

NAPCRG 52nd Annual Meeting — Abstracts of Completed Research 2024.

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Title

From Crisis to Recovery: Evaluating the Evolution of Patient Care in Academic Medical Centers Through the COVID-19 Era

Priority 1 (Research Category)

Big Data

Presenters

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Abstract

Context: The COVID pandemic disrupted global healthcare, impacting Academic Medical Centers (AMCs) in the United States, necessitating a comprehensive understanding of its effects on healthcare delivery and utilization.

Objective: To assess the epidemiology and mortality risk among patients discharged from AMCs in the US from Oct 2019 to Dec 2023.

Study Design: This retrospective case series analysis utilizes Vizient's clinical database data. The study is divided into three periods: pre-COVID (Oct 2019 to Mar 2020), COVID (Apr 2020 to May 2023), and post-COVID (Jun 2023 to Dec 2023). Mixed models were used for analysis.

Setting: AMCs within the US.

Population Studied: The study population includes adults over 18 discharged from an AMC.

Outcome Measures: The primary outcomes were the number of discharges, length of stay (LOS), mortality, and Case Mix Index (CMI).

Results: Our analysis of 13,644,508 discharges from 106 AMCs revealed that monthly discharge rates slightly decreased during COVID from an average of 2540 pre-COVID to 2437, rebounding to 2571 post-COVID (F-statistic = 190.72, p-value of <.0001). The LOS increased from 6.2 days pre-COVID to 6.6 days during and after COVID (F-statistics of 320.93 for observed LOS, p-value < .0001). The % of encounters resulting in ICU admission decreased from 19.5% pre-COVID to 18.6% post-COVID (F-statistic of 19.35, p-value <.0001). The mean ICU LOS increased during COVID (5.2 days) compared to pre-COVID (4.5 days). Mortality rates peaked at 3.4% during COVID, compared to 2.8% pre-COVID, and decreased to 2.9% post-COVID. The CMI increased during the pandemic (2.21 from 2.10 pre-COVID). Regional variations

were significant, with the Midwest experiencing the highest and the West experiencing the lowest encounters (F-statistic of 11.56, $p < .0001$).

Conclusions: AMCs experienced significant changes during and after the COVID pandemic, such as changes in discharge volumes, LOS, mortality rates, and a higher CMI, indicating shifts toward managing more complex patients and longer hospital stays. Regional differences in healthcare utilization underscore the need for region-specific policies and resource allocation to address the varied impacts of the pandemic across the US. Our findings emphasize the necessity for healthcare systems to maintain flexibility and adaptability in policies and practices to effectively respond to such global health crises and their long-term implications on healthcare delivery and outcomes.

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