



Prevalence of and Contributing Factors to Potentially Preventable Hospitalizations among Adult Maryland Medicaid Enrollees

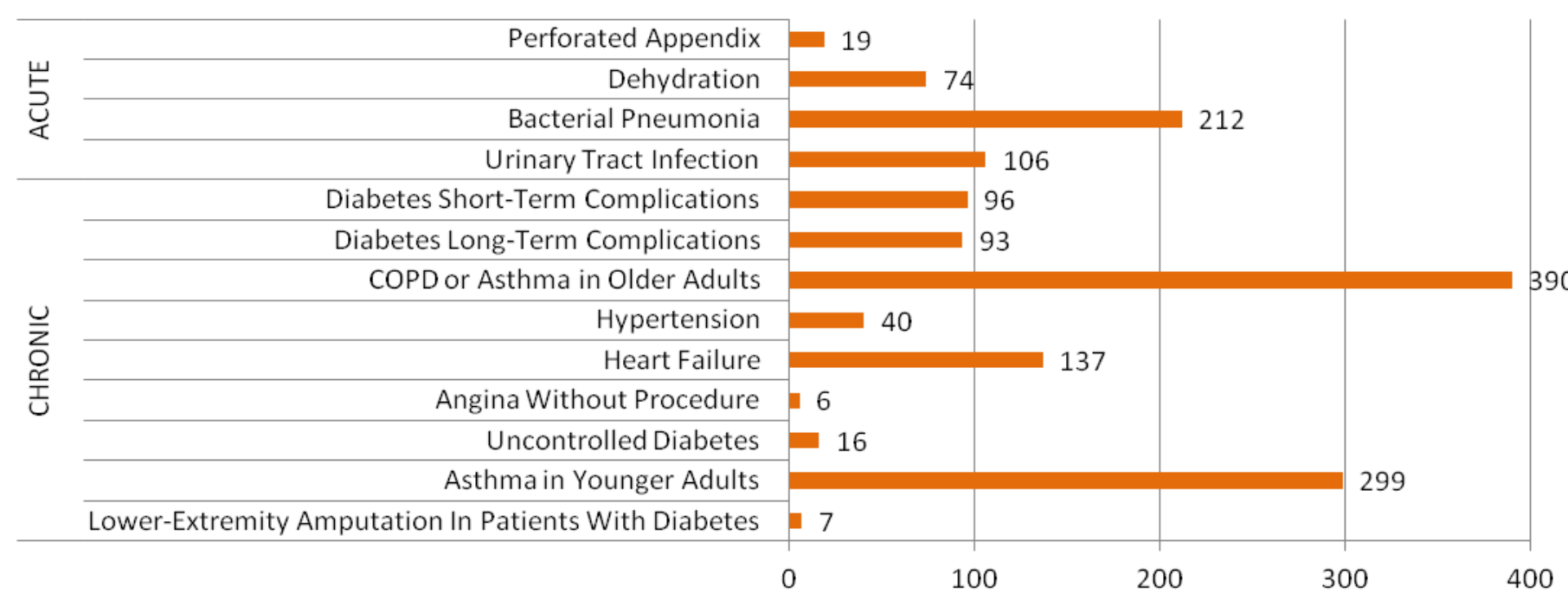
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Introduction

Potentially preventable hospitalizations are admissions to a hospital for conditions that might not have required hospitalization if they had been managed successfully in an ambulatory care setting. These types of admissions can be used as a performance measure of primary health care, possibly indicating poor care quality, lack of care coordination, and/or limited access to care.

In this study, potentially preventable hospitalizations are measured using The Agency for Healthcare Research and Quality's Prevention Quality Indicators (PQIs) methodology. PQIs are identified based on primary diagnoses in hospital admission records.

2012 Maryland Medicaid PQI Rates Per 100,000 Population



Study Design and Population

The study population included all Maryland Medicaid enrollees aged 18 to 64 years who were enrolled during calendar year 2012 (n = 560,128).

Three multivariate logistic regression models were run to estimate the effects of individual and community characteristics on the likelihood of an Acute, Chronic, or Overall Composite PQI in 2012. The models' explanatory variables included:

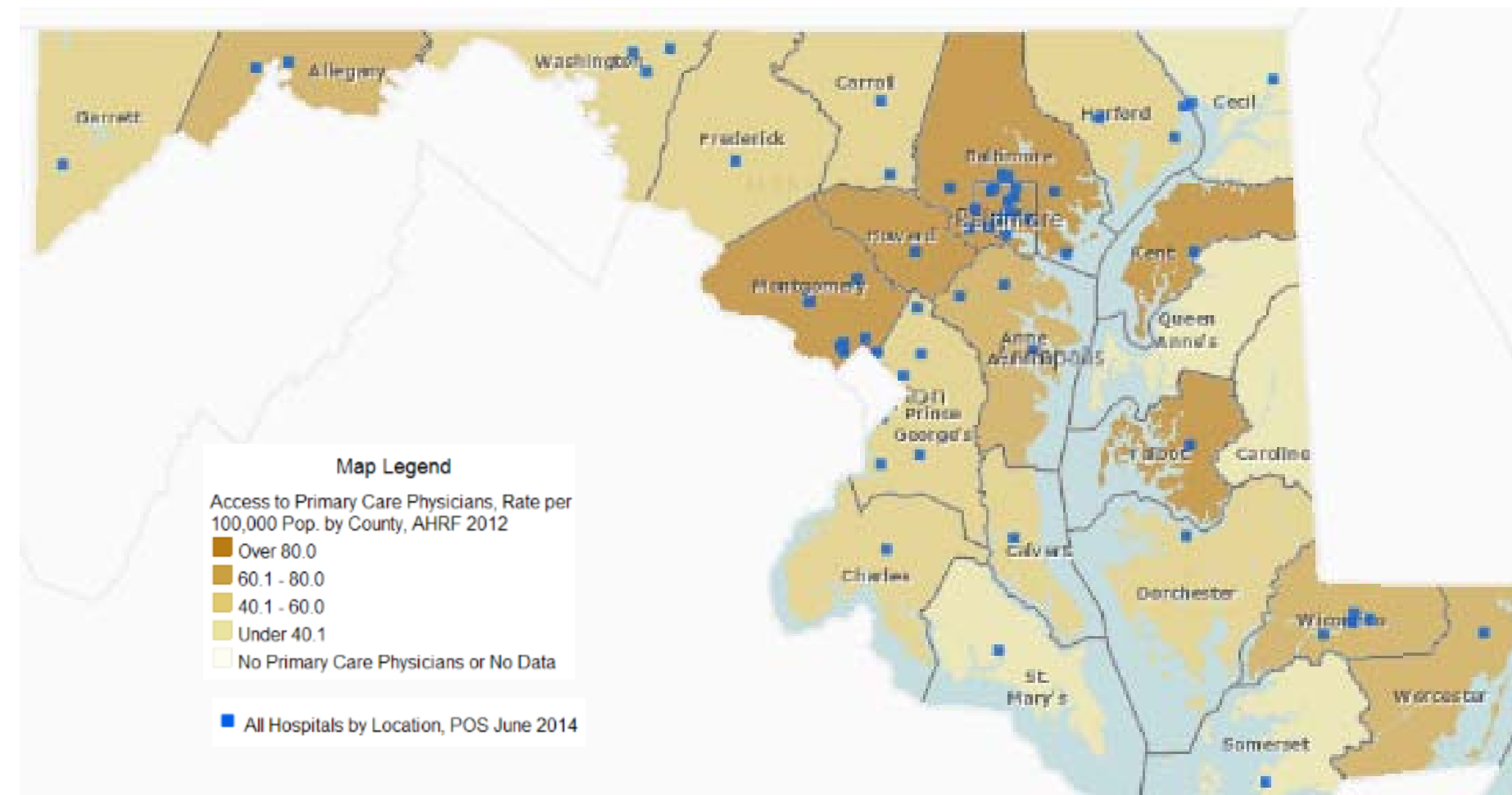
Maryland Medicaid Claims Data

- Age
- Race
- Gender
- Geographic region
- PQI-related diagnosis
- Ambulatory care visit history

Area Health Resource File Data

- Number of primary care physicians (PCPs) per 1,000 county population
- Number of hospitals per 100,000 county population
- Percentage rural population

LOGISTIC REGRESSION RESULTS		ODDS RATIOS (*p<.05, **p < .001)		
EXPLANATORY VARIABLES		OVERALL	ACUTE	CHRONIC
RACE/ETHNICITY (Ref. White)	Black/African-American	0.952	0.946	0.953
	Hispanic	0.392 **	0.431 **	0.38 **
	Other	0.449 **	0.476 **	0.435 **
GENDER (Ref. Female)	Male	0.739 **	0.732 **	0.744 **
AGE (Ref. 18-24)	55 to 64	0.877 *	0.84 *	0.901
	45 to 54	0.847 **	0.814 *	0.865 *
	35 to 44	0.829 **	0.805 **	0.85 **
	25 to 34	0.647 **	0.653 **	0.648 **
REGION (Ref. Baltimore City)	Western Maryland	1.817 **	3.002 **	1.413 **
	Washington Suburban	1.442 **	1.964 **	1.236 *
	Southern Maryland	1.732 **	2.884 **	1.353 *
	Eastern Shore	1.601 **	2.42 **	1.308 *
	Baltimore Suburban	1.58 **	2.129 **	1.369 **
PQI-Related Diagnosis in Past 3 Years (Ref. No Diagnosis)		1.157 **	1.156 *	1.153 **
Annual Ambulatory Visits (Ref. No Annual Ambulatory Visit)		1.524 **	1.443 **	1.575 **
Percent Rural County Population		1.18	0.556 *	1.671 *
Number of PCPs per 1,000 County Population		0.815 **	0.795 *	0.825 *
Number of Hospitals per 100,000 County Population		0.947 *	1.04	0.911 *



Source: Community Commons (retrieved May 5, 2015)

Principal Findings

- The condition causing the largest absolute number of potentially preventable hospitalizations was bacterial pneumonia at 1,186 (212 per 100,000 population)
- Other PQIs had higher rates per applicable population:
 - Asthma in younger adults was 1,032 (299 per 100,000 population)
 - COPD or asthma in older adults was 837 (390 per 100,000 population)
- People who identified as Hispanic or Other were significantly less likely to have a PQI event than those who identified as White.
- People from regions outside of Baltimore City—particularly those in Southern or Western Maryland—were significantly more likely to have a PQI event.
- Because annual ambulatory visits are associated with an increase in the likelihood of a PQI event, this variable appears to be more of a measure of need for health care services than appropriate preventative care.
- Rurality was found to be negatively associated with the odds of an acute PQI but positively associated with the odds of a chronic PQI.
- Increases in both the number of PCPs and hospitals per county population are associated with decreases in the likelihood of an overall composite PQI.

Study Limitations

The outcomes are likely affected by the availability and quality of primary and acute care, as well as individuals' health status and behaviors.

Future research should examine how the interrelated community characteristics of access to primary care and individual characteristics, such as receipt of evidence-based ambulatory care, function together.