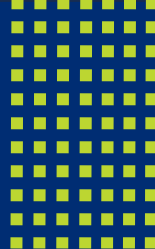




## HEALTH MATTERS BRIEF

### Pregnant People with Unhoused Status in Riverside County, CA (2018-2022)



## INTRODUCTION

Between 2016 and 2020, there was a significant increase in the prevalence of pregnant people in the US with unhoused status, which is the "lack of a fixed, regular, and adequate nighttime residence" (Green et al, 2023). Evidence shows that an unhoused status during pregnancy is associated with poor delivery outcomes and higher rates of severe maternal morbidity and mortality at delivery (Huang et al, 2023; Green et al, 2023). Understanding the size and characteristics of this population is important to inform the provision of services that can connect individuals to care and improve birthing outcomes. This brief presents emergency department (ED) and hospital data on pregnant people with unhoused status in Riverside County from 2018 to 2022. The ED and hospitalization data are mutually exclusive. ED visit data capture encounters where patients receive treatment in the emergency department and are then discharged, while hospitalization data refers to instances where patients are admitted for inpatient care. Some hospitalizations may originate from an ED visit, but in those cases, the ED encounter is recorded together with the inpatient admission as a combined event.

## RIVERSIDE COUNTY KEY FINDINGS



Most emergency department and hospitalizations for pregnant people with unhoused status occurred in the Northwest region of the county.



Emergency department and hospital admissions occurred at **earlier stages** of pregnancy in people with unhoused status compared to people with housed status.



Among pregnant people with unhoused status, **44%** of emergency department and **67%** of hospital admissions involved mental and behavioral comorbidities.



Between 2018 and 2022, there were 10.9 babies born to pregnant individuals with unhoused status per 100,000 live births — a rate **lower** than the state average.

## EMERGENCY DEPARTMENT VISITS

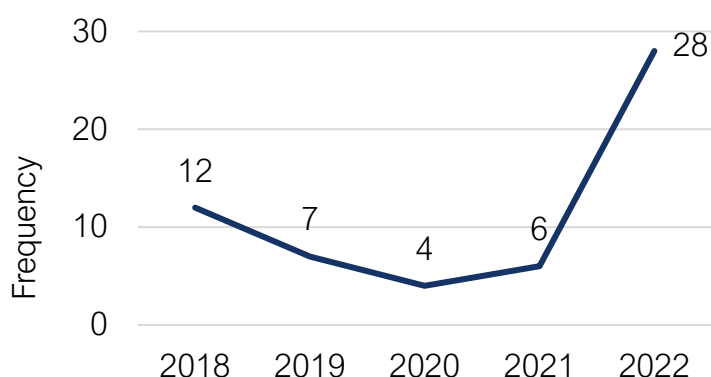
Between 2018 and 2022, there were 57 emergency department (ED) visits involving pregnant people experiencing homelessness.<sup>1</sup> From 2021 to 2022, the number of visits increased fourfold. Figure 1 shows the annual distribution of these encounters, while Table 1 provides a breakdown by gestational period. Most (N=41, 72%) of the visits occurred in the Northwest region of the county. Among all visits with record linkage numbers, 49 unique individuals were identified, with three experiencing multiple visits.<sup>2</sup> The average age within this group was 28.4 years. By race ethnicity, 51% were Hispanic, 29% were non-Hispanic White, 10% were non-Hispanic Black, 8% were non-Hispanic Other, and 2% were missing data.





## EMERGENCY DEPARTMENT VISITS

**Figure 1.** Number of emergency department visits involving pregnant people with unhoused status, 2018-2022



**Table 1.** Emergency department visits by gestational period from 2018-2022 (including repeat visits)

Gestational period	Pregnant unhoused	Pregnant housed
First trimester	52.6%	46.0%
Second trimester	35.1%	24.7%
Third trimester	12.3%	29.3%

**72%** of all emergency department visits took place in the Northwest region of the county from 2018 to 2022.

Table 1 shows that most ED visits occurred during the first trimester of pregnancy, which may be due to a higher likelihood of patients being discharged earlier in their pregnancy and requiring hospitalization at later stages. The proportion of visits in the third trimester was less than half of that for comparable data among people with housed status. Table 2 shows the primary and secondary diagnoses associated with emergency department visits among pregnant people with unhoused status, providing insight into their health needs. Almost all visits had a primary diagnosis related to pregnancy. Mental health and behavioral disorders were commonly indicated as a secondary diagnosis.

**Table 2.** Diagnoses types during ED visits organized by ICD-10 chapter and subchapter

Condition	ICD-10 Code	Primary Diagnosis N (%)	Other Comorbidities* N (%)
Pregnancy-related conditions (not involving childbirth)	O00-O9A	54 (95%)	47 (82%)
Mental health conditions (any)	F01-F99	0 (0%)	25 (44%)
Mental health conditions involving psychoactive substance use	F10-F19	0 (0%)	20 (35%)
Unexplained Symptoms and Abnormal Test Results	R00-R99	3 (5%)	16 (28%)
Kidney, Bladder, and Reproductive System Diseases	N00-N99	0 (0%)	10 (18%)

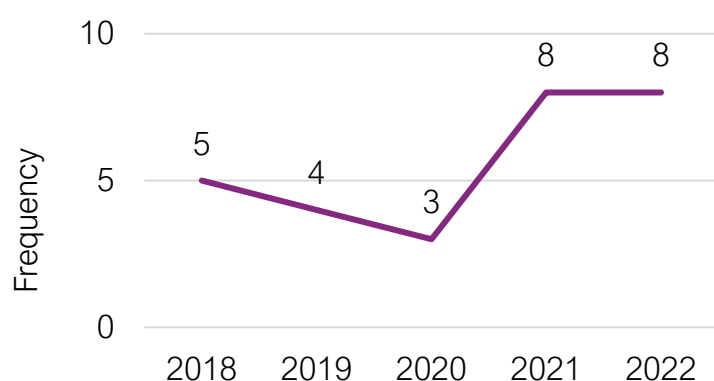
\* The numbers in this column do not add up to 100% because individuals can have multiple comorbidities



## HOSPITALIZATIONS

Between 2018 and 2022, there were 28 hospital admissions involving pregnant people experiencing homelessness. The frequency of hospitalizations by year is presented in Figure 2. Table 3 shows that while most (79%) hospitalizations involved pregnancies in the third trimester, the proportion is far less than that for comparable data among people with housed status (96%). Most (N=18, 64%) of the admissions occurred in the Northwest region of the county. Among hospitalizations with record linkage numbers<sup>3</sup>, 23 unique individuals were identified, with two experiencing multiple hospitalizations.<sup>2</sup> The average age in this group was 31.8 years. By race and ethnicity, 43% were Hispanic, 39% were non-Hispanic White, 9% were non-Hispanic Black, 4% were non-Hispanic Other, and 4% were missing data. Two individuals were identified in both the emergency department and hospital admission data.

**Figure 2.** Number of hospitalizations involving pregnant people with unhoused status, 2018-2022



**Table 3.** Hospitalizations by gestational period from 2018-2022 (including repeat admissions)

Gestational period	Pregnant unhoused	Pregnant housed
First trimester	3.6%	1.2%
Second trimester	17.9%	3.1%
Third trimester	78.6%	95.7%

Table 4 shows the primary and secondary diagnoses associated with hospital admissions among pregnant people with unhoused status, providing insight into their health needs. All admissions had a primary diagnosis related to pregnancy, with over half (64%) involving childbirth. A small number of hospitalizations also involved a stillbirth (less than five hospitalizations). This number indicates that fetal mortality rate is smaller among pregnant people with unhoused status than the pregnant population for Riverside County over the same timeframe (5.8 per 1,000 pregnancies beyond 20 weeks (California Department of Public Health, 2024)). However, the small numbers observed do not permit statistically stable comparisons between the two rates. As with the ED data, mental health and behavioral disorders were commonly indicated as a secondary diagnosis, especially those due to psychoactive substance use.

**Table 4:** Diagnoses types during hospitalizations organized by ICD-10 chapter and subchapter

Condition	ICD-10 Code	Primary Diagnosis N (%)	Other Comorbidities* N (%)
Pregnancy-related conditions (involving childbirth)	O00-O9A + Z37	18 (64%)	16 (57%)
Pregnancy-related conditions (not involving childbirth)	O00-O9A + no Z37	10 (36%)	10 (36%)
Mental health conditions (any)	F01-F99	0 (0%)	20 (67%)
Mental health conditions involving psychoactive substance use	F10-F19	0 (0%)	18 (64%)

\* The numbers in this column do not add up to 100% because individuals can have multiple comorbidities

## CONCLUSIONS

In Riverside County, seventy pregnant people with unhoused status were observed in emergency departments or during hospitalizations between 2018 and 2022. This number likely underestimates the true number of pregnant people with unhoused status. Research suggests that health-related social needs, such as unhoused status, are likely to be underreported in administrative health records (Ferrer et al, 2024). Given this limitation, the relatively small number of pregnant individuals with unhoused status observed in this brief likely reflects a lower-bound estimate of the true population, and outreach efforts should account for this undercount when planning resource allocation.

There were 18 hospital admissions involving a single live birth by people with unhoused status, which equates to 10.9 per 100K live births from 2018-2022. This number is low compared to previous research for California showing rates of 60.6 per 100K live births between 2007-2020 (Ferrer et al, 2024) and 45.8 per 100K live births between 2008-2012 (St. Martin et al, 2021). This finding is not surprising given that survey data indicates lower rates of homelessness in Riverside County compared to the state overall. In 2022, the number of homeless individuals in Riverside County accounted for less than 2% of the total homeless population in California (U.S. Department of Housing and Urban Development, 2024), while the county's overall population made up more than 6% of the state's total population (California Department of Finance, 2024).

The Northwest region of the county had the most hospitalizations by pregnant people with unhoused status. This region includes the city of Riverside, which serves as the most populous urban center in the county (California Department of Finance, 2024) and the Downtown area of the city is home to many organizations serving people experiencing homelessness (Housing and Workforce Solutions, 2021).

Evidence suggests that people with unhoused status often rely on EDs to meet their healthcare needs (Serchen et al, 2024). Unfortunately, there was no data on the amount of prenatal care received by individuals to determine whether a lack of such care may have influenced healthcare-seeking behaviors via EDs. In addition, a large proportion of emergency department visits and hospitalizations among pregnant people with unhoused status involved primary or secondary diagnoses for mental and behavioral comorbidities. This finding is consistent with research indicating a bidirectional relationship between homelessness and mental health or substance use disorders (Clark et al, 2019). It is unclear how closely these care-seeking trends align with those of the broader population of individuals with unhoused status in Riverside County. Further research is needed to examine care-seeking patterns within this larger population.

## DATA AND METHODOLOGY

1. Data on emergency department visits and hospitalizations were obtained from the California Department of Health Care Access and Information (California Department of Health Care Access and Information, n.d.).

Records were selected between 2018 and 2022 for observations where both of the following criteria were met:

- The presence of any one of the following ICD-10 diagnosis codes associated with unhoused status: Z590, Z591, Z59811, Z59812, Z59819, Z5989
- The presence of an ICD-10 diagnosis code associated with a pregnant status within the following range: Z3A00 – Z3A49



## DATA AND METHODOLOGY CONTINUED

2. Observations without record linkage numbers (RLN) were excluded from results on the demographic characteristics. The RLN is a unique 9-digit alphanumeric value that is the encrypted form of a patient's Social Security Number. If the Social Security Number is invalid or unknown, then the RLN is assigned a value of 9 dashes "-----". Without the record linkage numbers, it was not possible to determine whether observations reflected unique individuals. As such, they were excluded to avoid double counting.

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## SUGGESTED CITATION

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