more rigorous measure to determine prior infection status.

POTENTIAL COMPETING INTERESTS

S.N.K. has received COVID-19–related consulting fees from Open Health and has owned shares of Regeneron, Moderna, and AstraZeneca. All other authors declare no competing interests.

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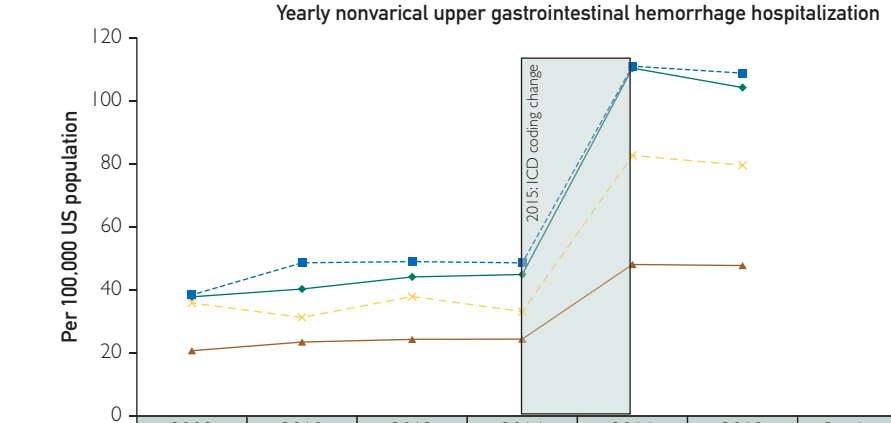
No Difference in Mortality From Nonvariceal Upper Gastrointestinal Hemorrhage Between Racial Groups: A Nationwide Time Trend Analysis, 2008-2018

To the Editor: There is limited literature on recent trends in racial differences in incidence of and mortality from nonvariceal upper gastrointestinal hemorrhage (NVUGIH). Therefore, we studied these trends in the United States between 2008 and 2018 by conducting a retrospective longitudinal trend analysis using the National Inpatient Sample.[1] All adult patients (≥18 years old) with NVUGIH were identified by *International Classification of Diseases, Ninth Revision* (ICD-9) and *Tenth Revision* (ICD-10) codes for the corresponding years (Supplemental Methods, available online at http://www.mayoclinicproceedings.org). Multivariate linear or logistic regression was performed when appropriate. The yearly hospitalization rate per 100,000 was calculated by the US population estimate on July 1 of the corresponding year obtained from the US Census Bureau.[2]

A total of 1.17 million adult hospitalizations with NVUGIH were



	2008	2010	2012	2014	2016	2018	*P*-value	*P*-value
White	38.17	40.71	44.41	45.13	110.73	104.54	.007	.03
Black	38.07	48.82	49.06	48.84	111.13	109.01	.02	.001
Hispanic	20.72	23.71	24.59	24.73	48.35	48.14	.02	.06
Other	36.18	31.62	38.32	33.32	82.87	79.64	.43	.001

Before 2015 After 2015

FIGURE. Trends in racial distribution of patients hospitalized with nonvariceal upper gastrointestinal hemorrhage, 2008 to 2018. ICD, *International Classification of Diseases*.

included. Baseline characteristics are summarized in Supplemental Table 1 (available online at http://www.mayoclinicproceedings.org).Overall, 536,483 hospitalizations were captured before 2015, which increased to more than 638,564 after the ICD coding change. Before 2015, the incidence increased from 30.89 in 2008 to 41.01 in 2014 ($P<.001$). Trends for each racial category from 2008 to 2014 were found to be 38.17 to 45.13 in Whites, 38.07 to 48.84 in Blacks, 20.72 to 24.73 in Hispanics, and 36.18 to 33.32 in others (Figure). After 2015, the incidence decreased from 97.76 in 2016 to 93.07 in 2018 ($P<.001$). Significant racial trends from 2016 to 2018 were as follows: 110.73 to 104.54 in Whites, 111.13 to 109.01 in Blacks, and 82.87 to 79.64 in others, whereas Hispanics showed no difference (48.35 to 48.14; $P=.06$; causes of bleeding are listed in Supplemental Table 2, available online at http://www.mayoclinicproceedings.org). Between the years 2008 and 2018, overall adjusted mortality from NVUGIH ranged from 1.82% to 2.46%. Mortality rates (in percentage) for each group were noted as 1.80 to 2.49 in Whites, 1.72 to 2.34 in Blacks, 1.47 to 2.76 in Hispanics, and 1.15 to 2.78 in others. No difference in mortality was seen between various races on longitudinal analysis before and after 2015 ($P_{interaction}$, .78 and .07, respectively). There were no differences in blood transfusion (Whites, 17.70%; Blacks, 18.13%; Hispanics, 16.80; $P=.06$) or intensive care unit stays (Whites, 1.52%; Blacks, 1.58%; Hispanics, 1.55%; $P=.05$).

Blacks were found to have a higher incidence of NVUGIH despite constituting only 13% of the US population.[3] In contrast to other races, the incidence of NVUGIH did not decrease in Hispanics after 2015. This could be due to differences in the prevalence of risk factors, including *Helicobacter pylori* infection, smoking, alcohol consumption, anticoagulant use, comorbidities, and disproportionate access to health care.[4] The specificity of ICD-10 coding resulted in better capturing and an apparent sharp increase in the incidence of NVUGIH after 2015. Before ICD coding change, trends were obtained uniformly by the ICD-9 coding system and represent true incidence variations. There was no mortality difference between races for NVUGIH in this cohort. Prompt endoscopic management and recent advances, including over-the-scope clips for hemostasis, are contributory.[5] Limitations of this survey are the retrospective nature of the analysis and unavailable laboratory information in the database.

POTENTIAL COMPETING INTERESTS

The authors report no competing interests.

SUPPLEMENTAL ONLINE MATERIAL

Supplemental material can be found online at http://www.mayoclinicproceedings.org. Supplemental material attached to journal articles has not been edited, and the authors take responsibility for the accuracy of all data.

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