

Measure for Measure: Suggestions for Navigating Real-World Evidence from Medicaid Claims Data

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No relationships to disclose

Disclaimer

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Yunxi Zhang, Lincy S. Lal, Yueh-yun Lin, Richard L. Summers, Saurabh Chandra, J. Michael Swint

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Outline

- **Background:** The Role of Medicaid Claims Data
- **Case study:** Tele-Mental Health in Mississippi Medicaid
- **Conclusion:** Lessons Learned and Takeaways



Background

Medicaid Claims Data

- Medicaid's role in U.S. healthcare for vulnerable populations
- The growing importance of Medicaid claims data in evidence-based policymaking.
 - **Real-World Data -> Real-World Evidence**
- A type of big data:
 - **Opportunities:** Large volume of data covering a variety of healthcare services and patient demographics.
 - **Challenges:** Managing the velocity of incoming data and ensuring veracity for reliability and accuracy.

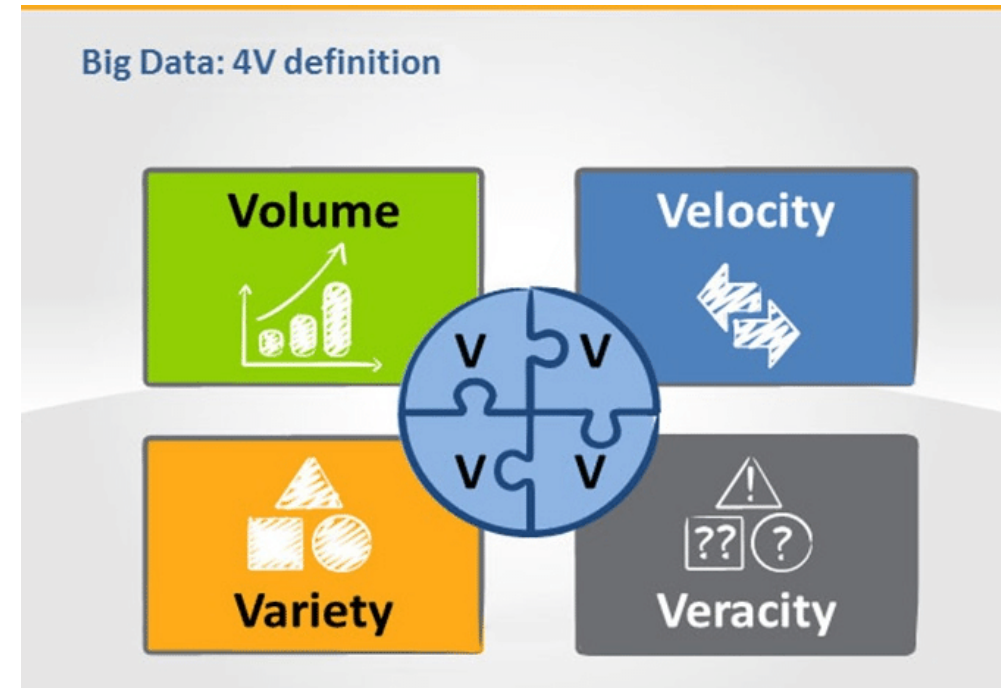


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Case Study: Tele- mental Health in Mississippi Medicaid

Zhang, Y., Peña, M. T., Lal, L. S., Lin, Y. Y., Summers, R. L., Saurabh, C., & Swint, J. M. (2024). Assessing telemental health uptake and associated health care resource implications among Mississippi Medicaid enrollees with major depression. *Telemedicine and e-Health*, 30(9), 2495-2501.

Medicaid in U.S. Mental Health

- As the largest payer for mental health services in the United States, Medicaid provides health care coverage to over 25% of adults with serious mental illness.
- In Mississippi, access to mental health services remains a challenge, as seen in rankings from MHA.

MHA analyzed the accessibility of mental health services for youth in the United States, and data shows that Mississippi ranks:

25th — 7.53% or 3193

Students identified with emotional disturbance for an individualized education program

34th — 8.2% or 6000

Children with private insurance that did not cover mental or emotional problems

44th — 590:1

Mental health workforce availability

48th — 13.5% or 2000

Youth with severe major depressive episode (MDE) who received some consistent treatment

50th — 71.7% or 20,000

Youth with MDE who did not receive mental health services treatment

Research Question

- Evaluate the uptake of Tele-Mental Health (TMH) among Mississippi Medicaid enrollees with major depression
- Assess its implications on health care resource utilization (HCRU) and fee-for-service (FFS) Medicaid expenditures

Study Design

- **Participants:** Mississippi Medicaid enrollees with Major Depressive Disorder
- **Intervention:** TMH (Telehealth services for Mental, Behavioral, and Neurodevelopmental Disorders (MBND))
- **Comparison:** TMH vs. non-TMH
- **Outcome:** HCRU (inpatient, outpatient, and ED) and Medicaid expenditures
- **Study period:** 2019 – 2021 (Planned)

Complexities of Medicaid Claims Data

- Billing/remittance data complexities
- Quality issues in identifying longitudinal data
- Retrospective study using observational data

Billing/remittance data complexities

- **Challenge:** Despite the Mississippi DOM's announcement of telehealth emergency policies in March 2020, essential billing code POS = 02 was not utilized until 2021, with only 239 claims registered among all Mississippi enrollees.
- **Suggestion:** Consult with local Medicaid programs for code validation to ensure accurate billing codes!

Quality issues in identifying longitudinal data

- **Challenge:** The unusable quality of the 2021 T-MSIS Mississippi Medicaid beneficiary identifier prevented linkage to enrollees from previous years.
- **Suggestion:** Check with the Medicaid.gov!
Use DQ Atlas on Medicaid.gov for a detailed data quality assessment by state, topic, and file.

TOPIC AREA Linking Across Files

TOPICS

Linking Claims to Beneficiaries

[VIEW DETAILS FOR TOPIC](#)

[VIEW BACKGROUND AND METHODS](#)

DQ ASSESSMENT

UNUSABLE

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Linking Expenditures to Beneficiaries

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Linking Claims to Providers

[VIEW DETAILS FOR TOPIC](#)

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DQ ASSESSMENT

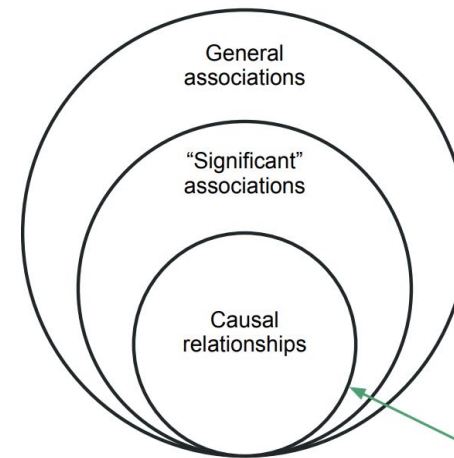
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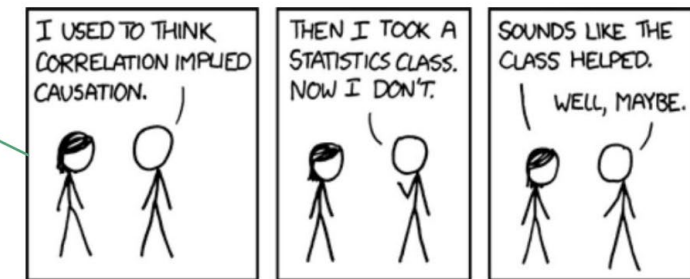
Retrospective Study using Observational Data

- **Challenge:** Carefully account for confounding factors to ensure valid interpretation of findings.



- **Suggestion:** Use causal inference techniques!

In RCTs, we randomize participants to balance confounders between groups, reducing their potential impact on the study's outcomes. However, when using real-world data, we rely more on causal inference techniques to address confounding and bias in the analysis.



Methodological Approaches

- Validated billing codes for accuracy
- Removed unusable data to ensure data quality
- Used propensity score matching to ensure comparability between TMH and non-TMH cohorts
- Validated preliminary findings through literature review

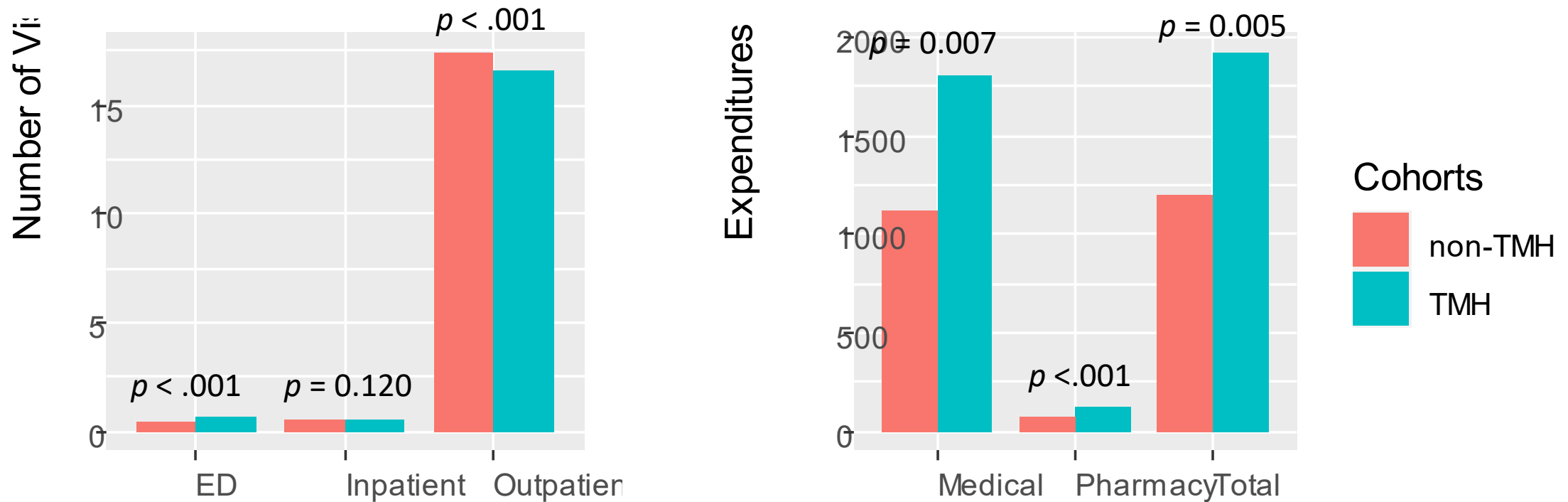
Results

Among the 21,239 identified enrollees, 806 (3.79%) utilized TMH. The TMH cohort was more likely to be of **older** age, non-Hispanic **White**, comprehensive **managed care** organization enrollees, **rural** residents, from areas with a **lower Area Deprivation Index**, and higher **Charlson comorbidity index** scores.

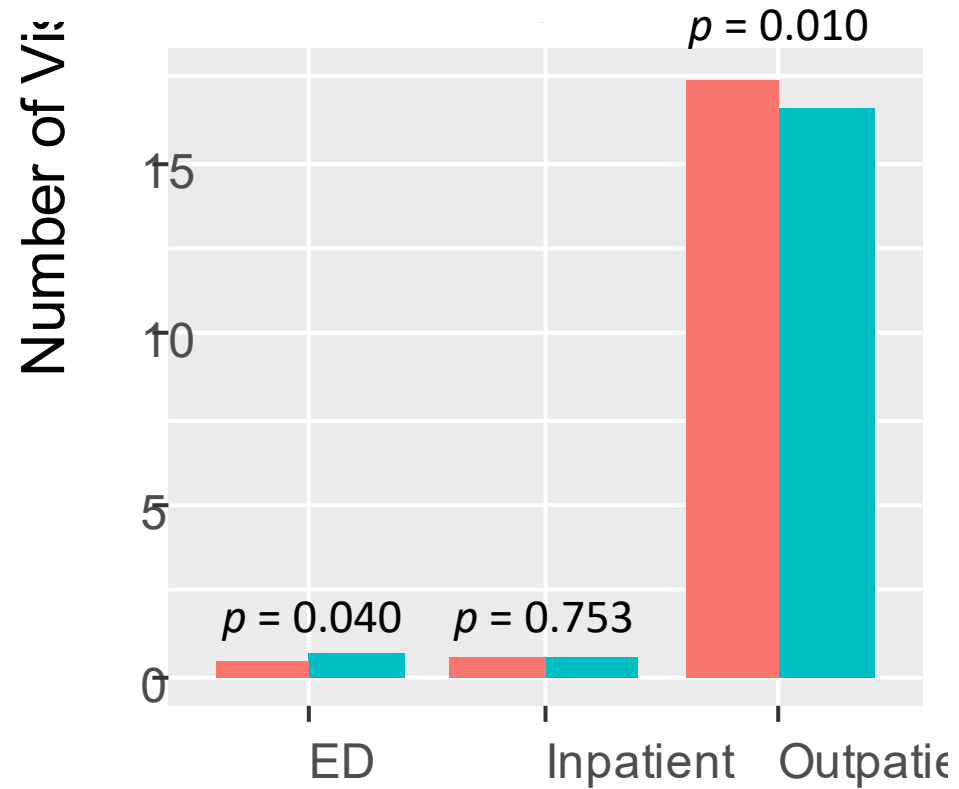
Table. Sociodemographic Characteristics of Study Participants (N = 21,239)

	TMH, No. (%) (n = 806)	Non- TMH, No. (%) (n =20,433)	P value
Age group, y			<.001
≤ 16	219 (27.17)	6844 (33.49)	
17 – 29	161 (19.98)	5215 (25.52)	
30 – 44	221 (27.42)	4549 (22.26)	
45 – 59	165 (20.47)	3154 (15.44)	
≥ 60	40 (4.96)	671 (3.28)	
Female	593 (73.57)	15240 (74.59)	0.518
Race/Ethnicity			<.001 ^f
White, Non-Hispanic	482 (62.03)	9264 (47.76)	
Black, Non-Hispanic	292 (37.58)	9996 (51.54)	
Others	3 (0.39)	136 (0.70)	
Comprehensive MCO enrollment	746 (92.56)	19444 (95.16)	<.001
Rurality	548 (67.99)	12869 (62.98)	0.004
ADI, mean (SD)	80.92 (15.57)	82.15 (15.59)	0.012
CCI, mean (SD)	1.19 (1.91)	0.78 (1.51)	<.001

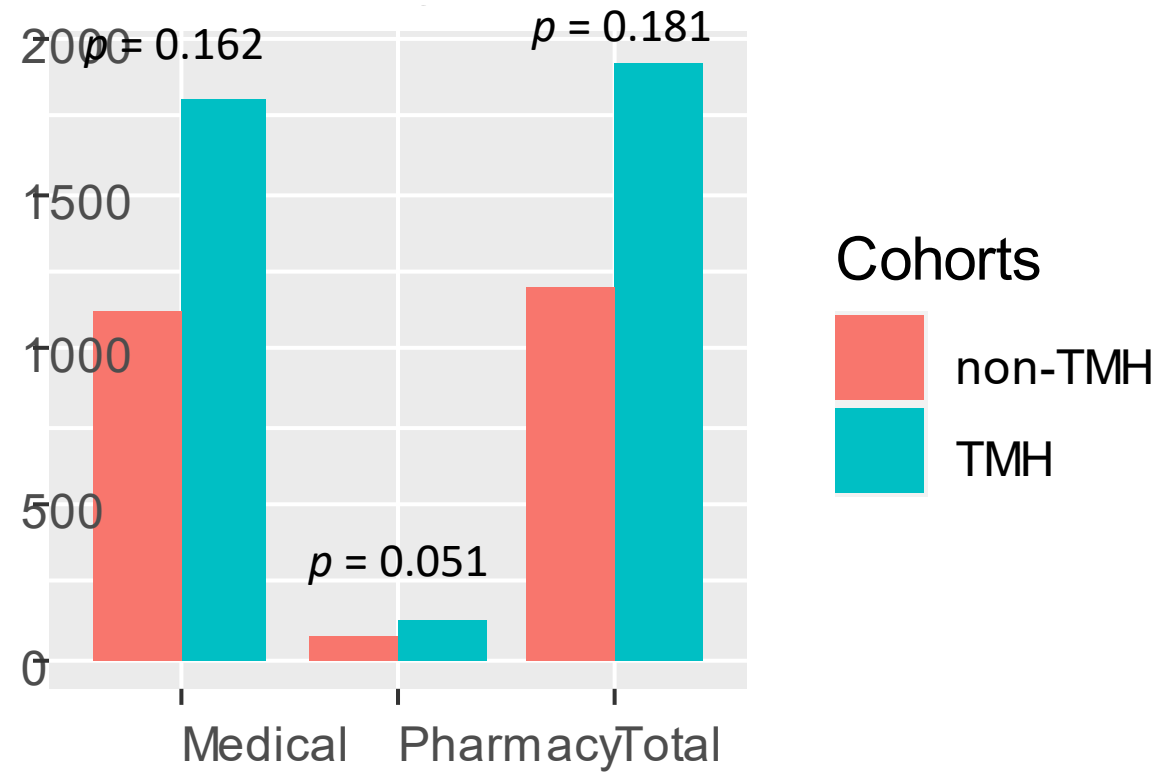
Results: HCRU and Medicaid Expenditures, Pre-matching



Post-Matching



Expenditures



Results

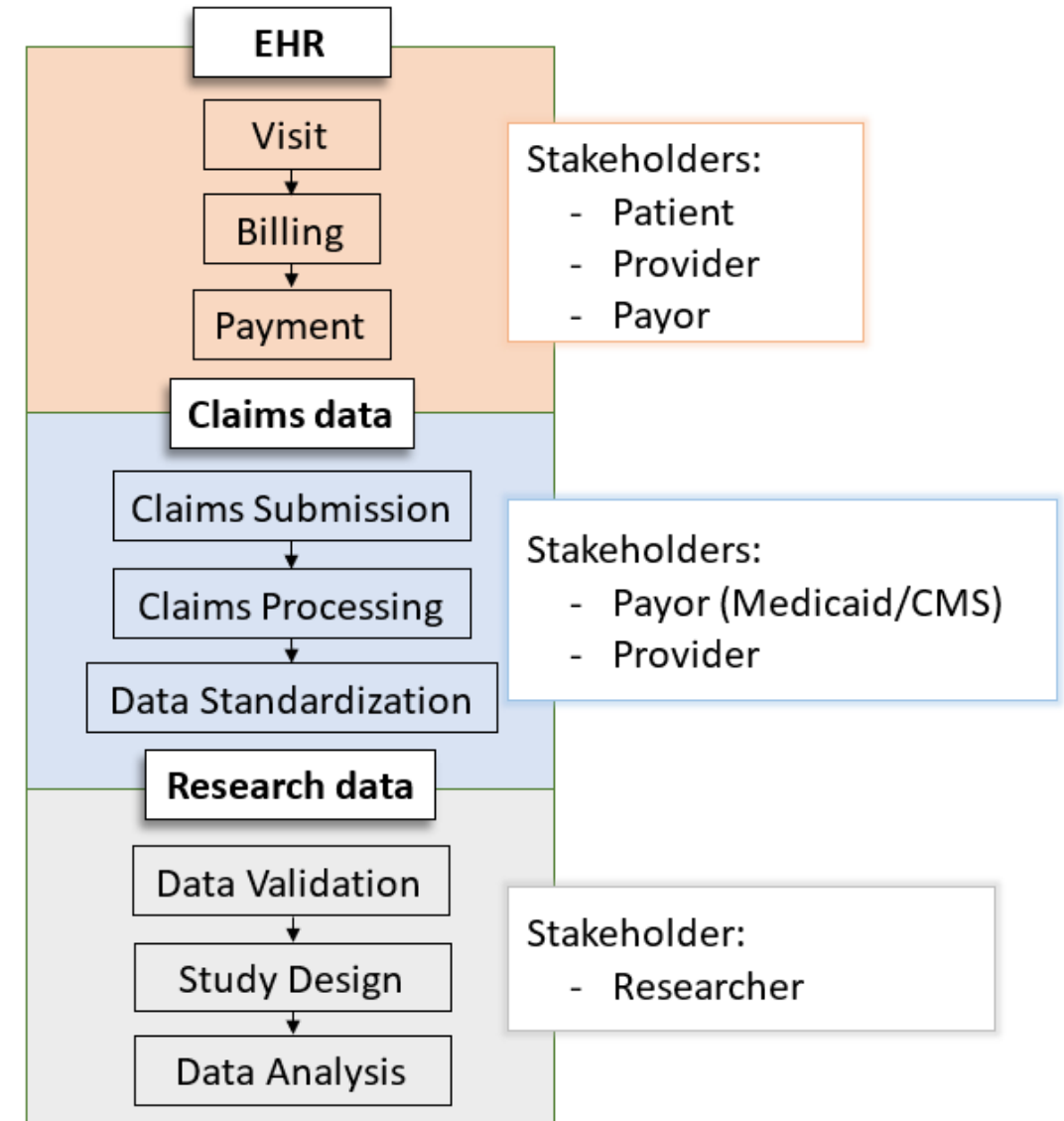
- **Before matching:** This finding suggests that the TMH cohort experienced higher illness burden or more severe symptoms, likely due to limited healthcare access. This aligns with the finding of more rural residents and higher CCI scores in the TMH group.
- **Post-matching:** The discrepancies in Medicaid expenditures diminished, suggesting the impact of the sociodemographic characteristics on expenditures rather than TMH utilization.



Conclusion: Lessons Learned and Takeaways

Figure. Medicaid Data Generation Process

- Researchers downstream of the Medicaid claims data generation process must meticulously assess each step of data generation with validation, followed by accommodated study design and statistical inference.
- By addressing these challenges, researchers can harness Medicaid data to inform evidence-based policymaking and enhance healthcare delivery for vulnerable populations.



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