COVID-19 Hospitalizations in North Texas: Impact of Insurance Status

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BACKGROUND

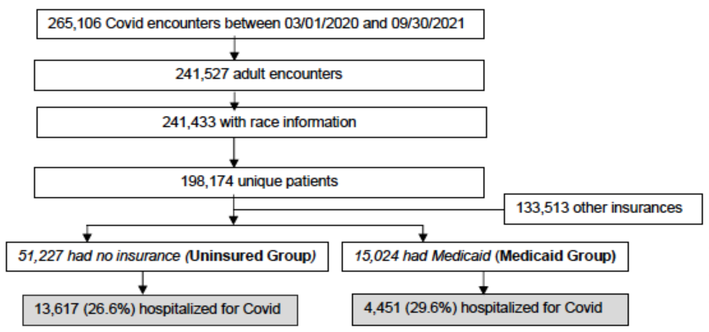
- Texas is one of 12 non-Medicaid expansion states and has one of the highest rates of uninsured populations in the U.S.
- COVID-19 pandemic resulted in increased rates of uninsured in Texas.[1]
- Each 10% increase in the proportion of county's resident who lacked health insurance is associated with a 70% increase in COVID-19 cases and a 48% increase in COVID-19 deaths. People living in communities with high rates of uninsurance were more likely to die than people living in communities with relatively few uninsured from COVID-19.[2]
- We hypothesized:
  - uninsured were *more likely* to be hospitalized for COVID- 19
  - *more likely* to have severe disease outcomes and to die due to uncontrolled medical illness prior to hospitalization.

We sought to quantify the risk of COVID-19 outcomes among uninsured vs. Medicaid in North Texas, which has a high rate of uninsured.

METHODS

- Retrospective analysis of patients hospitalized in 81 hospitals in Dallas-Ft. Worth (DFW) area (including outpatient clinics).
- Included inpatients and outpatients with COVID-19 from 3/1/2020 to 9/30/2021 to examine risk for hospitalization.
- Subset analysis included those hospitalized with COVID-19.
- Data presented compares Medicaid and uninsured population as they were similar in age distribution

Figure 1. Flowchart for identification of study groups in our study cohort.



References

[1]Figueroa et al. COVID-19- Related Insurance Coverage Changes and Disparities in Access to Care Among Low-Income US Adults in 4 Southern States. *JAMA Health Forum* August 13, 2021.

[2]Stan Horn et al. The Catastrophic Cost of Uninsurance: COVID-19 Cases and Deaths Closely Tied to America's Health Coverage Gaps. FamiliesUSA.Org

Uninsured patients likely have co-morbidities which may not be well treated or diagnosed until admission as evidence by prior lack of health care utilization. Uninsured COVID-19 hospitalized patients had higher proportion of diabetes, cardiovascular disease, and hypertension than Medicaid hospitalized population.

Higher proportion of uninsured were in ICU, had respiratory failure and died in-hospital compared to Medicaid.

Higher risk for ICU, pneumonia and respiratory failure in uninsured may be due to waiting until severe disease.

Treating undiagnosed co-morbidities may reduce risk of hospitalization among uninsured compared to Medicaid.

Results

Table 1: Variables	All COVID N=66,251		Hospitalized COVID N=18,068	
	Uninsured, % n= 51,227	Medicaid, % n=15,024	Uninsured,% n= 13,617	Medicaid, %, n=4,451
Age group				
18-<45	58.6	74.7	39.0	59.9
45-<65	36.3	21.8	49.7	32.7
65+	5.0	3.5	11.3	7.4
Female	49.0	78.1	41.9	72.3
Pregnancy	1.7	22.3	2.3	36.7
Race/Ethnicity				
Black	21.7	36.6	15.2	31.1
White	54.1	45.5	58.6	48.5
Other	1.9	2.2	2.2	2.9
Hispanic Ethnicity	45.8	33.2	53.0	41.1
Co-morbidities				
Diabetes	15.9	14.4	36.1	28.7
Cardiovascular disease	24.8	24.8	52.0	46.6
Asthma	5.3	8.9	6.0	9.9
COPD[1]	0.4	1.4	0.7	1.4
ESRD[2]	0.6	1.5	1.6	3.8
Liver Disease	8.8	10.1	22.0	23.0
Hypertension	20.8	21.2	42.0	38.8
Chronic Kidney Disease	1.1	2.0	3.6	5.5
Cancer	1.1	2.0	3.6	5.5
Health Care Utilization in prior 12 months				
Number of ED[3] visits , mean (SD)[4]	-	-	0.7 (2.5)	2.2 (5.4)
Number of Hospital Admissions, mean (SD)	-	-	0.2 (0.8)	0.6 (1.8)
Number of outpatient visits , mean (SD)	-	-	0.7 (2.6)	2.4 (5.0)

[1] COPD: Chronic Obstructive Pulmonary Disease; [2] ESRD: End Stage Renal Disease ; [3] ED: Emergency Department; [4]SD: Standard Deviation

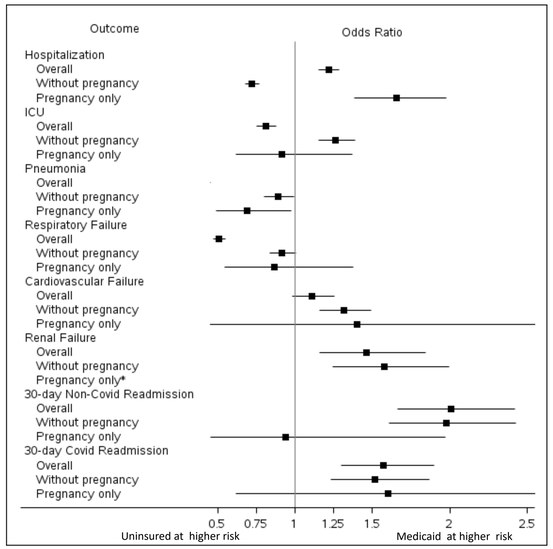
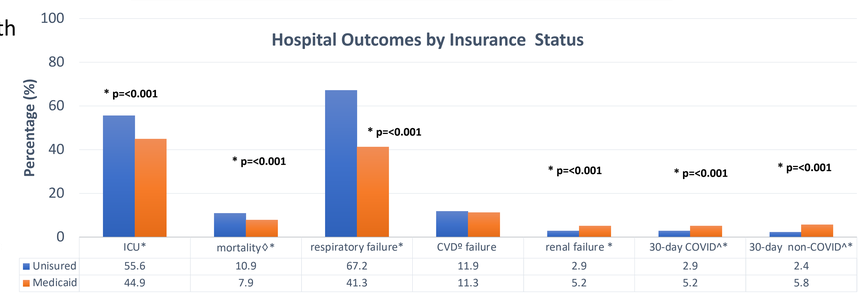


Figure 3: Forest Plot of Odds Ratio for COVID-19 Outcomes comparing Medicaid (OR>1) to Uninsured (OR <1). Models compared Overall population and by pregnancy status

Figure 2: Proportion with Outcome by Medicaid vs. Uninsured



* p=<0.001
◊In-hospital mortality
° CVD: cardiovascular disease
^ Readmissions

Summary:

- Uninsured hospitalized population was predominately <65 years and Medicaid was predominately <45 years and female.
- Those with COVID-19 had similar co-morbidities, but uninsured who were hospitalized more frequently had diabetes, cardiovascular disease, and hypertension.
- Uninsured utilized healthcare infrequently in the 12 months prior to the pandemic.
- Risk for hospitalization was higher for Medicaid overall but this appears to be driven by one-third of the population who are pregnant. Removing pregnant women reveals uninsured patients to be at higher risk for admission.
- Once admitted, risks for ICU, COVID-pneumonia and respiratory failure were higher for uninsured.
- Significantly higher proportion of uninsured were in ICU, had respiratory failure, and in-house mortality compared to Medicaid.
- Medicaid population was at higher risk for cardiac failure, renal failure, and 30-day re-admission (COVID or non-COVID related)
- Higher proportion of Medicaid had both COVID and non-COVID 30-day readmission. Uninsured patients appear to revert back to lower health care utilization post-discharge.

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