RUTGERS
Center for State Health Policy

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Hospital Utilization and Costs in Asbury Park City-Neptune Township

Key findings

- *High variation in utilization of hospital inpatient and emergency department resources across 13 New Jersey low-income communities suggests substantial room for improvement in system performance.*
- *Asbury Park City-Neptune Township ranked fifth worst in overall performance on key indicators of potentially avoidable hospital utilization among the 13 communities.*
- *If Asbury Park-Neptune had achieved care patterns of the best performing community, the cost of inpatient care for high users of these services would have been over $15 million lower in 2010, reducing costs to payers and for uncompensated care.*

Background

The New Jersey Medicaid Accountable Care Organization Demonstration Program (NJ P.L. 2011, Ch.114) provides new opportunities to improve the delivery of healthcare services through Accountable Care Organizations (ACOs), which create the potential for better population health and containment of healthcare costs. This data brief highlights key findings from a project that examined specific patterns of hospital utilization for 13 New Jersey low-income communities including Asbury Park City-Neptune Township, to identify opportunities to improve care and reduce costs. The 13 study areas are selected from communities with at least 5,000 Medicaid beneficiaries, the minimum threshold for forming a Medicaid ACO. The utilization measures include rates of 1) avoidable, ambulatory care sensitive, inpatient hospitalizations; 2) avoidable/preventable treat-and-release emergency department (ED) visits; 3) inpatient high users; 4) ED high users; and 5) 30-day all-cause readmissions (see the appendix for details of study methods and definitions). Of these five measures, the first two reflect the adequacy of ambulatory care within the community and all five

Table 1 | **Comparing Performance across 13 New Jersey Low-Income Areas (1=Best, 13=Worst)**

Areas	Overall Rank	Avoidable Hospitalizations	Avoidable ED Visits	Inpatient High Use	ED High Use	Hospital Readmissions
Atlantic City-Pleasantville City	13	12	12	12	12	8
Newark City-East Orange City-Irvington Township-City of Orange Township	12	11	10	11	10	13
Trenton City	11	10	11	10	11	12
Camden City	10	13	13	4	13	10
Asbury Park City-Neptune Township	9	4	8	13	9	9
Perth Amboy City-Hopelawn	8	9	9	8	6	7
Jersey City-Bayonne City	7	8	3	9	2	11
Vineland City-Millville City	6	7	4	6	8	2
Paterson City-Passaic City-Clifton City	5	6	5	5	4	6
Elizabeth City-Linden City-Winfield Township	4	2	7	3	5	5
Plainfield City-North Plainfield Borough	3	3	6	2	7	1
Union City-W. New York Town-Guttenberg Town-N. Bergen Township	2	5	1	7	1	4
New Brunswick City-Franklin Township	1	1	2	1	3	3

Rankings: Worst three Next three Intermediate four Best three
Regions are arranged in order of worst to best overall performance rank based on the average of individual measure rankings.
See appendix for performance measure definitions and data sources.

metrics reflect opportunities to improve coordination of healthcare services across care settings. Our study also estimated potential savings from reduced costs if regions were able to emulate the best-performing region among them – here we report those findings for Asbury Park City-Neptune Township. All findings are based on analysis of New Jersey uniform billing hospital discharge data over 2008–2010 and also an enhanced version where patients are tracked over time. Savings estimates are annualized and calculated in 2010 dollars.

Overall Findings

For complete findings see www.cshp.rutgers.edu/MedicaidACO

Table 1 illustrates how the different New Jersey low-income communities compare to each other in terms of individual and overall average ranking and arranges them in order of worst to best performance.

The best performing low-income communities do about as well as New Jersey overall. On average, however, the 13 communities perform worse (i.e., had higher rates of hospital use that is potentially reducible through care improvements) compared to NJ overall.

Compared to the statewide average, the 13 study communities average higher rates in key indicators of hospital performance:

- Avoidable ED visits (68% higher)
- ED high users (56% higher)
- Avoidable inpatient stays (45% higher)
- Readmissions (14% higher)
- Inpatient high use not substantially different from statewide average

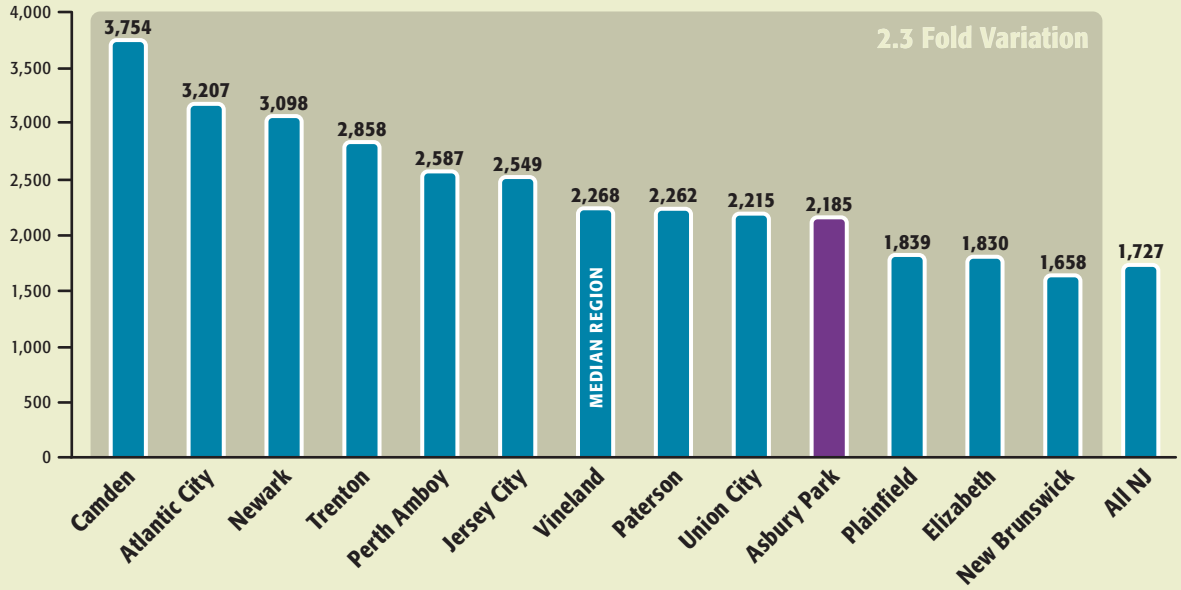
Figures 1 to 5 report rates of inpatient hospital and ED utilization for each of the 13 communities and also compare these to the state-level rates. There is wide variation in most of the measures, suggesting that improvement by low-performing areas is achievable. Comparing the worst performing (highest rate) and best performing (lowest rate) regions, we find: 4.7 fold variation in ED high users; 3.5 fold variation in avoidable ED visits; and 2.3 fold variation in avoidable inpatient stays.

How Asbury Park City-Neptune Township Compares

Asbury Park-Neptune ranked fifth from last in overall performance among the 13 communities taking all five measures into account (i.e., the average of the ranks of each of the five measures). In terms of individual measures, Asbury Park-Neptune had:

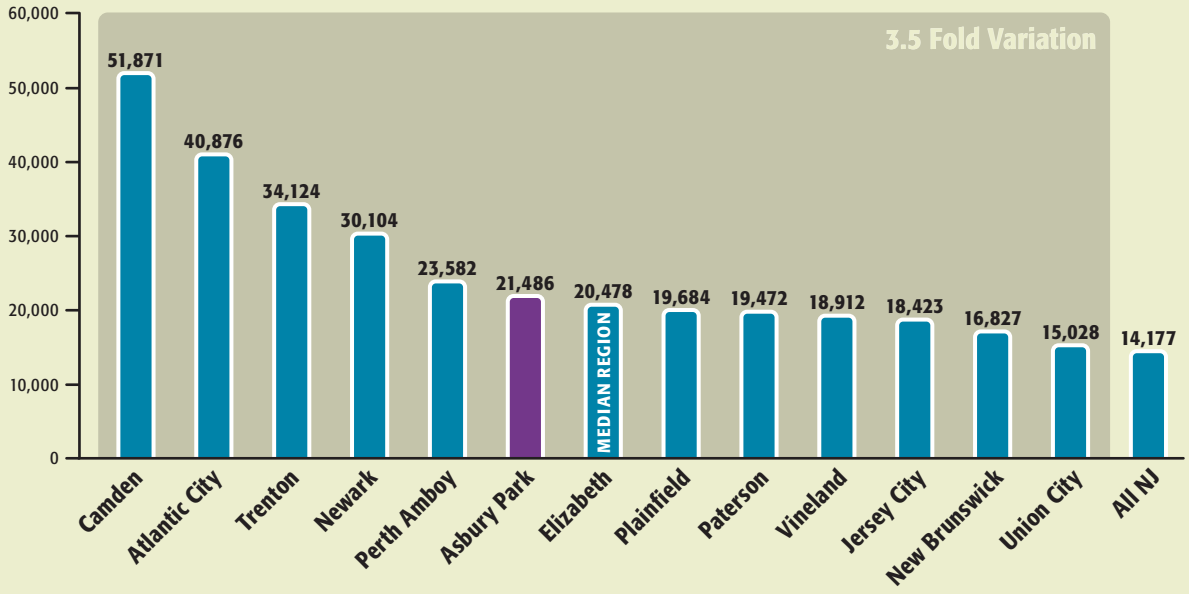
- Fourth best rate of avoidable inpatient hospitalizations (Figure 1)
- Sixth highest rate of avoidable ED visits (Figure 2)
- The highest rate of inpatient high use (Figure 3)
- Fifth highest rate of ED high use and hospital readmissions (Figures 4 and 5)

Figure 1 | **Rates of Avoidable Inpatient Hospitalizations**



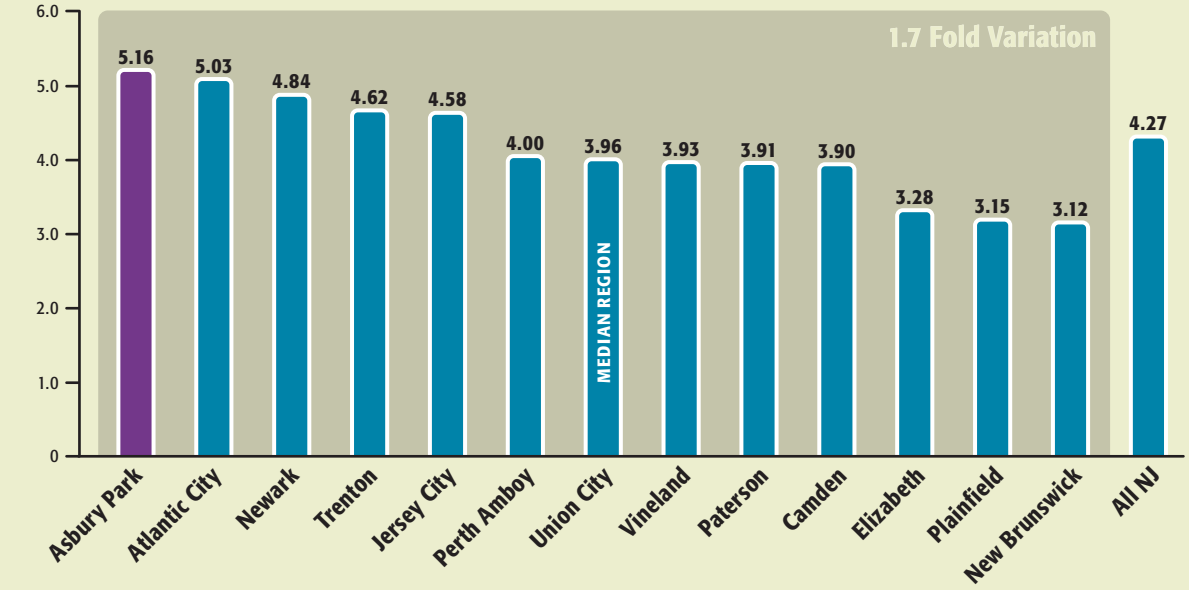
See Table 1 for full community names. Rates represent average annual rates of avoidable inpatient hospitalizations per 100,000 population.

Figure 2 | **Rates of Avoidable ED Visits**



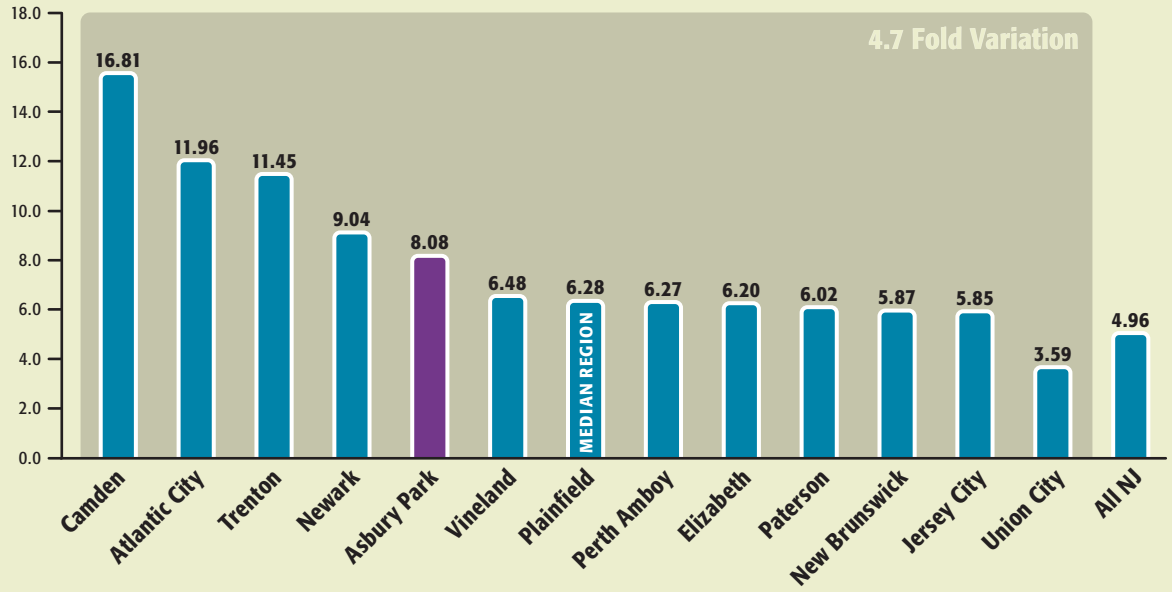
See Table 1 for full community names. Rates represent average annual rates of avoidable ED visits per 100,000 population.

Figure 3 | **Rates of Inpatient High Use**



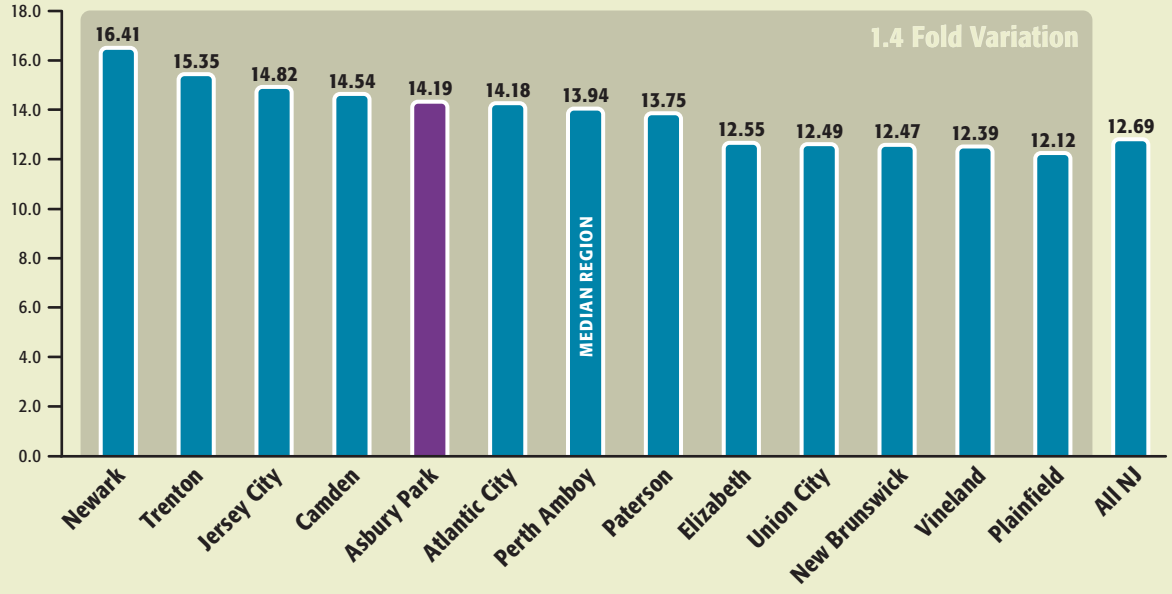
See Table 1 for full community names. Rates represent number of inpatient high users out of 100 hospital users over 2008–2010.

Figure 4 | **Rates of Treat-and-Release ED High Use**



See Table 1 for full community names. Rates represent number of ED high users out of 100 hospital users over 2008–2010.

Figure 5 | **30-Day All-Cause Readmission Rates**



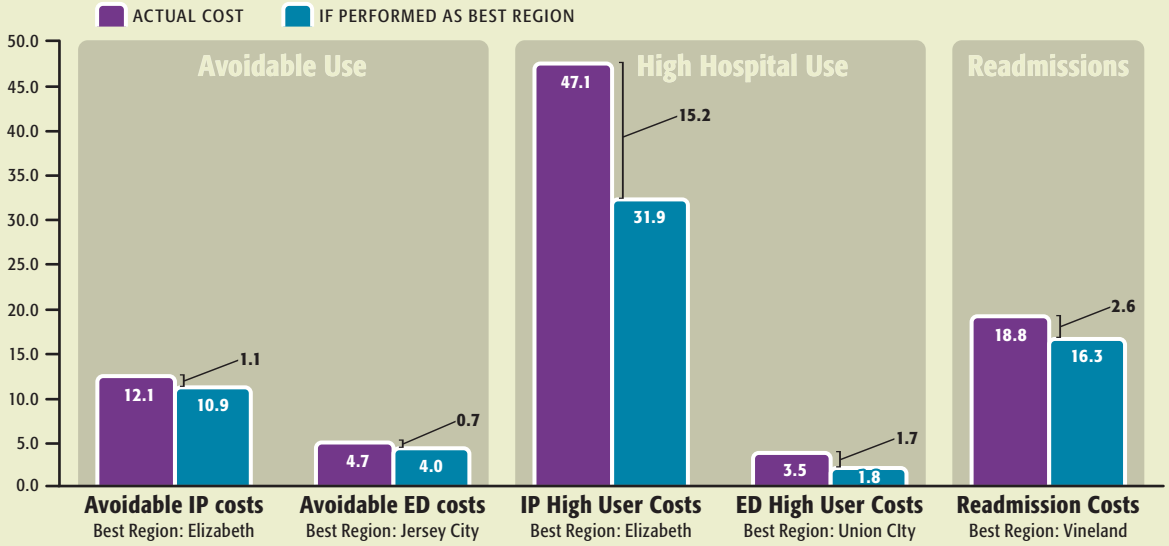
See Table 1 for full community names. Percent of index (initial) hospitalizations that had one or more readmissions over the following 30 days.

If providers in Asbury Park-Neptune were able to achieve the performance of the region with the best cost profile on each of the measures, substantial hospital cost savings would be achieved (see Figure 6). These savings would reduce costs to payers and for uncompensated hospital care:

- $1.8 million from reduced avoidable inpatient stay and ED visit costs
- $15.2 million from reduced inpatient high user costs
- $1.7 million from reduced ED high user costs
- $2.6 million from reduced readmission costs

(Note, these amounts should not be summed across the categories in Figure 6 because of overlap in hospital stays or visits across measures.)

Figure 6 | **Annualized Potential Savings if Asbury Park Achieved Best Performance ($ millions)**



Potential savings if Asbury Park-Neptune achieved rates of best performing area in each of the 5 measures reported above. Based on 2008-2010 data for area residents regardless of hospital visited. Figures are annualized and adjusted to 2010 dollars using the CPI-Medical Care. Savings should not be aggregated across demarcated categories due to overlap of populations. IP denotes inpatient.

Additional Findings

- In Asbury Park-Neptune, as in other study communities, the most common payer for inpatient high users, patients with readmissions and avoidable hospitalizations was Medicare. Across the 13 communities, Medicare was the principal payer for 51.7% of inpatient high user patients, including Medicare and Medicaid "dual eligible" patients.
- The two types of ED utilization were most frequently by patients classified as self-pay/uninsured or those with private insurance. Across the 13 communities, 39.9% of ED high users and 38.3% of preventable/avoidable ED visits were classified as self pay/uninsured.
- Minorities, women and younger patients accounted for higher proportions of ED utilizers than for inpatient users.
- In all of the communities, inpatient high user populations were distinct from high ED users reflecting the need for separate care management initiatives.
- The most common principal diagnoses for inpatient and ED high users in the 13 communities are reported in Table 2.

Table 2 | **Most Common High User Diagnoses**

Inpatient High Users	ED High Users
Heart failure	Other symptoms involving abdomen and pelvis
Septicemia	Symptoms involving respiratory system and other chest symptoms
Diabetes mellitus	Other and unspecified disorders of back
Other forms of chronic ischemic heart disease	Asthma
Symptoms involving respiratory system and other chest symptoms	General symptoms

Appendix: Study Methods

Data Source

We used New Jersey all-payer uniform billing hospital discharge data over the period 2008–2010 maintained by the NJ Department of Health. These data provide information on patient demographics, clinical diagnoses and procedures, and hospital charge amounts relating to inpatient stays and treat-and-release emergency department visits by residents within New Jersey overall and each of the study communities for 2008–2010. We also used an enhanced database prepared by the NJ Dept. of Health where we were able to track patients over time.

Measures

Avoidable Inpatient Hospitalizations: Population-based rates of potentially avoidable inpatient hospitalizations for ambulatory-care sensitive conditions. High rates of such hospitalization often reflect inadequate ambulatory care within the community. We used AHRQ methodology on Prevention Quality Indicators.

Avoidable Treat-and-Release ED Visits: These are treat-and-release ED Visits that could have been treated in a primary care setting or avoided/prevented if the patient had access to timely and effective primary care. We used algorithm provided by researchers at the Center for Health and Public Service Research, New York University. Details regarding calculation of various categories of ED visits are available at NYU ED Algorithm: Background.

High Users of Hospital Resources: Inpatient high users are patients with four or more inpatient stays over 2008–2010. This level of inpatient use corresponds to 96th percentile of statewide distribution. ED high users are patients with six or more visits over 2008–2010. This level of ED use corresponds to 95th percentile of statewide distribution. Rates are reported as number of inpatient high users or ED high users per 100 hospital users.

Hospital Readmissions: These are 30-day all-cause readmission rates per 100 "index" (initial) hospitalizations.

Savings estimates. These reflect potential savings from cost reductions that would be realized if Asbury Park-Neptune was able to replicate the best performing region for each of the measures. Costs are calculated by applying cost-to-charge ratios to charge data. Estimates are annualized for 2008–2010 and adjusted to 2010 dollars using the Consumer Price Index for medical care. These estimates reflect reductions in hospital costs and may not reflect actual savings to payers.

Geographic Definition: For calculating the above measures for Asbury Park City-Neptune Township we utilized hospital stays/visits by patients who resided in the zip codes 07712 and 07753. See the full study report for definitions of the other study communities and other methodological details.

Acknowledgements

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