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# COVID-19 AND PREGNANCY

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# Investigating the Impact of COVID-19 During Pregnancy

## Pregnancy and Infant Linked Outcomes Team (PILOT)

- Better understand the epidemiology of COVID-19 among pregnant women and infants
- Coordinate work across agency on COVID-19 during pregnancy
- Inform clinical guidance for obstetric and infant settings



To learn more about what CDC is doing to respond to COVID-19, visit: [CDC in Action](https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/special-populations/pregnancy-data-on-covid-19/what-cdc-is-doing.html)

<https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/special-populations/pregnancy-data-on-covid-19/what-cdc-is-doing.html>

# COVID-19 & Pregnancy

- Pregnant women **ARE** at increased risk for severe illness from COVID-19
- Severe disease has been associated with other viral respiratory infections during pregnancy
- Pregnant women with COVID-19 might have an increased risk of adverse pregnancy outcomes, such as preterm birth
- Hispanic and non-Hispanic Black pregnant women appear to be disproportionately affected by COVID-19 infection during pregnancy.



For more information, visit:  
[If You Are Pregnant,  
Breastfeeding, or Caring for  
Young Children | COVID-19 | CDC](#)

<sup>1</sup>Ramsey PS et al. Pneumonia in pregnancy. *Obstet Gynecol Clin North Am* 2001

<sup>2</sup>Galang RR et al. Severe coronavirus infections in pregnancy: A systematic review [online ahead of print, 2020 Jun 16]. *Obstet Gynecol*. 2020

<sup>3</sup>Mosby LG et al. 2009 pandemic influenza A (H1N1) in pregnancy: a systematic review of the literature. *Am J Obstet Gynecol* 2011

# Pregnancy complications and adverse outcomes



- **COVID-19 disease**
  - More severe with COVID symptoms at admission
  - Preterm birth
- **Coagulopathy**
  - SARS-CoV-2 associated with a prothrombotic state
- **Pre-eclampsia**
  - Observational study showing high rates of pre-eclampsia like syndrome with severe COVID-19

<sup>1</sup>NIH COVID-19 Treatment Guidelines <https://www.covid19treatmentguidelines.nih.gov/>

<sup>2</sup>Mendoza M et al. Pre-eclampsia-like syndrome induced by severe COVID-19: a prospective observational study. BJOG. 2020

<sup>3</sup>Smith V et al. Maternal and neonatal outcomes associated with COVID-19 infection: A systematic review. PLoS one. 2020

# INCREASED RISK FOR ICU ADMISSION, INVASIVE VENTILATION, ECMO<sup>§</sup>, AND DEATH FOR SYMPTOMATIC PREGNANT WOMEN COMPARED TO SYMPTOMATIC NONPREGNANT WOMEN

Outcomes of Interest	No. (%) <sup>*</sup>		Crude RR (95% CI)	aRR (95% CI) <sup>†</sup>
	Symptomatic Pregnant women with COVID-19 (N = 23,434)	Symptomatic Nonpregnant women with COVID-19 (N = 386,028)		
ICU Admission	245 (1.1)	1,492 (0.4)	2.7 (2.4-3.1)	3.0 (2.6-3.4)
Invasive Ventilation	67 (0.3)	412 (0.1)	2.7 (2.1-3.5)	2.9 (2.2-3.8)
ECMO <sup>§</sup>	17 (0.1)	120 (0.0)	2.3 (1.4-3.9)	2.4 (1.5-4.0)
Death	34 (0.2)	447 (0.1)	1.3 (0.9-1.8)	1.7 (1.2-2.4)

\* Percentages calculated among total in pregnancy status group; those with missing data on outcomes were counted as not having the outcome

<sup>†</sup> Adjusted for age, race/ethnicity, and presence of underlying conditions. Nonpregnant women are the referent group.

<sup>§</sup> Extracorporeal membrane oxygenation

Zambrano LD, Ellington S, Strid P, et al. Update: Characteristics of Symptomatic Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection by Pregnancy Status — United States, January 22–October 3, 2020. MMWR Morb Mortal Wkly Rep. ePub: 2 November 2020.

DOI: <http://dx.doi.org/10.15585/mmwr.mm6944e3>.

# Disease severity among Infants

- Current evidence suggests that SARS-CoV-2 infections in neonates ( $\leq 28$  days) are uncommon.
  - Majority of these infections are either asymptomatic or result in mild disease
- Limited data suggest infants ( $\leq 1$  year) may be at high risk of developing severe illness than older children



1. Dong et al. Pediatrics. Epidemiology of COVID-19 Among Children in China

2. CDC. MMWR. Coronavirus Disease 2019 in Children — United States, February 12–April 2, 2020

3. Walker et al. Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: a systematic review and critical analysis

4. CDC. Evaluation and Management Considerations for Neonates At Risk for COVID-19. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ca-newborns.html>



# COVID-19 Vaccine & Pregnancy

- At this time, healthcare personnel are among the first to receive the vaccine
- Healthcare personnel who are pregnant may choose to be vaccinated
- Data about safety of COVID-19 vaccines for people who are pregnant is currently limited

For all vaccine recipients, regardless of age or pregnancy status -

- Some side effects post vaccination are expected, particularly after the 2<sup>nd</sup> dose
- All vaccine recipients should continue to follow guidelines to prevent spread of COVID-19

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/pregnancy.html>

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/vsafe.html>



# Health Disparities

**Health Disparity** =df. A particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage

## Factors that contribute to disparities:

- Discrimination and systemic racism
- Healthcare access and quality
- Education access and quality
- Social and community context
- Economic stability
- Neighborhood and built environment





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# WHERE TO FIND MOST UP TO DATE INFORMATION ON COVID-19 IMPACT ON MCH



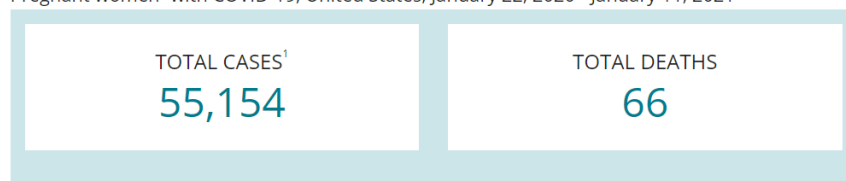
# Public Reporting

## Weekly Reporting of Pregnant Cases

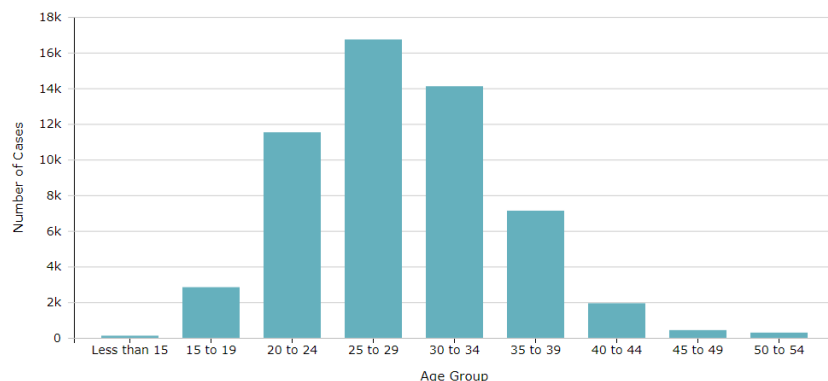
Data on COVID-19 during Pregnancy: Severity of Maternal Illness

Monitoring the impact of COVID-19 during pregnancy can protect pregnant women and their babies.

Pregnant women<sup>1</sup> with COVID-19, United States, January 22, 2020 - January 11, 2021

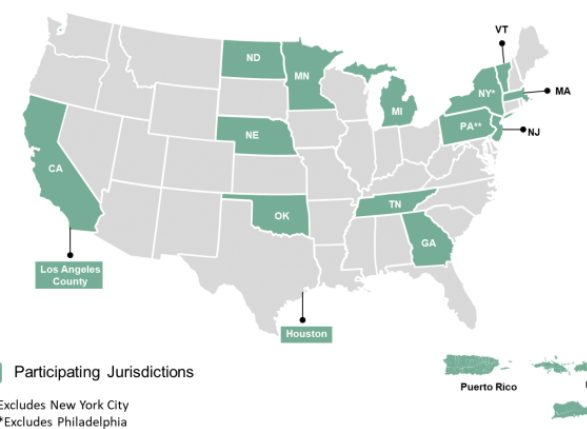


Pregnant women with COVID-19 by age, United States, January 22, 2020 - January 11, 2021  
Data were collected from 55,154 women, and age was available for 55,154 (100%) women.



## Monthly Reporting of Birth and Infant Outcomes

Map of Jurisdictions Reporting Birth and Infant Outcome Data as of December 2020



Last updated December 17, 2020

Total women with completed pregnancies and optional supplementary data reported, 17 Jurisdictions, [March 29-December 8, 2020]



<https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/special-populations/pregnancy-data-on-covid-19.html>

<https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/special-populations/birth-data-on-covid-19.html>

# THANK YOU.



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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

