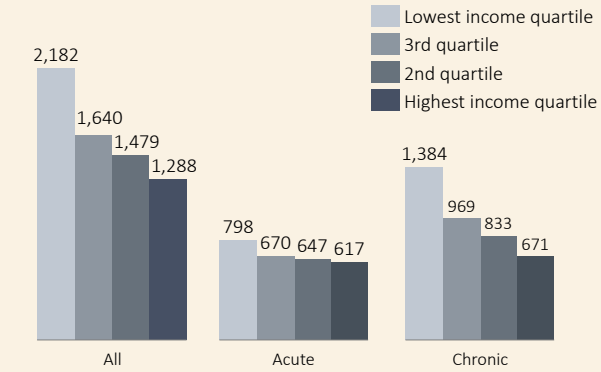
C. Quality and Access: Preventable Hospitalizations in Low-Income Communities

In its 2013 report, the Commission presented a profile of quality and access in Massachusetts based on a number of statewide measures. While Massachusetts showed high performance across a variety of domains, the state was found to lag national averages on several prevention quality indicators related to preventable hospitalizations.[i] These measures of quality are of particular relevance for cost trends, as they represent instances in which quality improvement may also lower costs through avoided hospital admissions.[1] The 2013 report estimated that $700 million in spending is associated with preventable hospitalizations in Massachusetts.[2]

To further identify specific areas of opportunity to reduce preventable hospitalizations for the Commonwealth, we examine the quality indicators for preventable hospitalizations for different income groups.[ii] National studies have established that lower-income communities often experience social and medical conditions that result in disproportionately high utilization of emergency departments and inpatient care.[3,4,5,6] Differences in the rate of preventable hospitalizations based on income are also evident in Massachusetts. In 2012, Massachusetts's all-payer rate of preventable hospital admissions was 1,647 per 100,000 adults, but these rates were significantly higher for low-income communities (see **Figure C1**).[iii,7] Higher-income communities (those in the top quartile of zip codes by median household income) had 1,288 preventable admissions per 100,000 adults, 41 percent lower than the rate for lower-income communities (those in the lowest income quartile). Similar patterns were observed for measures specific to a variety of acute and chronic conditions (**Figures C1 and C2**). Income disparities were more pronounced for chronic conditions -- for which the difference in preventable hospitalization rates between the lowest and highest income communities was 51 percent -- than for acute conditions, for which the difference was 23 percent. The greatest differences occurred for asthma and diabetes.

Figure C.1: Overall rates of preventable hospitalization by income quartile*

Preventable admissions per 100,000 residents, 2012



* Income was estimated using the median household income for the patient's zip code. Preventable hospitalizations were calculated using AHRQ's prevention quality indicator (PQI) measures. All figures are age- and sex-adjusted.

SOURCE: Center for Health Information and Analysis; HPC analysis

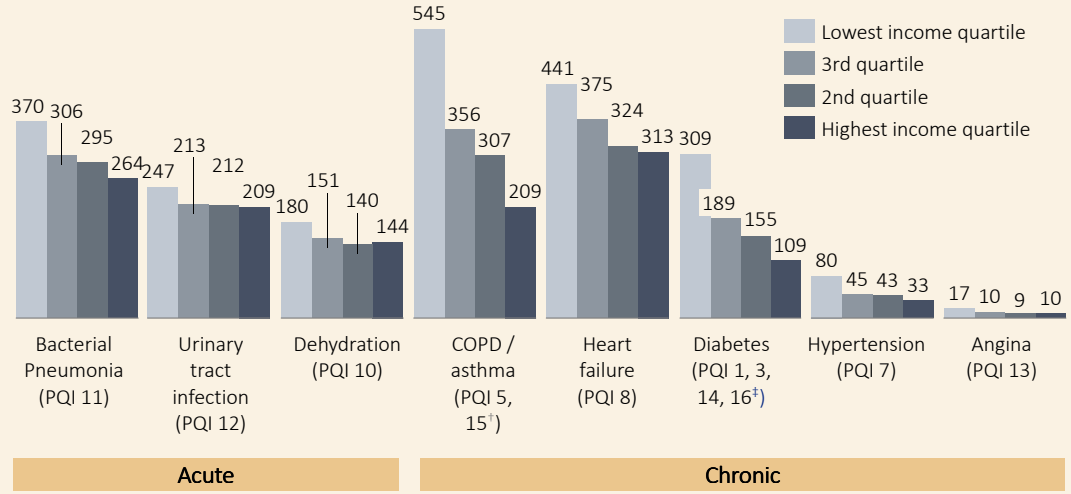
Reasons for preventable hospitalizations are complex and multi-faceted. Drivers include health system factors, including access to primary care and challenges in chronic disease management, and community factors, including social and environmental determinants of health.[8] Among health system factors, limited access to primary care can mean that patients receive less ambulatory care and do not receive appropriate preventive measures or early, low-acuity care.[9] Language barriers, transportation challenges, lack of physicians accepting new patients, and limited availability of services outside of work hours can re-

[i] Preventable hospitalizations were identified in the 2012 CHIA hospital inpatient case mix database using AHRQ's Prevention Quality Indicator (PQI) measures. All measures were adjusted to control for differences in age and sex.

[ii] In this report, we focus on income-based disparities. Disparities in outcomes based on other characteristics – such as gender and race/ethnicity – are also areas of interest for the Commission that may be examined in future analysis.

[iii] The U.S. rate of preventable hospital admissions was 1,545 per 100,000 adults in 2010.

Figure C.2: Rates of preventable hospitalization for acute and chronic conditions by income quartile*
Preventable admissions per 100,000 residents, 2012



*Income was estimated using the median household income for the patient's zip code. Preventable hospitalizations were calculated using AHRQ's prevention quality indicator (PQI) measures. All figures are age- and sex-adjusted.

†Composite of PQI 5 (COPD or asthma in older adults) and PQI 15 (asthma in younger adults).

‡ Composite of PQI 1 (short-term complications for diabetes), PQI 3 (long-term complications for diabetes), PQI 14 (uncontrolled diabetes), and PQI 16 (amputation among diabetes).

SOURCE: Center for Health Information and Analysis; HPC analysis

duce use of primary care settings.[10,11,12,13] Moreover, studies suggest that patients with low socioeconomic status may prefer hospital care over ambulatory care, perceiving it as more accessible and of higher quality.[14] Other health system factors include drivers of hospital readmissions, such as poor discharge instructions, limited provider follow-up after discharge, and ineffective patient education regarding and support for adherence to care management protocols at home.[15,16,17]

Other drivers of preventable hospitalizations are outside of the health system. The underlying prevalence of chronic illness is often higher in lower-income communities.[18] Poor access to nutrition due to a lack of grocery stores, the absence of social supports reinforcing the importance of preventive care, and environmental factors such as neighborhood walkability or the age of the housing stock have been found to drive outcomes for several of the conditions associated with preventable hospitalizations.[19] Community programs outside of the health system are needed to help address these factors.

Within the health system, there are several opportunities to reduce preventable hospitalizations. Patient-centered medical homes – for which the Commission is developing certification standards – are intended to address barriers to access in primary care.[20,21] Other interventions to reduce preventable hospitalization rates include increased staffing of care managers who provide discharge instructions ensuring that patients are aware of what type of symptoms can be treated outside of the hospital setting.[22] Alternative payment methods can be an important enabler of these care delivery changes. Provider organizations that are allocated global budgets can more flexibly deploy resources to invest in interventions that improve ongoing management of chronic disease and prevent hospitalizations.[23]

There are several ongoing efforts to invest in community care to reduce preventable hospitalizations. For example, Chapter 224 includes a nearly $60 million, four-year investment in population-based health promotion through the Prevention and Wellness Trust Fund. In addition, some hospitals have attempted to reduce preventable hospitalizations through innovative approaches to community care. The Commission's $120 million CHART investment program has supported various approaches in its first phase of grants. For example, one CHART-funded hospital is constructing a High Risk Intervention Team that provides care coordination, patient education, medication management, and discharge planning for certain high-utilizing patients.

Continued effort to improve community supports and the quality of health care for disadvantaged communities is needed. The high rate of preventable hospitalizations in low-income communities represents an opportunity to reduce low-value spending and improve the efficiency and equity of health care delivery for these groups. The Commission seeks to support efforts to optimize appropriate hospital use in its second phase of the CHART investments program. The Commission will also continue to analyze health disparities based on income and other characteristic such as race/ethnicity and sexual orientation to identify opportunities to equitably improve the quality and efficiency of care for all Massachusetts residents.

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