

Inpatient Hospital Costs Associated with Stillbirths in the United States, 2016-2019

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The authors declare no conflicts of interest

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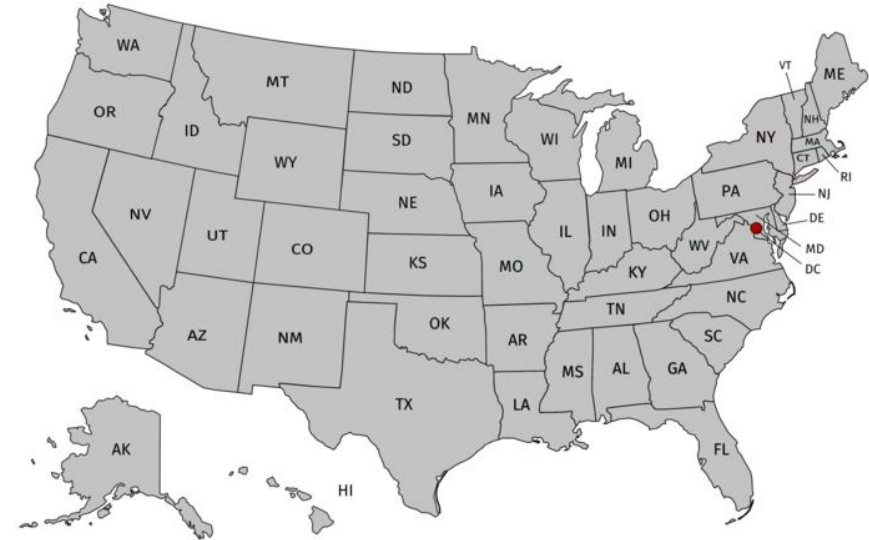
Background



- Stillbirth:
 - Demise or loss of a baby that occurs after 20 completed weeks of gestation
- Stillbirth rate:
 - In the world: 14 per 1,000 total births
 - In the US: 5.7 per 1,000 live births and stillbirths → 21,000 stillborn babies annually
- Stillbirth Costs:
 - Significant public health, medical, societal, and personal costs.
- Limited studies on stillbirth-related costs in the US

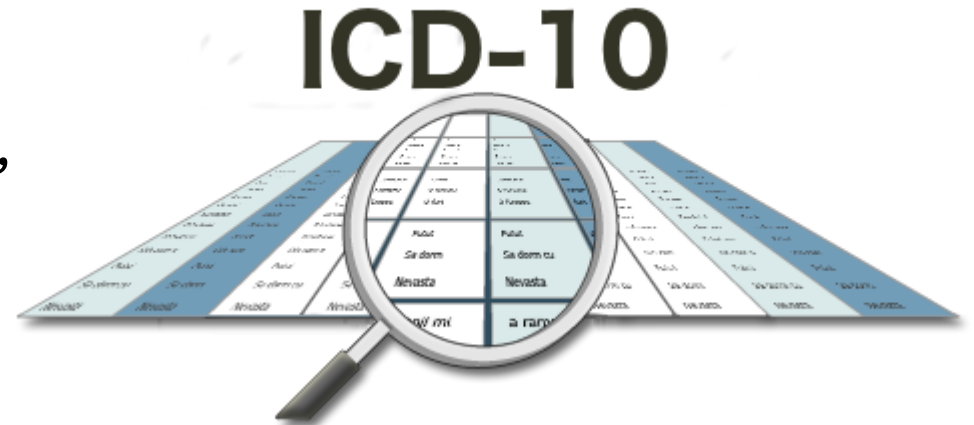
Methods

- Data: National Inpatient Sample (NIS) of Healthcare Cost and Utilization Project (HCUP) from 2016 to 2019
 - HCUP NIS represents approximately 35 million hospitalizations
- Study population:
 - Stillbirths and livebirths among women aged 12-55 years



Methods

- Stillbirths, Livebirths:
 - International Classification of Diseases, Tenth Revision, Clinical Modification diagnosis codes
 - 40 diagnosis codes
- Costs:
 - Hospitalization charge, cost-to-charge ratio
- Length of stay: extracted from the HCUP NIS data



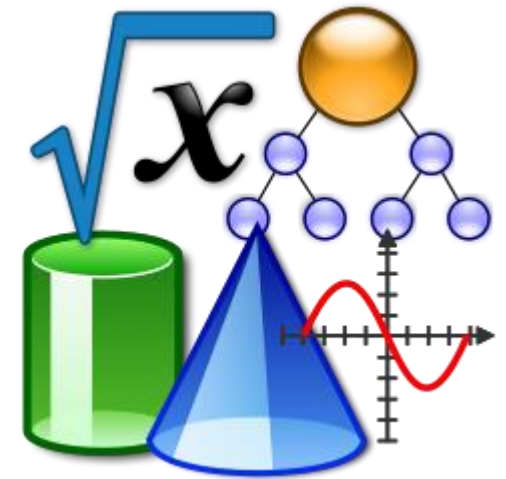
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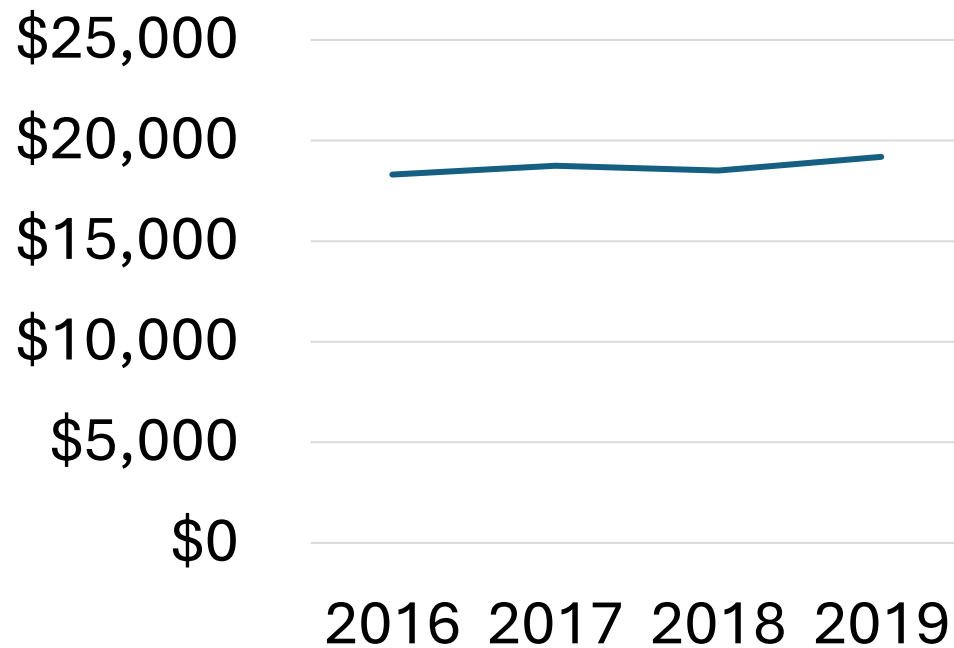
Methods

- Statistical Analysis:
- Costs:
 - Regression models incorporating a gamma distribution
 - Costs in 2016-2018 were expressed in 2019 dollars
 - Trend analyses
- Length of stay:
 - Poisson regression
- SAS 9.4 software

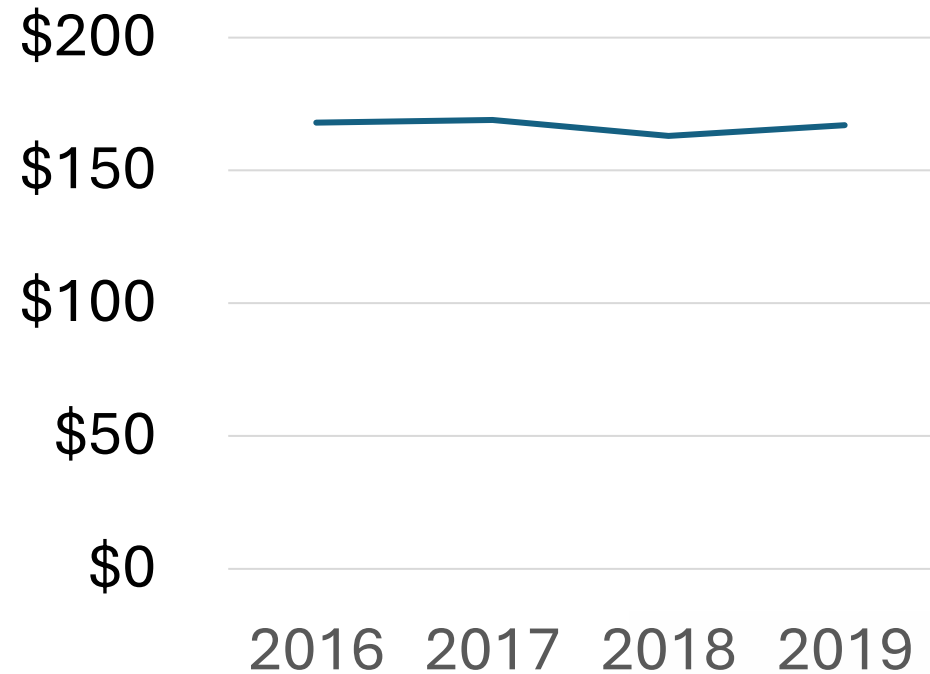


Total Medical Costs in Millions

Medical cost among
livebirths

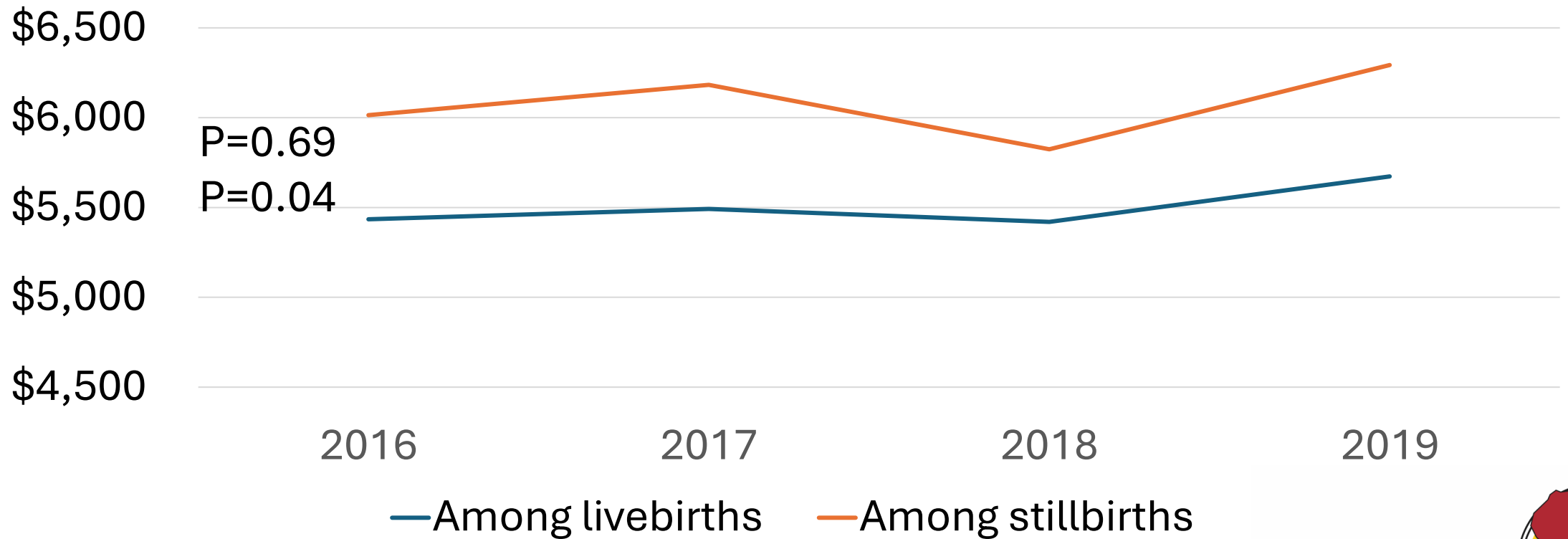


M=Medical cost among
stillbirths



Average costs

Average Hospitalization Medical Costs



Factors associated with medical costs

- Among stillbirth-related hospitalizations
 - Older than 35 years old
 - Being Black
 - Residing in the Northeast or West
 - Having higher income,
 - Maternal conditions such as hypertension and diabetes
- Were associated with increased average medical costs