largest unmet mental health need is for the Spanish-speaking population: "There are virtually no services for Spanish-speaking, no insurance, low income [patients] for mild mental health issues such as depression, anxiety, etc." This is considered by many community stakeholders to be a "huge need" that has an impact on the health of families.

Dental care is considered by many to be equally difficult to access for the uninsured. The general sentiment was expressed by one focus group participant: "If you don't have money, you can kiss your teeth goodbye." While some expressed awareness of the university dental service in Newark, the transportation issue was believed to be unmanageable. One community member shared how he waited many months to get a tooth filled because he first had to save the $371 it would cost. The danger of this behavior was pointed out by a community stakeholder: because of the expense, the uninsured "tend to disregard dental care, and that can lead to other health conditions down the road."

An additional aspect of health care access that was reported to be of concern was having access to affordable medication. Several spoke about a common strategy of uninsured patients who are on medications that they cannot afford – taking half of the medication "to conserve," or

minimizing the frequency with which a diabetic checks his/her blood sugar ("the strips are expensive"). The danger of taking medications irregularly was noted as a health risk within the community. This issue was perceived to be intensified by the fact that it is often possible to acquire new medications for free, but once they "go generic," the "freebies" are no longer available. One of the consequences of the lack of access to affordable medication included getting medications on the black market.

Senior citizens were highlighted as a population that has unique challenges acquiring affordable medications, especially when on a fixed income and "in the donut hole"[4] with respect to their Medicare coverage. One individual also pointed out that "the elderly also often don't understand their medical plans… thinking that it's a co-pay when it's cost-sharing; so they get big bills."

Unmet Health Needs

Several examples of patients postponing or forgoing needed care were also highlighted as a consequence of inadequate insurance coverage. Specifically mentioned were eye exams, glasses, hearing aids, cancer screening tests (even when there is a family history of specific cancers), physicals, and dental care. Some focus group participants also talked about going to their country of origin for care. Commonly, stakeholders and focus group participants related individuals' unmet health needs to their impact on the larger community. As a focus group participant articulated it, "The lack of insurance causes people to neglect their health care . . . this is not leading to a healthy community at all."

Cultural Issues

Our analysis revealed that the hospitals' catchment area is very diverse with people of multiple races and ethnicities, originating from many countries, and speaking a broad range of languages. Community stakeholders and focus group participants described immigrant populations coming from Southeast Asia, India, South Korea, the Philippines, the Middle East, Mexico, Taiwan, Puerto Rico, the Dominican Republic, and other Caribbean countries. Languages spoken include Mandarin, Cantonese, Spanish, Korean, Mixtec, Russian, Urdu, Hindi, Gujarati, African (not specifically described), Haitian, Portuguese, and Hebrew.

Language barriers create challenges for both providers and patients. Many stakeholders noted a paucity of bilingual therapists, clinicians, and medical and support staff in health care

[4] The "donut hole" refers to the coverage gap in Medicare Part D insurance for prescriptions between the initial coverage limit and the catastrophic coverage threshold. Once the Medicare recipient uses up the initial coverage limit, s/he is responsible for a higher cost of prescription drugs until s/he reaches the catastrophic coverage threshold.

facilities. Often providers are unable to offer services in a person's first language and must rely on translation services of bilingual staff, medical interpreters, or telephone-based interpreters. One community stakeholder noted that this is not ideal because interpreters or interpreter services introduce a stranger into the room thus changing the provider-patient dynamic. Some providers noted that even when patients or clients speak English, the health system often works differently from the one in their home country and they need to spend extra time explaining how things work. Another language barrier revealed in our analysis was related to health literacy. Providers often speak in a manner that is confusing. For example, some stakeholders noted that people from other countries may not understand the concept of primary care, so asking a question such as, "Who is your primary care provider?" might not elicit a response or may elicit an incorrect response.

Patients are often unable to find providers (e.g., home health aides) who speak their language or find specialized health information (e.g., about diabetes or dialysis) in their first language and therefore find it difficult to request and advocate for services if they do not speak English well. Focus group participants in Perth Amboy noted that even though there is a large Spanish-speaking population in their city, local providers often do not speak Spanish or have Spanish-speaking staff. Participants interpreted this as local providers not caring about them, which had deleterious effects on their health care. Many of the Perth Amboy focus group participants either receive their health care at local health fairs sponsored by PRAB and RWJUH or seek care in other cities, particularly New Brunswick. Hindi focus group participants requested that the hospitals consider putting information on their websites in multiple languages.

Community stakeholders highlighted ways in which cultural beliefs often affect health behaviors and health care choices. A common example within the Hispanic community was the belief that plump children are healthy. In some cases this was a cultural norm and in others it was because they associated the opposite condition, being thin, with the malnourishment they experienced in their country of origin. Other health behaviors that affected health were the use of cures that could be harmful. For example, one service provider described finding that herbal remedies were causing childhood lead poisoning, but convincing parents to stop administering these remedies was difficult. In another case, a health care provider found ways to convince parents to move amulets (often a small stone on a bracelet) used to ward off evil spirits from a child's wrist to the ankle to help prevent choking.

Cultural beliefs were also understood to impact people's choices for health care. For example, one service provider explained that some women diagnosed with breast or cervical cancer did not seek treatment because they needed permission from their husband. Another provider said that for some cultures health care is not a priority and people do not seek assistance until it is

an emergency. Some focus group participants noted that they do not seek health care services because they do not trust doctors, and some said that many men in their community do not share knowledge of illness even with family members.

Some service providers have found culturally appropriate interventions that help bridge some of these barriers. For example, one group working with the community-oriented primary care program at RWJMS developed a health ambassador program. They trained matriarchs and patriarchs within the South Asian community who in turn made recommendations to other community members about health issues such as flu immunizations. In addition, learning that Spanish women in domestic abuse situations were reluctant to seek assistance at women's shelters, PRAB collaborated with Women Aware (a domestic violence service provider) and placed a bilingual, bicultural counselor at PRAB's offices so that women could seek domestic abuse services in a comfortable setting. As community stakeholders noted, these interventions were successful because they were based on cultural norms and designed after consulting with the affected communities.

Doctor-Patient Communication

Most of the focus groups raised the role of communication with their doctors as an important factor in their feelings about the quality of their health care. One of the ways good communication was described involved how easily patients felt they could reach their doctors by phone. Those who felt they could reach their doctors easily expressed satisfaction. For example, a doctor who returned phone calls to explain procedures and help make decisions while the patient was in the hospital was referred to as "a saint." On the other hand, patients who felt their doctors were inaccessible by phone had a negative assessment of their doctors and often of their health care in general. Referring to experiences with several doctors, one individual recalled: "[In] all my experiences, you couldn't reach them (the doctors); they didn't call you back. There was not enough communication. When I tried to ask questions, they cut you off."

> *I'm waiting and waiting until the doctor arrives…He comes in and asks, 'What's wrong?' My knee was swollen…He half-heartedly touches it, says I'm fine and that he's going to give me something. That's it…My husband goes and tells the receptionist he wants another appointment but that he does not want the same doctor seeing his wife…It's not right to treat us this way just because we're Hispanic and don't have insurance…Because you don't have insurance you don't get good service.*
>
> *Focus group participant, 2012*

Participants also evaluated the communication with their doctors in terms of how they feel about the doctor's "bedside manner." A common sentiment was articulated by one participant: with a good bedside manner, a doctor

"can almost talk you out of some portions of the illness and make you feel a lot better." In contrast, "A doctor who seems indifferent to your situation makes you feel hopeless." This sentiment was echoed by several others in the Spanish-speaking focus group who felt that some doctors have a "superiority complex" and treat them disrespectfully. One participant elaborated, "They are out of touch with the community and don't care to be in touch with the community." One patient admitted that at times she even postpones taking her son to the doctor when she knows she should take him because of the disrespectful treatment she feels she receives from the doctors. Another patient expressed the belief that Medicaid patients systematically receive less attention from doctors: "Because you're on Medicaid, you're timed." An additional instance of perceived poor bedside manner and inadequate communication had to do with the numerous doctors that often attend to patients in the hospital. As one participant complained, so many different doctors would "pop their head in…for two minutes" during the hospital stay "and they would start writing" without ever explaining who they were. "When you get their bill, you know who they were."

Two general suggestions were offered as ways to help the experience of seeing a doctor feel "more personable": one participant suggested having a "greeter" who meets patients at the door, says hello and welcomes them in. "Just that little touch . . . That helps you get better." Another participant made a case for the role of a designated nurse who could "do the assessment, who could do some teaching, who would be available for the patient." The belief was that it would give the patient more communication with a health care professional as well as help the doctors with their "time management."

Theme 4: Community Perceptions of Hospitals

Both focus group participants and community stakeholders spoke about their perceptions of the two hospitals. Focus group participants tended to give evaluations of the hospitals based on memorable experiences as patients, while community stakeholders tended to offer suggestions for ways that the hospitals could improve their relationships with the community and with each other.

Many of the positive statements patients made about both hospitals were expressed as general statements, such as "excellent care," "great experience," "no complaints," etc. Patients also expressed specific appreciation for minimal wait times, "professional" and "personable" medical staff, receiving a follow-up phone call after discharge, and when the hospitals' appearance is clean and organized.

Patients tended to be critical of one or both of the hospitals if they had had a particularly negative experience as a patient. Such experiences included: medication and procedural errors,

“inattentive” or “uncompassionate” medical staff, insufficient communication about one’s medical condition or discharge date, and particular difficulty clearing a medical bill. Memories of negative hospital experiences seemed to have the power to color the patient’s perception of that hospital long after the experience.

Among community stakeholders, there was a perception that the two hospitals are competitors. One individual expressed that the “antagonism” between the hospitals is not only because they are “competing for the same health care dollar” but also because of an inherent imbalance, due to the fact that only one of the hospitals owns an ambulance service.

Commonly, community stakeholders suggested needed improvement in communication and coordination: between the two hospitals; between academia, health care and public health (with the suggestion that public health students do rotations in the hospitals, as well as in other areas in the community); and between the hospitals, community medical offices, and home care. Regarding transition of care from the hospital, there were two specific suggestions: one was to have a dedicated staff person meet with patients before discharge to answer questions and verify that patients have what is needed; the other is to loosen the restrictions on when a patient can be admitted into sub-acute, so it could be used more for transitional care (i.e., more family involvement while still under nurse supervision).

Finally, while community stakeholders praised the hospitals for their “great programs” (including educational and support groups as well as free screening events), they recommended that the hospitals should “be more involved in the community” by offering such programs at satellite sites and regularly having mobile care units in various communities to reduce unnecessary ED utilization.

Conclusions

The hospitals’ catchment area has a high concentration of health care resources in New Brunswick, but the distribution of these resources throughout the area is uneven. This creates severe access barriers for residents in the outer reaches of the catchment area because public transportation into New Brunswick from many areas is poor. In addition, uninsured residents do not benefit from the resource-rich health care environment that New Brunswick, in particular, offers. While health care access for the uninsured is a national problem and not unique to this local region, our analysis suggests that there are some specific aspects of the local health care landscape in which there is potential for improvement. Improved coordination of existing health care resources would help to optimize the utility of these services.

Better coordination would also prevent the residents and stakeholders in the hospitals' catchment area from feeling "over-assessed." Because the plethora of needs assessments over the years have not been sufficiently coordinated, there has been duplication of effort and consequently less effectiveness and efficiency. It is suggested that the conclusions of the current assessment and the responding interventions be widely publicized throughout the catchment area.

In addition to the uneven distribution and limited coordination of resources, there are some resources that are inadequate or altogether lacking, even in "resource rich" New Brunswick: resources for dental care, addiction treatment, long-term mental health care, and sources of affordable medication. This resource gap results in patients postponing or neglecting medical care, overusing the EDs, and the maintenance of an active black market for prescription medications.

The most prevalent health issues in the represented communities are obesity, mental health issues, and diabetes. All three are complex problems, and socio-economic and cultural issues have bearing on them all. The concerns around obesity include its related sequelae of hypertension, heart disease, and diabetes, with particular concern around the many social conditions that contribute to obesity in adults and children. Mental health issues are broad in scope but depression and anxiety are most prevalent and are often untreated. Diabetes is problematic in all communities but with noted concentrations in the Latino, African American, and South Asian communities. Assuring access to low cost diabetes management supplies is a serious concern for the health of these communities.

The hospitals' catchment area is extremely diverse in terms of cultures and languages. This creates particular challenges in navigating the health care system and the hospitals, in particular. Most problematic is the communication barrier between non-English speaking patients and their doctors, as well as the current signage in the hospitals which is not discernable to those who are unable to read English.

The perceived "antagonist" relationship between the two hospitals also stands as a barrier to coordinated services in their mutual catchment area. Improved communication and coordination between the hospitals may thus serve to advance community health. Other areas for hospital improvement include enhanced customer service training for all hospital personnel (particularly around cultural competency), patient advocates, and personnel to help families navigate post-hospitalization care. Patient perceptions of the hospitals can be deeply influenced by a single negative experience. These perceptions can endure even decades after the defining experience and can play an important role in shaping patient decisions.

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Appendix 4.A: Questions Used for the Community Stakeholder Interviews

Background/role:

1. Please tell me your name, the organization you work for, and your job title/role.
    a. Probe for details on background on the organization, e.g., length of existence, mission, engagement in the community it serves.
    b. Probe for details on interviewee's background, e.g., education, how long s/he has been with organization.

"Grand tour questions":

1. How would you describe the overall status of health and health care in your community?
2. What do you see as the major health problems in your community today?
3. What do you see as the major strengths/resources in your community relative to health and health care? What health resources are not being used well? What health resources could be used differently to improve peoples' health in your community?
4. What kinds of things do you think could be done or programs developed to improve health and health care in your community?

Appendix 4.B: Questions Used for Focus Groups

"Grand tour questions":

1. What does health care mean to you? (Probe for pro-active or reactive kinds of health care seeking behaviors).
2. How would you describe the overall status of health and health care in your community?
3. What do you see as the major health problems in your community today?
4. What do you see as the major strengths/resources in your community relative to health and health care? What health resources are not being used well? What health resources could be used differently to improve peoples' health in your community?
5. Have you ever tried to obtain health care at RWJUH or SPUH in New Brunswick? (If yes), what has that experience been like for you? (If neither, probe for places they have received care).
6. Do you have health needs that you have not tried to get help for or that are not being met? (Probe for details).
7. Where do you typically get information about health and health care?
8. What kinds of things affect your ability to get health care? (Probe for specifics on, e.g., costs/insurance, child care, transportation, access, others).
9. What kinds of things do you think could be done or programs developed to improve health and health care in your community?

Appendix 4.C: Sample Recruitment Flyer

Would You Like to Help with a Research Study?

If you live in Somerset or Middlesex County, we would like to invite you to a focus group to hear about your experiences of getting health care. The focus group will be conducted by the Robert Wood Johnson Medical School, Department of Family Medicine & Community Health. The focus group will include up to 15 adults and will last approximately 2 hours. After the focus group is done you will receive $25 as a thank you gift for participating.

If you are interested, please call this number for additional information:

732-418-8056

Date: June 27, 2012

Time: 6:00 PM-8:00 PM

Location: Woodbridge Health Department
2 George Frederick Plaza, Woodbridge, NJ 07095

From Rte 1 North
Proceed north on Rte 1 past Woodbridge Center Mall, Green St. Miller Pontiac intersections until you reach the exit Rte 35 south Past the traffic light and over the railroad tracks. Make the second left
Hand turn past the tracks and into the parking lot. (Health Center is Located between Woodbridge High School and the Library).

From Rte 1 South
Proceed south until you reach the exit for Rte 35 south. Proceed past the traffic light and over the railroad tracks. Make the second left Hand turn past the tracks and into the parking lot. (Health Center is located between Woodbridge High School and the Library).

From Rte 9 North
Take Rte 9 north to its intersection with rte 1 north to the exit for Rte 35 south. (Less than 1 mile). Proceed past the traffic light and over the railroad tracks make the second left hand turn past the railroad tracks and into the parking lot.

Appendix 4.D: Qualitative Analysis Code Book

Access
Background
Context that impacts community
Cultural issues
Doctor-patient relationship
Funding
Health system navigation
Health care - patient meaning
Health care information - patients
Hospitals - relationships with
Insurance
Medical conditions - abuse
Medical conditions - cancer
Medical conditions - cardiac
Medical conditions - cognitive
Medical conditions - dental
Medical conditions - diabetes
Medical conditions - immunizations
Medical conditions - mental health
Medical conditions - obesity
Medical conditions - other
Medical conditions - physical handicap
Medical conditions - reproductive
Medical conditions - respiratory
Medical conditions - vision
Patient hospital experiences
Population served
Primary health conditions
Resources - barriers to utilization
Resources - existing - good
Resources - existing - requires improvement
Resources - facilitators to utilization
Resources - needed
Social determinants of health

Appendix 4.E: Good Existing Resources

Following is a list of good existing resources mentioned by community stakeholders during depth interviews and participants of the eight focus groups. The first section includes specifically named resources and the second section includes more general resources. We have included web site URLs where possible.

Specifically Named Resources

Alpine Learning Group, Paramus, NJ, URL: http://pcdi.org

Anshe Emeth Community Development Corporation, New Brunswick, NJ, URL: http://www.aecdc.org

Autism New Jersey, Robbinsville, NJ, URL: http://www.autismnj.org

Babé BELL (Baby Equipment Lovingly Loaned) Program see Anshe Emeth Community Development Corporation

Body & Soul, Cancer Institute of New Jersey, Robert Wood Johnson Medical School, New Brunswick, NJ, URL: http://www.cinj.org/outreach/BodySoulProgram.html

Brain Injury Alliance of New Jersey, North Brunswick, NJ, URL: http://bianj.org

The Bristol-Myers Squibb Children's Hospital at Robert Wood Johnson University Hospital, New Brunswick, NJ, URL: http://www.bmsch.org

Cancer Education and Early Detection Program, Middlesex County Health Dept., New Brunswick, NJ, URL: http://www.co.middlesex.nj.us/publichealth/adult.asp

Cancer Institute of New Jersey, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ, URL: http://www.cinj.org

Carrier Clinic, BelleMead, NJ, URL: http://www.carrierclinic.org

Central Jersey Community Development Corporation, Somerset, NJ, URL: http://cjcdc.org

Children's Specialized Hospital, New Brunswick, NJ, URL: http://www.childrens-specialized.org

Commission for the Blind and Visually Impaired, Department of Human Services, State of New Jersey, Newark, NJ, URL: http://www.nj.gov/humanservices/cbvi/home/index.html

Community Health Promotion Program, Robert Wood Johnson University Hospital, New Brunswick, NJ

Community Mobile Health Services, St. Peter's University Healthcare System, New Brunswick, NJ, URL: http://www.saintpetershcs.com/Community-Mobile-Health-Services/

Community Oriented Primary Care (COPC) Summer Assistantship, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ, URL: http://rwjms.umdnj.edu/departments_institutes/family_medicine/pre_doctoral/summer/community.html

Comprehensive Services on Aging (COPSA), University Behavioral Healthcare, Piscataway, NJ, URL: http://www.umdnj.edu/copsa/copsa.html

CUP (Communities United for People) Food Pantry, Spotswood, NJ, URL: http://www.stpetersspotswood.org/cohm.htm

Division on Aging, Institute for Health, Health Care Policy and Aging Research, Rutgers, The State University of New Jersey, New Brunswick, NJ, URL: http://www.ihhcpar.rutgers.edu/org_units/default.asp?v=2&o=1

Dorothy B. Hersh Regional Child Protection Center (CPC), St. Peter's Healthcare System, New Brunswick, NJ, URL: http://www.saintpetershcs.com/DBHersh-Child-Protection-Center/

Drop a Ton, Woodbridge, NJ, URL: http://www.facebook.com/pages/Woodbridge-Drop-a-Ton/160909757309625?fref=ts

Elijah's Promise, New Brunswick, NJ, URL: http://www.elijahspromise.org

Eric B. Chandler Health Center, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ, URL: http://rwjms.umdnj.edu/patient_care/chandler/index.html

Family Health Center, St. Peter's Healthcare System, New Brunswick, NJ, URL: http://www.saintpetershcs.com/Family-Health-Center/

Family Medicine at Monument Square, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ, URL: http://umg.umdnj.edu/Public/clinical_services/division.asp?division=pccms

First Baptist Church of Lincoln Gardens, Somerset, NJ, URL: http://fbcsomerset.com/index.php

For KEEPS program (Kids Embraced and Empowered through Psychological Services), St. Peter's Healthcare System, New Brunswick, NJ, URL: http://www.saintpetershcs.com/ForKEEPS/

Fresh Grocer, New Brunswick, NJ, URL: http://www.thefreshgrocer.com/new-store.aspx

Healing Through the Arts: Artists Mentoring Against Racism, Drugs and Violence Summer Camp collaboration between Suydam Street Reformed Church, Robert Wood Johnson University Hospital – Community Health Promotion Program, and the Rutgers University Center for Latino Arts and Culture

Healthier Somerset In Action, Somerville, NJ, URL: http://healthiersomerset.com/healthier-somerset-in-action

House of Manna, First Reformed Church, New Brunswick, NJ, URL: http://firstreformedchurch.net/house-of-manna-4/

Hyacinth AIDS Foundation, New Brunswick, NJ, URL: http://www.hyacinth.org/hyacinth/home/index.jsp

Intensive Family Support Services, Middlesex County, University Behavioral Health Care, Piscataway, NJ, URL: http://ubhc.umdnj.edu/adult/ICMS.htm

Intensive Family Support Services, Somerset County, Easter Seals NJ, East Brunswick, NJ, URL: http://nj.easterseals.com/site/PageServer?pagename=NJDR_IntensiveFamilySupportServicesIFSS

Johnson & Johnson, Corporate Giving, New Brunswick, NJ, URL: http://www.jnj.com/connect/caring/corporate-giving/

LensCrafters OneSight Program, URL: http://www.lenscrafters.com/lc-us/onesight

Live for Life Program, Johnson & Johnson, New Brunswick, NJ

Middlesex County Area Wide Transit, New Brunswick, NJ, URL: http://www.co.middlesex.nj.us/awts/

Middlesex County Division of Addictions and Mental Health Planning, New Brunswick, NJ, URL: http://www.co.middlesex.nj.us/humanservices/men-add-serv.asp

Mobile Health Unit, Robert Wood Johnson University Hospital, New Brunswick, NJ

Mt. Zion AME Church, Health Ministry, New Brunswick, NJ

Multicultural Family Institute, Highland Park, NJ, URL: http://multiculturalfamily.org

NAMI (National Alliance of Mental Illness) New Jersey, North Brunswick, NJ, URL: http://www.co.somerset.nj.us/scootdash.html

National Council on Alcoholism and Drug Dependence (NCADD), Robbinsville, NJ, URL: http://www.ncaddnj.org

New Brunswick Community Farmers Market, New Brunswick, NJ, URL: http://www.nbcfarmersmarket.com

New Brunswick Community Food Alliance, New Brunswick, NJ, URL: http://www.nbfood.org

New Brunswick Dial-A-Ride, New Brunswick, NJ, URL: http://njfindaride.com/?action=display_provider_details&provider_id=401

New Brunswick Domestic Violence Awareness Coalition, New Brunswick, NJ, URL: http://nbdvac.blogspot.com

New Brunswick Methadone Maintenance Treatment Program, New Brunswick, NJ

New Brunswick Tomorrow, New Brunswick, NJ, URL: http://nbtomorrow.org

New Jersey Partnership for Healthy Kids, New Brunswick, NJ, URL: http://www.njhealthykids.org/communities/new-brunswick/

New Jersey Vaccine for Children, URL: https://njiis.nj.gov/njiis/html/vfc.html

New Jersey WIC Services, URL: http://www.nj.gov/health/fhs/wic/index.shtml

On-Time Transport, Roselle, NJ, URL: http://www.ontimetransport.com

Parent Infant Care Center (PIC-C) Program, New Brunswick High School, New Brunswick, NJ, URL: http://ubhc.umdnj.edu/childrenfamily/carri_picc.html

Pharmaceutical Assistance Programs, URL: http://www.medicare.gov/pharmaceutical-assistance-program/index.aspx?AspxAutoDetectCookieSupport=1

Play S.A.F.E. Program, New Brunswick, NJ

PRAB (Puerto Rican Action Board), New Brunswick and Perth Amboy, NJ, URL: http://www.prab.org

PRAB and Women Aware – Esperanza Domestic Violence Project

Princeton Child Development Institute, Princeton, NJ, URL: http://pcdi.org

Promise Clinic, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ, URL: http://rwjms3.umdnj.edu/promise_clinic/index.html

Robert Wood Johnson Medical School, New Brunswick and Piscataway, NJ, URL: http://rwjms.umdnj.edu

Robert Wood Johnson University Hospital (RWJUH), New Brunswick, NJ, URL: http://www.rwjuh.edu

RWJUH Health & Wellness Center, New Brunswick, NJ, URL: http://www.rwjfitnessnewbrunswick.com

Salvation Army, New Brunswick Corps., New Brunswick, NJ, http://www.use.salvationarmy.org/use/www_use_nj.nsf/vw-sublinks/85621D058D8D182F8525748F0050AA42?openDocument

Sister's Network of Central New Jersey, New Brunswick, NJ, URL: http://www.sncnj.org

Somerset County Mental Health Administrator, Somerville, NJ, URL: http://www.co.somerset.nj.us/hservices/index.html

Somerset County Transportation Services, Somerville, NJ, URL: http://www.co.somerset.nj.us/scootdash.html

Somerset Learning Institute, Bedminster, NJ, URL: http://www.somerset-hills.org

Special Child Health Services, Department of Health, State of New Jersey, Trenton, NJ, URL: http://www.nj.gov/health/fhs/sch/

Spotswood Senior Center, Spotswood, NJ, URL: http://www.spotswoodboro.com/officeonagingpage01.html

St. John's Health and Family Center, Catholic Charities, Diocese of Metuchen, New Brunswick, NJ, URL: http://www.ccdom.org/locations/st-johns-health-family-center

St. Peter's University Hospital, St. Peter's Healthcare System, New Brunswick, NJ, URL: http://www.saintpetershcs.com/saintpetersuh/

Unity Square, Sacred Heart Church, New Brunswick, NJ, URL: http://hub4sacredheart.org/unitysq_programs.aspx

University Behavioral Healthcare (UBHC), University of Medicine & Dentistry of New Jersey, Piscataway, NJ, URL: http://ubhc.umdnj.edu

Visiting Nurse Association of Central New Jersey, Red Bank, NJ, URL: http://www.vnahg.org/visiting-nurse-association-of-central-jersey.aspx

We Feed Food Drive, Woodbridge, NJ, URL: http://www.twp.woodbridge.nj.us/Departments/HealthandHumanServices/Information/WeFeedFoodDrive/tabid/372/Default.aspx

Women Aware, New Brunswick, NJ, URL: http://www.womenaware.net/contact.html

Women's Health & Counseling Center, Somerville, NJ, URL: http://www.womenandhealth.org

Woodbridge Mayor's Wellness Coalition, Woodbridge, NJ, URL: http://www.mayorswellnesscampaign.org/woodbridge-named-new-jersey-healthy-town/

Zarephath Health Center, Zarephath, NJ, URL: http://www.zhcenter.org

General Resources

Community Gardens
Farmers Markets
Food Banks and Pantries
Health Fairs
Holistic Alternatives
Med Emerges / Urgent Care Centers
Mutual Assistance
Partnerships with Local Businesses
School Nurses
Teenage / Senior Interactions
Transportation Services
Walking and Exercise Facilities

Appendix 4.F: Sources of Health Care Information

Health Care Facilities

Robert Wood Johnson University Hospital Community Outreach
St. Peter's University Hospital
Eric B. Chandler Health Center
Cancer Institute of New Jersey

Agencies/Community Organizations

Office on Aging
State Health Department
Medicare
Senior Center
Municipal Center (senior group)
PRAB (Puerto Rican Action Board)
YMCA

Internet

WebMD
Wikipedia
Search on Google ("I type in key words like 'cheap health care'")
Middlesex County website (includes CEED program)

Pamphlets

Medical facilities
Pharmacies
Pharmaceutical companies
Insurance company

Other

Newspaper ads
Health fairs
Health related magazines/newsletters
Library
Doctor
TV promotions
Word of mouth (family/friends)

Chapter 5: Discussion

Conclusions

A multi-pronged analytic approach, including both quantitative and qualitative components, was employed in this project to inform the community health needs assessment and implementation strategy required from all non-profit hospitals under the 2010 Affordable Care Act. Quantitative methods included analysis of both BRFSS data and hospital discharge records for the hospitals' primary service area compared to statewide findings, and interpretation of findings from a community phone survey conducted in the service area. Qualitative methods included focus groups of health care consumers and key informant interviews with local stakeholders, providers, and representatives from safety net and other community-based organizations. Taken together, this rich array of data provides a wealth of information on the health needs of the community and should help inform the hospitals' implementation strategy to address those needs.

Common themes were evident across the different study components. The uninsured face substantial challenges with regards to access to care; this was seen in all components of the study. Other demographic groups facing similar access challenges were low income respondents (BRFSS data, community survey), Hispanics, and non-Hispanic blacks (all four components); also, the qualitative components specifically highlighted the particular challenges of undocumented Hispanics. New areas of concern are found among the growing Asian population in the community (BRFSS data, community survey, qualitative components). These issues are not about basic access to health care, but rather are related to navigating the health system (transportation, language barriers, parking, etc.); non-English speakers, the undocumented, and the uninsured face similar challenges navigating the health system. Poor dental care is a problem among Asians as is diabetes, particularly among South Asians (BRFSS data, community survey). Diabetes is also a concern among black non-Hispanics (BRFSS data, community survey, qualitative components). Other major health concerns included asthma, obesity, mental health, dental health, and access to dental care (BRFSS data, community survey, qualitative components). Emergency department use is high among vulnerable groups (seen in all four components).

Other key findings were specific to each component. Those include:

- BRFSS data

- In general, older adults fared worse on the health status measures, while younger adults reported more problems with the healthcare access measures. Younger adults also fared worse on risky behaviors, whereas older adults generally engaged in more preventive behaviors.
- Females fared worse on most health status measures, with the exception of diabetes. Males were less likely to have a regular doctor and medical or dental check-ups, while females reported more problems with cost barriers to care.
- Black non-Hispanic and Hispanics fared worse on some of the health status measures than white non-Hispanics, but white non-Hispanics were more likely to report heart attack, stroke, and activity limitation. Black non-Hispanics and Hispanics reported more problems with the healthcare access measures. Asian non-Hispanics fared better on almost all the measures; notable exceptions included diabetes and not having a recent dental visit.
- Low income respondents and the uninsured fared worse on nearly all measures.

- Hospital discharge records
  - Population-based rates of avoidable hospitalizations and ED visits were lower for the service area of the hospitals compared to NJ overall, suggesting relatively higher adequacy of primary care.
  - Percentage of avoidable hospitalizations within the hospital service area was highest within Medicare-paid hospitalizations (17.0%) followed by those with payer type uninsured/self-pay (11.0%).
  - Unlike inpatient hospitalizations, Medicaid-paid ED visits had the highest percentage of avoidable visits (58.1%) followed by ED visits with payer type self-pay /uninsured (49.8%).
  - Blacks were more likely to have avoidable hospitalizations, while Hispanics were more likely to have avoidable ED visits.
  - For children, blacks and Hispanics had higher rates of avoidable hospitalizations (out of all hospitalizations) than white patients.
- Community phone survey
  - 56.2% of adults had been diagnosed with at least one chronic condition; 30.8% had been diagnosed with high blood pressure.
  - About two-thirds of adults (66.0%) were either overweight or obese, but only 24.8% had received advice about their weight from a health care provider in the past year.
  - 20.1% of adults had visited the ED in the past year and about a third of those had visited the ED more than once. The majority (81.2%) spent less than 30 minutes in the ED before being seen by a health care provider.
  - About a fourth (27.0%) reported at least one major barrier to wanted care.

- Over half (52.9%) of adults reported at least one problem with navigating the health care system; inconvenient doctor's hours and having to wait too long to get an appointment were cited most often.
- Younger adults reported more problems with health care access and utilization measures than older adults, but older adults fared worse on the health status measures. Younger adults also took more chances with their health.
- Males fared worse on health care utilization-related measures and risky health attitudes and behaviors, while females reported more problems with chronic conditions, basic access to care, and health care system navigation concerns.
- Hispanics and Asian non-Hispanics were more likely to report access problems. However, for Asians, most of their concerns related to navigating the health care system (transportation, language issues, etc.), while Hispanics were much more likely to report basic access problems such as not getting wanted care. Black non-Hispanics had a moderate number of concerns, about half the number for Hispanics and Asians. White non-Hispanics were more likely to have ever been diagnosed with high blood pressure or other chronic condition.
- Prescription medication use is high, with 60.6% of adults taking at least one prescription medicine in the past month and even higher rates among older adults, females, white non-Hispanics, middle-income respondents, and those publicly insured. Taking at least one prescription medication in the past month was reported for nearly one in three children, and was even higher among white non-Hispanic children (44.9%) and children in high-income households (41.9%).
- *The number of black non-Hispanic children, Asian non-Hispanic children, children of other race, low income children, and uninsured children was too low to report cross-tabulated results for any of the measures, but it is likely that many in these sub-groups also have more health or access concerns.*
- Publicly insured children fared well in the dental measures; they were more likely to have had a dental check-up in the previous year and to have dental insurance.
- Over 15% of the children overall had ever been diagnosed with asthma, so this remains a concern. Nearly one in five children had at least one ED visit in the past year, and this was even more likely in several sub-groups of children.

- Key informant interviews and consumer focus groups
  - The hospitals' catchment area has a high concentration of health care resources in New Brunswick, but the distribution of these resources throughout the catchment area is uneven.

- Because the plethora of needs assessments over the years have not been sufficiently coordinated, there has been duplication of effort and consequently less effectiveness and efficiency.
- There are some resources that are inadequate or altogether lacking, even in "resource rich" New Brunswick: resources for dental care, addiction treatment, long-term mental health care, and sources of affordable medication.
- The most prevalent health issues in the represented communities are obesity, mental health issues, and diabetes. All three are complex problems, and socio-economic and cultural issues have bearing on them all.
- The hospitals' catchment area is extremely diverse in terms of cultures and languages. This creates particular challenges in navigating the health care system and the hospitals, in particular.
- The perceived "antagonist" relationship between the two hospitals also stands as a barrier to coordinated services in their mutual catchment area.
- Other areas for hospital improvement include enhanced customer service training for all hospital personnel (particularly around cultural competency), patient advocates, and personnel to help families navigate post-hospitalization care.
- Patient perceptions of the hospitals can be deeply influenced by a single negative experience. These perceptions can endure even decades after the defining experience and can play an important role in shaping patient decisions.

On a positive note, most health and access-based indicators in the hospitals' primary service area were consistently better than benchmark rates for the state of New Jersey overall (found in the BRFSS data and hospital discharge records). However, disparities for the uninsured and low income respondents still remain and are quite large for many measures. Some racial-ethnic disparities also remain, although not consistently across all the measures. Finally, changing demographics have brought new health challenges, particularly with language barriers among growing Asian sub-groups and other system navigation issues.

Interpretation, Generalizability of Findings, and Study Strengths

There are several points that should be noted when interpreting the findings from the various analytic activities described here or generalizing them to the community as a whole. The BRFSS data and community phone survey have potential limits inherent to any survey data. These limits primarily deal with the problem of not being able to reach some sub-groups of the

population such as those without telephones or those suspicious of research. While survey questions were constructed as unambiguously as possible, it is possible that some participants did not understand all questions. Also, the sample sizes for some sub-groups, particularly among children, were too small and so results for these sub-groups were not reported as they would not be statistically reliable.

The findings from the hospital discharge records are based on avoidable hospitalizations and ED visits. These measures identify unmet community health care needs since these visits could be avoided by high quality community based primary care (AHRQ 2012a). However, there are other factors related to poor environment or patient non-adherence to treatment that could also result in these hospitalizations. Notwithstanding, these measures provide a good starting point for assessing quality of health services in the community (AHRQ, 2012a).

The qualitative data collection strategies posed certain strengths and limitations. Including both focus groups and interviews provided rich information from a broad array of community stakeholders regarding their experiences, opinions, and perspectives on the health and healthcare in their communities. However, time and resource constraints inhibited the ability to include all cultural, ethnic, racial, and geographic sub-groups in the study. As is common with qualitative studies, key stakeholders were purposefully selected for the interviews. This helped to ensure broad representation of healthcare services and perspectives. However, there are likely certain areas of healthcare that are not represented in this report. Moreover, the purposive nature of this sampling strategy inhibits the ability to generalize to the larger population of healthcare stakeholders in these communities. Additionally, the interpretive nature of the qualitative analysis can raise questions of validity. Systematic steps were taken to minimize researcher biases throughout the data collection and analysis process and rigorous qualitative techniques were used to verify our interpretations and conclusions.

However, there are multiple strengths to this study which help mitigate many of these limitations. By using four different data sources, both quantitative and qualitative, it is possible to see if common themes emerge across the different methods. The fact that many common themes did emerge strengthens the reliability and generalizability of the findings. Another strength of this project is that input was collected from both the public (BRFSS, hospital discharge data, community phone survey, consumer focus groups) and also from providers and other experts in the field (key informant interviews). Thus we were able to identify need from both perspectives and again examine where findings converge. Data sources included both self-report (BRFSS, community survey, and qualitative components) and administrative data (hospital discharge records); again, converging themes across both types of data strengthen these findings. The hospital discharge records had detailed information on patient and payer

characteristics that shed light on the composition of patients facing barriers to ambulatory care as well as those who are at the highest risk of facing access problems. Such information captured in administrative records can then help in developing interventions to ensure primary care adequacy within the community.

Similarly, the BRFSS data and community survey have detailed information on patient demographics and health insurance that allow stratification of findings by these characteristics. The community survey and the qualitative components allowed tailored investigation by customizing the questions based on study objectives. Additionally, having focus groups conducted in multiple languages (English, Spanish, Hindi, and Gujarati), including cell phone interviews in the community survey, and a highly diverse hospital service area resulted in a good racial-ethnic representation in all components of the study. This ensured that viewpoints and perspectives of many members of the community were heard. Finally, the qualitative findings in this report represent a summary of personal experiences, opinions, and perspectives. These can be important for understanding peoples' healthcare behaviors and decisions as well as gaining insights into the context of health and healthcare in Middlesex and Somerset counties.

Supplement: Summary of New Jersey Childhood Obesity Study Findings for New Brunswick, NJ

Introduction

This appendix presents a brief summary of findings for New Brunswick, NJ, from the 2008-2010 New Jersey Childhood Obesity Study. These findings are included in this report as they may be relevant to the hospitals' community health needs assessment. The study was funded by the Robert Wood Johnson Foundation and conducted by the Rutgers Center for State Health Policy (CSHP) in five New Jersey cities (Camden, Newark, New Brunswick, Trenton, and Vineland). The goal of the study was to provide information to the cities to help them design, implement, and evaluate interventions that target childhood obesity and its prevention. A study has recently been funded by the NIH in which the same families will be followed for four years after the original telephone survey in order to evaluate the impact of changes in the physical activity and food environment (whether intended or not) on change in children's weight status and associated behaviors.

Links to all reports for New Brunswick and other related study publications are provided at the end of this appendix. For more information about the study, please contact the principal investigator, Michael Yedidia, PhD, at myedidia@ifh.rutgers.edu.

Methods

There were four parts to the study:

1. Telephone Survey. A comprehensive, random-digit-dial telephone survey of families with children ages 3-18 conducted in 2008-2009. The adult who makes most decisions about food shopping for the family answered detailed questions on obesity-related measures for him/herself and a randomly selected child. This person was the parent of the child in 94% of the cases. All measures were analyzed by age, gender, and race-ethnicity for each city.
2. Public School BMI Data. Height and weight measurements collected from public schools during the 2008-2009 school year, converted to BMI scores, and analyzed by age, gender, and race-ethnicity for each city.

3. Food Environment Maps. Creation of geo-coded food environment maps from commercial food outlet data, which were then converted into food outlet density maps for each city, classified by type of food outlet (healthy food outlet, fast food restaurant, etc.), and presented at the census block level using Census data by percent of households below the poverty level, race-ethnicity, percent of households with children, and schools by grade level.
4. Physical Activity Maps. Creation of geo-coded physical activity environment maps from commercial and city data, which were then converted into density maps for each city, classified by type of physical activity outlet (private and public facilities for children ages 3-18, parks), and presented at the census block level using Census data by poverty level, race-ethnicity, percent of households with children, and crime.

Findings

Unless otherwise noted, all findings reported below are for New Brunswick only. Reports for the other four cities can be found on the main CSHP obesity study page linked at the end of this appendix.

Telephone Survey

The findings presented here are based on data collected from telephone surveys of 208 families in New Brunswick. Four areas related to childhood obesity were analyzed: food behaviors, food shopping environment, physical activity, and physical activity environment. Cross-tabulations were conducted for each measure by gender and by race-ethnicity (Hispanic and black non-Hispanic children only). Due to sample size limitations, separate estimates for age groups and for non-Hispanic white children and children of "other race" were not provided. The overall response rate was 49%.

Food Behaviors

Data were collected on how often the child consumed specific types of foods.

- Healthy People 2010 guidelines (US Dept of Health & Human Services) recommend that children eat vegetables three times a day. Only 12% of New Brunswick children meet this recommendation. About a quarter of children do not eat one vegetable a day.
- Healthy People 2010 guidelines recommend that children eat fruit or 100% juice two times a day. Just over half of New Brunswick children meet this recommendation.
- Black non-Hispanic children in New Brunswick are most likely to drink two or more sugar-sweetened beverages a day or eat sweet or salty snacks daily.

- Girls are more likely to snack on sweets, while boys are more likely to consume sugar-sweetened beverages.
- About half the children do not snack on fruits and vegetables regularly. Boys and Hispanic children are even less likely to snack on fruits and vegetables.
- Despite these findings, 90% of New Brunswick parents think their children "eat healthy".

Food Shopping Environment

Parents were asked to describe features of the store where they do most of the food shopping for their families.

- Overall, the majority of New Brunswick families shop at supermarkets for most of their food shopping. However, about a fourth of Hispanic parents do most of their food shopping at corner stores or bodegas.
- About 40% of parents shop outside of their neighborhood for food, mainly due to cost, quality, or the lack of food stores in their neighborhoods.
- Nearly a fourth of Hispanic parents said there is not a food store in their neighborhood (defined as the area within a 20 minute walk, a 5 minute drive, or about 1 mile in all directions around the respondent's home).
- About half of the parents said their main food store had a limited selection of fruits, vegetables, and low-fat foods. About half also cite cost as a barrier to purchasing these items.
- More than a fourth of the parents report that they sometimes or often do not have enough food to eat (termed 'food insecure"). Hispanic households with children are even more likely to be food insecure (39%).

Physical Activity

Parents reported how often the child was physically active and how much time the child spent on the computer and watching television or playing video games.

- The 2008 Physical Activity Guidelines for Americans (US Dept of Health & Human Services) recommend children should be physically active at least 60 minutes every day. Only 19% of New Brunswick children meet this recommendation, and Hispanic children are even less likely to meet it.
- However, 90% of parents think that their children get enough physical activity.
- Black non-Hispanic children are less likely to walk, bike, etc., to school, but Hispanic children are less likely to get physical activity at school.
- The American Academy of Pediatrics recommends that children spend no more than two hours per day on television, computers, and video games (defined as "screen time"). Overall, 18% of the children spend more than two hours per day during

weekdays and 47% do so on weekend days. The rates are higher among black non-Hispanic children.

Physical Activity Environment

Parents described features of their neighborhood that are associated with physical activity or the lack of it.

- 25%-40% of parents report their neighborhoods are unsafe due to crime and traffic or that their neighborhoods are unpleasant places for physical activity. They regard these as major barriers for physical activity for their children.
- While most families live in neighborhoods with sidewalks, half report that these sidewalks are in poor condition.
- About one in three black non-Hispanic children live in neighborhoods with no parks, and in those with parks, about 25% of all New Brunswick parents report that the parks are unsafe and nearly as many say their children do not use neighborhood parks for physical activity.
- Nearly half of New Brunswick children live in neighborhoods without exercise facilities.
- About 40% of Hispanic and black non-Hispanic children in New Brunswick do not walk to libraries, stores, or physical activity outlets in their neighborhoods, even though many neighborhoods have these walking destinations.

Public School BMI Data

Measured heights and weights were obtained by school nurses from public school students in the city and converted to BMI categories (body mass index). BMI categories are defined by comparing height and weight data to growth charts specific to age and gender:

- Not overweight: BMI < 85th percentile
- Overweight: BMI 85th to < 95th percentile
- Obese: BMI 95th percentile and up.

The data for New Brunswick were then compared to national estimates obtained from the 2007-2008 National Health and Nutrition Examination Survey (NHANES). Comparisons were also made for age, gender, and race-ethnicity groups.

- New Brunswick children are about 1.5 times more likely to be overweight or obese compared to national data (46.4% vs. 31.7%). The rate differential between New Brunswick and the national data is even greater for younger children.
- Almost half the New Brunswick children in every age group are overweight or obese.
- Over a quarter of the children are obese (26.7%).
- Younger children have slightly higher rates of overweight or obesity than older children.

- Hispanic and black non-Hispanic children have higher rates of overweight or obesity than white non-Hispanic children.
- Overall, more boys than girls are overweight or obese across all age groups. However, when looking at racial-ethnic groups by age and gender, this only holds for Hispanic and white non-Hispanic children. For older black non-Hispanic children, girls are slightly more likely to be overweight or obese.
- Despite the high prevalence of overweight and obese children, over 80% of parents of children ages 3-18 in New Brunswick think that their children are not overweight (from the telephone survey).

Maps: Food Environment and Physical Activity

These maps are basically descriptive tools that enable the viewer to locate pockets of "food deserts" (low availability of affordable healthy food outlets), high density areas for convenience stores and fast-food restaurants, low density areas for physical activity, high crime rates, and high poverty rates. They also enable the viewer to see the proximity of food and physical activity outlets to schools and neighborhoods with more children, and among different racial-ethnic groups.

- In New Brunswick, high density areas for convenience stores and fast-food restaurants are located in close proximity to schools, particularly elementary and middle schools.
- The majority of schools are near the downtown part of the city, which contains few physical activity centers and parks.

The geo-coded data used to generate these maps was converted into distance measures from the residences of the telephone survey respondents. Analyses of these data are underway, but a few preliminary results are included below. There was insufficient power to examine each of the cities separately, so data for four of the cities was combined (Vineland was excluded as its architectural and demographic landscape differs substantially from the other four cities).

- Children who live within a ¼ mile radius of a convenience store are almost twice as likely to be overweight or obese.
- Children who live within a ½ mile radius of a large park are about half as likely to be overweight or obese.
- Proximities to supermarkets, small grocery stores, smaller physical activity outlets, or fast-food restaurants were not significantly related to children's weight status.

Links to Childhood Obesity Study Reports

The following links are on the Center for State Health Policy (CSHP) website:

http://www.cshp.rutgers.edu/asp/childhoodobesity/childhood.htm (main page describing overall childhood obesity study; also contains links to reports for the other four cities besides New Brunswick)

http://www.cshp.rutgers.edu/Downloads/8660.pdf (chart book with survey findings for New Brunswick)

http://www.cshp.rutgers.edu/Downloads/8430.pdf (public school BMI data report for New Brunswick)

http://www.cshp.rutgers.edu/Downloads/8440.pdf (food environment maps for New Brunswick)

http://www.cshp.rutgers.edu/Downloads/8560.pdf (physical activity maps for New Brunswick)

http://www.cshp.rutgers.edu (main CSHP site – not specifically about obesity study)

www.cshp.rutgers.edu/Downloads/8800.pdf (presentation to New Brunswick school nurses)

https://apha.confex.com/apha/140am/webprogram/Paper266183.html (American Public Health Association conference abstract)

Links to media articles:

http://www.njspotlight.com/stories/12/0327/2357/

http://americancity.org/daily/entry/large-scale-program-to-promote-healthy-eating-in-five-nj-cities

http://www.nj.com/news/index.ssf/2010/11/michelle_obama_to_visit_newark.html

http://magazine.rutgers.edu/features/spring-2010/tipping-the-scales

http://www.njspotlight.com/stories/12/0320/0204/

http://www.prnewswire.com/news-releases/mayor-cory-a-booker-and-lets-move-newark-announce-innovative-program-with-nestle-and-newark-now-139112064.html

http://www.pressofatlanticcity.com/news/breaking/vineland-trying-to-improve-children-s-health-as-percent-are/article_efc1b082-81ca-11e1-b6a7-0019bb2963f4.html?cid=xrs_rss-nd

http://www.nj.com/mercer/index.ssf/2011/11/childhood_obesity_is_a_call_to.html

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