APPENDIX: Sensitivity analysis to investigate the impact of missing race. For asthma ED and hospitalization data, rates of missing race ranged from 10-31% of records.

Asthma ED visits:

The main analysis included records with imputed values of race. For the sensitivity analysis, these records were excluded. As expected, the PBR and ARR rates were lower for both black and white race. However, the observed trends in disparities showed little difference from the main analysis. One difference was that the trend is disparity between the ARRs rate for black and white children was found to be significantly decreasing in the main analysis but not in the sensitivity analysis.

Figure A: Population-based rates and at risk rates for asthma emergency department visits, and average annual percent change (APC) among children 0-17 years, with records with imputed race excluded

Source: National Hospital Ambulatory Medical Care Survey

Table A: Asthma ED visit rate comparison of APC disparity trend between sensitivity and main analysis

|  |  |  |
| --- | --- | --- |
|  | Sensitivity analysis | Main analysis |
| Population-base rate | | |
| White | 0.1% | 1.3% |
| Black | -1.5% | -0.9% |
| Change in disparity trend | None | None |
| At-risk rate | | |
| White | -0.4% | 0.7% |
| Black | -6.0%\* | -5.4%\* |
| Change in disparity trend | None† | Decreasing |

\*Annual percentage change based on Joinpoint analysis is significantly different than zero

† In contrast to the results using the Joinpoint comparison test which found no change in trend, the sensitivity analysis using AHRQ criteria for a change in disparity found a significantly decreasing trend (i.e., agreed with the main analysis).

Asthma Hospitalizations:

In the main analysis, records with missing race were excluded because NCHS did not provide imputed values. Below is a comparison of results where records with missing race were included with white race as the most conservative estimate of disparities. This inclusion of all unknown race records into the white category increased white hospital PBRs and ARRs and decreased disparities. However, the conclusion of whether trends in PBR or ARR disparities changed matched those of the main analysis.

Figure B: Population-based rates and at risk rates for asthma hospitalizations, and average annual percent change (APC) among children 0-17 years with unknown race included with white race

Source: National Hospital Discharge Survey

Table B: Asthma hospitalization rates: Comparison of PBR and ARR annual percent change and disparity trend between sensitivity and main analysis

|  |  |  |
| --- | --- | --- |
|  | Sensitivity analysis | Main analysis |
| Population-base rate | | |
| White | -4.3%\* | -6.2%\* |
| Black | -7.6%\* | -7.6%\* |
| Change in disparity trend | None | None |
| At-risk rate | | |
| White | -5.1%\* | -7.0%\* |
| Black | -11.7%\* | -11.7%\* |
| Change in disparity trend | Decreasing | Decreasing |

\*Annual percentage change is significantly different than zero