

## Ambulatory Care Sensitive Conditions in New Mexico and the United States, 2016 to 2020

### Background

Ambulatory care sensitive conditions (ACSC) are defined by the Agency for Healthcare Research (AHRQ) as “conditions for which good outpatient care can potentially prevent the need for hospitalization, or for which early intervention can prevent complications or more severe disease.”<sup>1</sup> The New Mexico Department of Health (NMDOH) uses ACSC as an indicator of the performance of New Mexico’s preventative healthcare system in annual reports and other surveillance activities. Tracking changes in rates of ACSC over time and disparities across jurisdictions are important for understanding the effectiveness of New Mexico’s clinical healthcare system. Considering the COVID-19 pandemic from 2020 to the present, the surveillance of ACSC hospitalizations may provide important information about how healthcare utilization may have changed in 2020 from previous years. The objective of this analysis is to provide descriptive statistics on ACSC hospitalizations within New Mexico from 2016 to 2020 by composite type, age, and subgroup, considering the unique context of 2020.

### Methods

The NMDOH Health Systems Epidemiology Program Manager used the 2021 version of the AHRQ and Quality Prevention Quality Indicators (PQI) software<sup>1</sup> to calculate 2016 to 2020 ACSC rates using New Mexico Hospital Inpatient Discharge Data (NM HIDD). The NM HIDD data do not include discharges from the Veterans Health Administration and Indian Health Service hospitals because they are federal facilities. All discharges with a hospital stay of a minimum of 24 hours are included in these datasets. Discharges among persons under 18 years of age (which is an age group not included in AHRQ-defined ACSC), discharges among those from out of state or who had a missing zip code, and discharges missing their principal diagnosis codes were excluded from this analysis.

Using the 2021 AHRQ definitions of ACSC, the AHRQ software uses the International Classification of Diseases-10 codes to group discharges into chronic and acute composite groups of ACSC. The 2021 acute

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classifications of ACSC include discharges related to community-acquired pneumonia and urinary tract infection. Unlike previous years of ACSC reports conducted by the NMDOH, however, dehydration is not included as an acute ACSC. In addition to other changes to the AHRQ software, this will make the rates in this report different than rates in reports from previous years.

The 2021 chronic classifications of ACSC include discharges related to short-term diabetes complications, long-term diabetes complications, chronic obstructive pulmonary disease (COPD) or asthma among older adults, heart failure, uncontrolled diabetes, asthma in younger adults, and lower extremity amputations among patients with diabetes. These categories can be collapsed into composite groups of acute (all acute ACSC discharges), chronic (all chronic ACSC discharges), and overall (all discharges).

Overall rates of ACSC were compared by year and age group from 2016 to 2020. Next, acute, chronic, and overall ACSC rates were compared from 2016 to 2020. Finally, rates of ACSC were compared by the subgroups outlined above, including data for New Mexico from 2018, 2019, and 2020, with 2018 data for the United States as a comparison. 2018 is the latest year for which AHRQ has released national data on ACSC. All rates are crude rates among persons 18 years and older, or age-specific as noted. The acute, chronic, and overall rates are crude rates per 100,000 persons 18 years and over. The subgroup rates for COPD/and asthma among older adults are for persons over 40 years of age, and the rates for asthma among younger adults is for persons 18-40 years. For all New Mexico rates displayed in this report, population estimates are from the University of New Mexico Geospatial and Population Studies program at the University of New Mexico which are the data used by the NMDOH.<sup>2</sup> All analyses were performed using SAS 9.4 and R statistical software.

## Results

The NM HIDD data included the following number of discharges meeting the criteria listed above: 158,614 for 2016, 160,991 for 2017; 160,711 for 2018; 164,650 for 2019 and 151,227 discharges for 2020. Figure 1 displays the crude rates for overall, acute, and chronic ACSCs for persons 18 years and older from 2016 to 2020 in New Mexico. From 2019 to 2020 there were decreases in the rates of both acute ACSCs (260 cases per 100,000 persons over 18 in 2019 to 194 cases per 100,000 persons over 18 in 2020) and chronic ACSCs (695 cases per 100,000 persons over 18 in 2019 to 581 cases per 100,000 persons over 18 in 2020). Figure 2 displays the rates of overall ACSCs from 2016 to 2020 by age group. There were decreases from 2019 to 2020 in every age group, with the largest decreases in the 75 and older age group (3,692 cases per 100,000 persons 75 years and older in 2019 to 2,721 cases per 100,000 persons 75 and older in 2020).

Figure 3 displays the comparisons between the US in 2018 and NM in 2018, 2019, and 2020 by ACSC subgroup. There are decreases in the NM ACSC from 2019 to 2020 for several conditions, most notably for community-acquired pneumonia (160 cases per 100,000 persons 18 and older in 2019 to 117 cases per 100,000 persons 18 and older in 2020) and COPD/asthma among older adults (237 cases per 100,000 persons over 40 in 2019 to 148 cases per 100,000 persons over 40 in 2020). Additionally, the NM rates for 2019 and 2018 are lower than or close to the 2018 US rate for all ACSC subgroups.

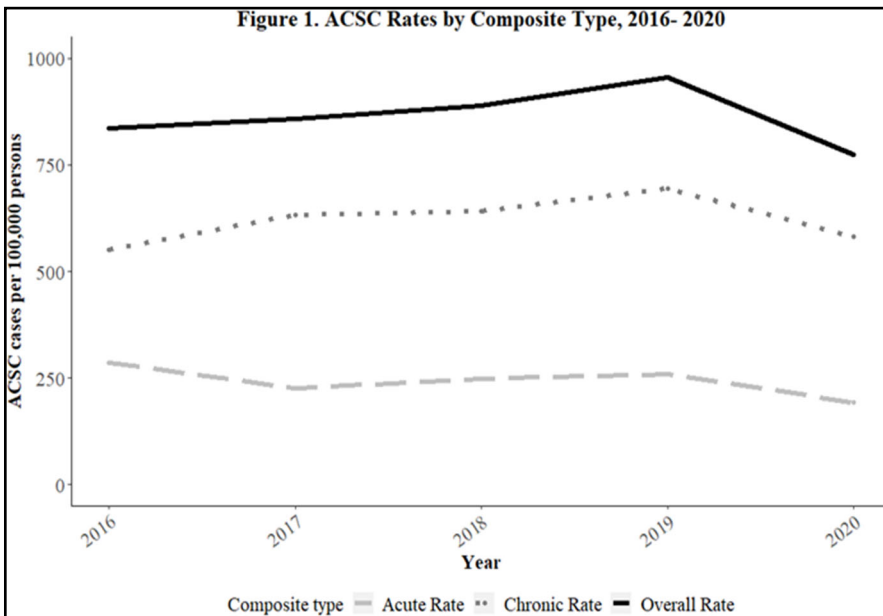
## Discussion

These findings show that both chronic and acute rates of ambulatory care sensitive condition hospitalizations were mostly stable from 2015 to 2019, with a notable decrease in rates for both in 2020. Further, the decrease in the overall ACSC hospitalization rate in 2020 was largest among persons aged 75 and older, which is the group that has consistently had the highest rate of ACSC from 2016 to 2020. Finally, across ACSC subgroups, the national rate in 2018 (most recent national data available) was either higher than the NM rate for 2018, and 2019 or comparable in every subgroup. In New Mexico, the largest decreases by subgroup from 2019 to 2020 were among the “COPD asthma in older adults” subgroup, and the “community-acquired pneumonia” group.

The decrease in overall ACSC hospitalizations is notable given evidence that overall ambulatory care visits also decreased during the COVID-19 pandemic, while telemedicine visits increased.<sup>3</sup> With a lower number of in-person ambulatory care visits in 2020, it would be expected that the overall management of the ACSC would not be as good and thus ACSC hospitalizations would instead increase in 2020. An alternative explanation is that telemedicine visits were more effective than in-person visits; however, there is no evidence here to support this possibility. Another possible explanation for the drops in these conditions in 2020 is that hospitals may have been less likely to admit patients for these conditions due to the strain on the hospital system from COVID-19.

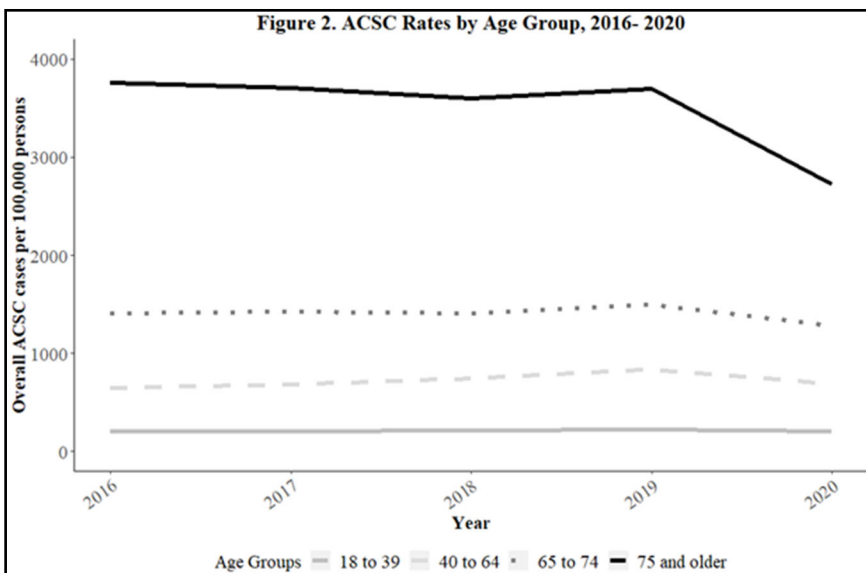
As is seen in Figure 2, the highest rate of ACSC hospitalizations has historically occurred consistently among persons 75 and older. In 2020, the rate decreased most dramatically for this population. Therefore, it seems reasonable that the overall decrease in ACSC is driven primarily by this population. This is one of the populations at highest risk for developing severe COVID-19 outcomes, including death and thus the population most likely to be fearful of visiting in person, at least prior to a vaccination. On the other hand, some ACSC subgroups may have decreased in New Mexico in 2020 due to reduced exposures to pathogens. For example, there were large decreases from 2019 to 2020 for the NM rates of COPD/asthma among older adults and community-acquired pneumonia. This is consistent with research demonstrating that in-person visits and hospitalizations for COPD decreased during the COVID-19 pandemic while telemedicine visits for

Figure 1. ACSC Rates by Composite Type, 2016-2020



\*2018 is the most recent year available for national data. “Older Adults” refers to adults 40 and over, while “Youths” refers to adults ages 18 to 40. All other

Figure 2. ACSC Rates by Age Group, 2016- 2020



\*2018 is the most recent year available for national data. “Older Adults” refers to adults 40 and over, while “Youths” refers to adults ages 18 to 40. All other rates are adults ages 18 and over.

these conditions increased.<sup>4</sup> The findings related to decreased community-acquired pneumonia are also supported by research from Japan<sup>5</sup> and analogous findings on the 2020 influenza season.<sup>6</sup> This suggests that fewer visits to clinics in-person may have resulted in fewer exposures leading to hospitalizations for COPD/asthma or fewer exposures leading to community-acquired infection hospitalizations.

This analysis has some caveats and limitations. First, the AHRQ definitions for 2020 have removed dehydration from ACSC, making it incorrect to compare the rates in this report to previous years’ reports. Second, these data do not include federal facilities, and some discharges were missing diagnostic codes and therefore removed from the analysis. However, this analysis still includes the vast majority of hospitalizations in NM.

Finally, the comparison of ACSC rates in New Mexico to the overall US rates suggest successful outcomes of New Mexico’s ambulatory care system. These results are consistent with the latest report on ACSC released by AHRQ<sup>7</sup> which uses the 2018 data seen in Figure 3. There is some research to suggest that ACSC rates are lower in Medicaid-expansion states<sup>8</sup>; New Mexico expanded Medicaid in 2013 and increased enrollment in the program to an estimated 42 percent by 2016.<sup>9</sup>

In conclusion, ACSC rates in NM declined in 2020, and were lower than or comparable to the latest available national comparison data in 2018. The comparison to national rates highlights a success of New Mexico’s primary care system. The 2020 decrease in ACSC raises several further questions about why

ACSC may have decreased in New Mexico. These results show that part of the decrease in ACSC was due to decreases in community-acquired pneumonia, COPD/asthma among older adults, and heart failure. It is possible that hospitalizations for these conditions decreased due to decreased exposures during the pandemic, or hospitals being less able to admit these patients due to strain put on the system. We recommend further investigation into the ways the pandemic affected primary care in New Mexico and continued monitoring of this important outcome.

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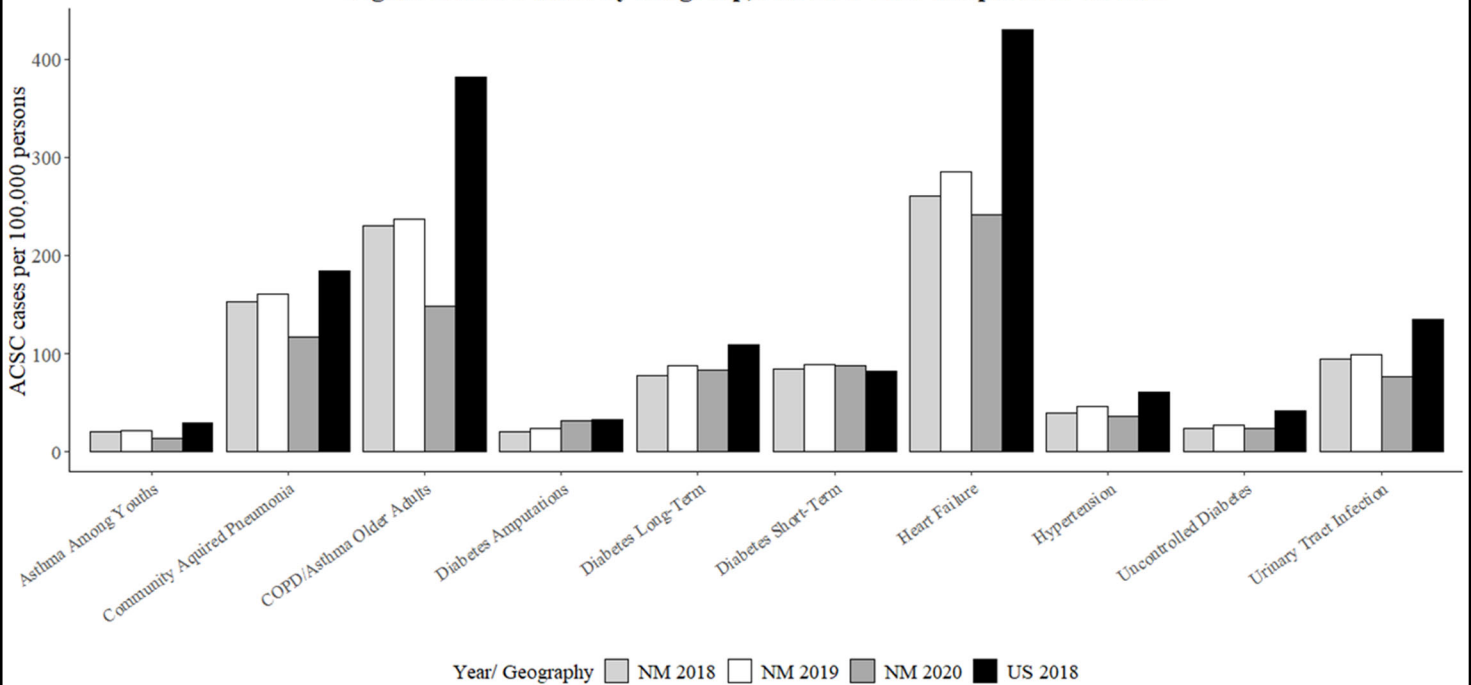
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Figure 3. ACSC Rates by Subgroup, NM 2018-2020 compared to US 2018\*



\*2018 is the most recent year available for national data. "Older Adults" refers to adults 40 and over, while "Youths" refers to adults ages 18 to 40. All other rates are adults ages 18 and over.