COVID-19 In Pregnancy is Widening the Gap in Maternal and Child Health

Veronica Maria Pimentel, MD, MS, FACOG

Maternal-Fetal Medicine Specialist, Director of Research, Director of Diabetes in Pregnancy -Trinity Health of NE

Assistant Professor of ObGyn

Objectives

1. Discuss how COVID-19 is widening the disparity gap in maternal and child health
2. Address the reasons for the increase in disparity gap
3. Address ways to close the disparity gap via education and vaccination
4. Discuss the example of St. Francis of how to increase vaccination rate

The COVID-19 pandemic has highlighted and exacerbated the health disparities affecting many racial and ethnic groups

Data from the general population

Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity

Updated Nov. 22, 2021 Print

Rate ratios compared to White, Non-Hispanic persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
Cases[1]	1.6x	0.6x	1.0x	1.6x
Hospitalization[2]	3.3x	0.8x	2.6x	2.5x
Death[3]	2.2x	0.9x	1.9x	2.1x

Race and ethnicity are risk markers for other underlying conditions that affect health, including socioeconomic status, access to health care, and exposure to the virus related to occupation, e.g., frontline, essential, and critical infrastructure workers.

Some risk of severe illness from COVID-19 also present in the pregnant population

- Underlying medical conditions (e.g. lung disease, diabetes, heart disease, HIV, obesity)
- Age > 25 years
- Living or working in a community with high numbers of COVID-19 cases
- Living or working in a community with low levels of COVID-19 vaccination
- Working in places where it is difficult or not possible to keep at least 6 feet apart from people who might be sick
- Being part of historically-marginally racial and ethnic minority groups

Pregnant people are at increased risk of severe illness from COVID-19

- Increased risk of
  - Hospitalization
  - Intensive care
  - Intubation and ECMO
  - Maternal death
  - Cesarean delivery

  - Miscarriage / demise
  - Small for gestational age
  - Preterm delivery
    - ➔ increased risk of problems associated with prematurity

Data on COVID-19 during Pregnancy: Birth and Infant Outcomes

Maternal infection from January 25, 2020 - December 31, 2020 using data reported to CDC as of December 3, 2021

Pregnant Women | Data by Month | Birth Outcomes | Live Births

39,567

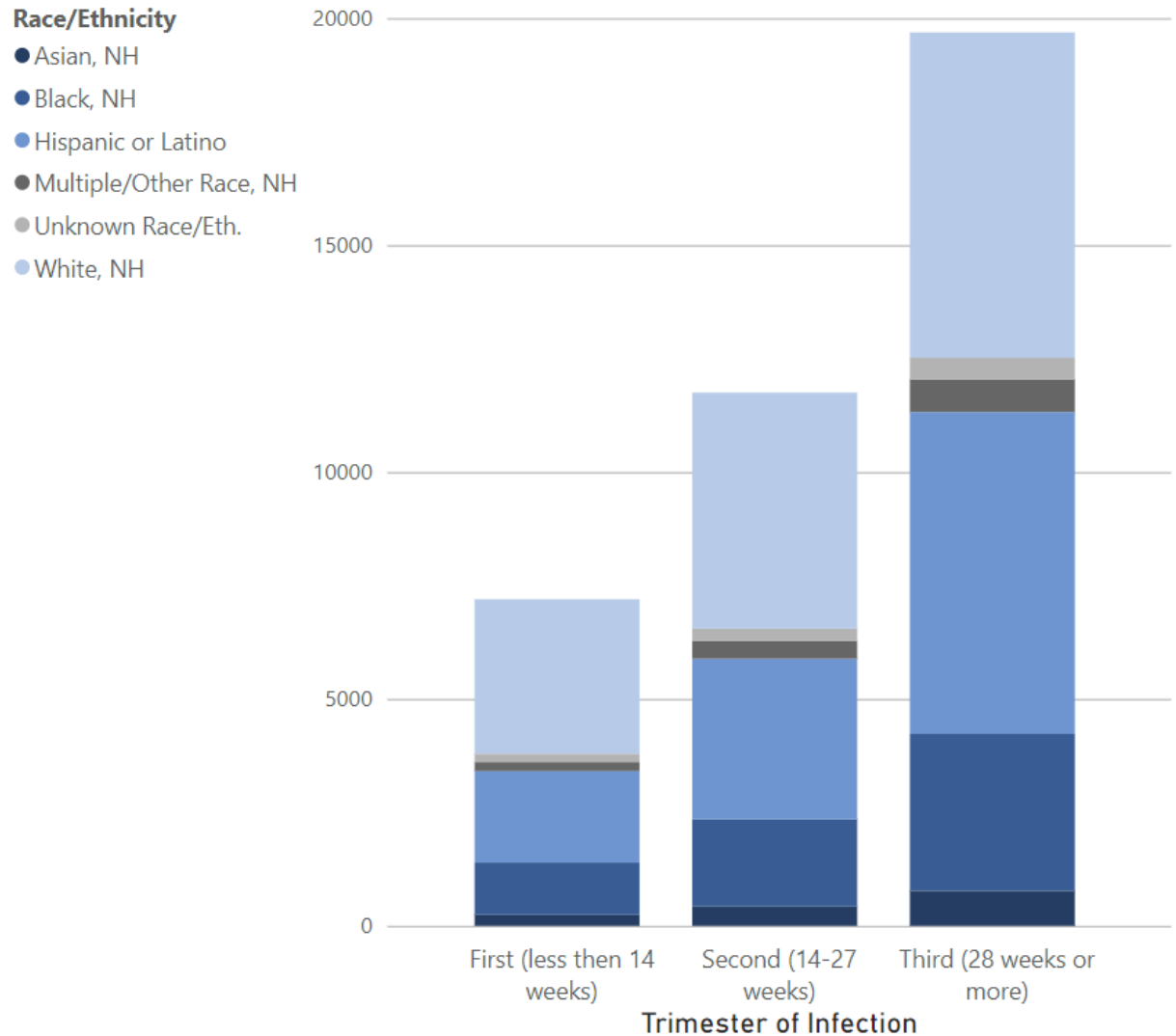
Women with COVID-19 who Completed Pregnancy

View by Selected Category

- (●) Race/Ethnicity
- ( ) Maternal Age

Number of Pregnant Women with COVID-19 by Trimester of Infection

Information on timing of infection was available for 38,631 (97.6%) women.



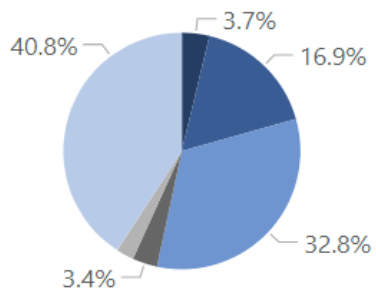
Trimester of Infection	Number of Women
First (less then 14 weeks)	7196
Second (14-27 weeks)	11748
Third (28 weeks or more)	19687
Total	**38631**

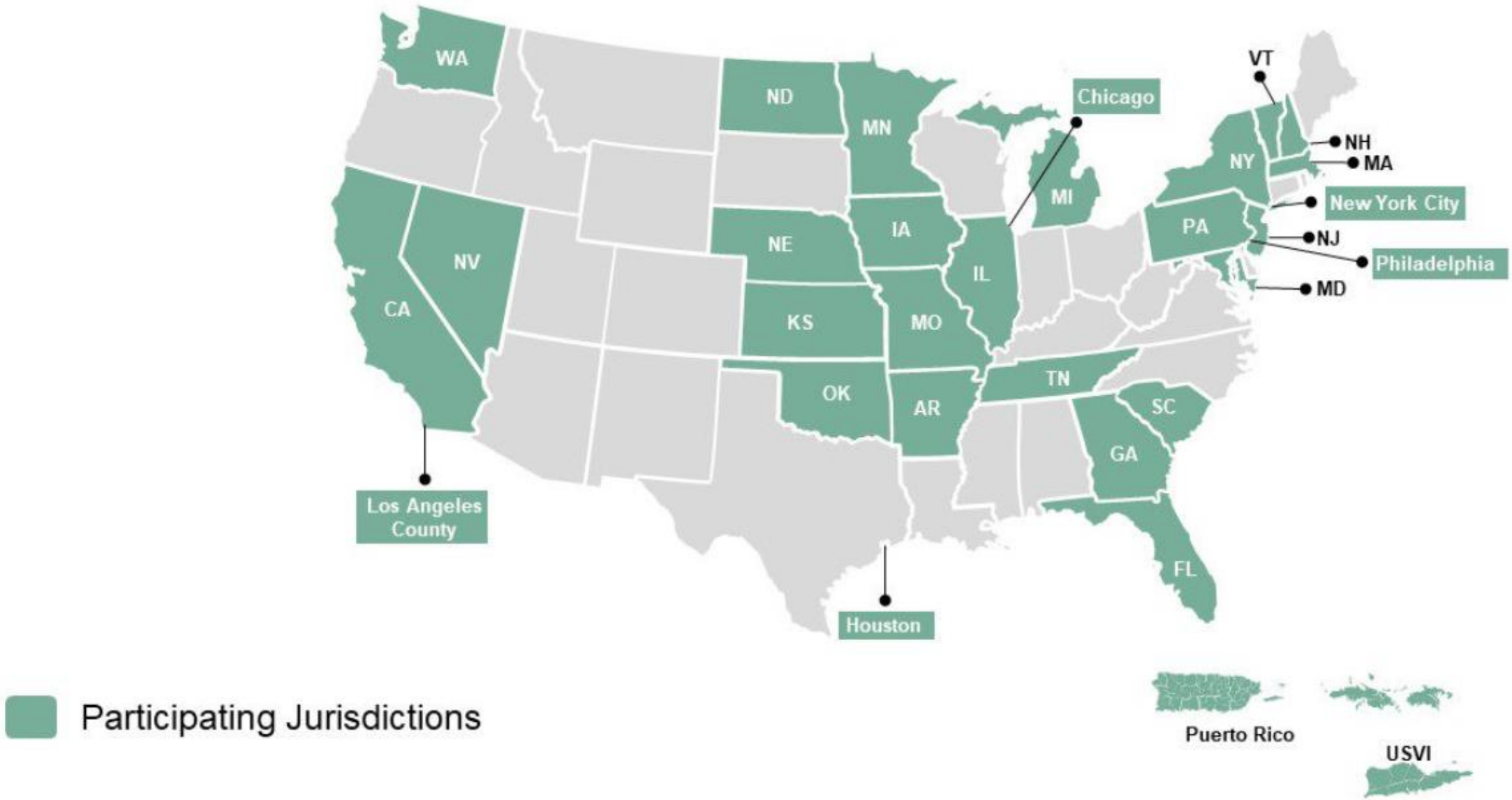
Race/Ethnicity	Number of Women
Asian, NH	1445
Black, NH	6525
Hispanic or Latino	12652
Multiple/Other Race, NH	1308
Unknown Race/Eth.	929
White, NH	15772
Total	**38631**

NH = Non-Hispanic

Maternal Age in Years	Number of Women
<20	1961
20-29	19296
30-39	15679
40-55	1204
Unknown Age	491
Total	**38631**

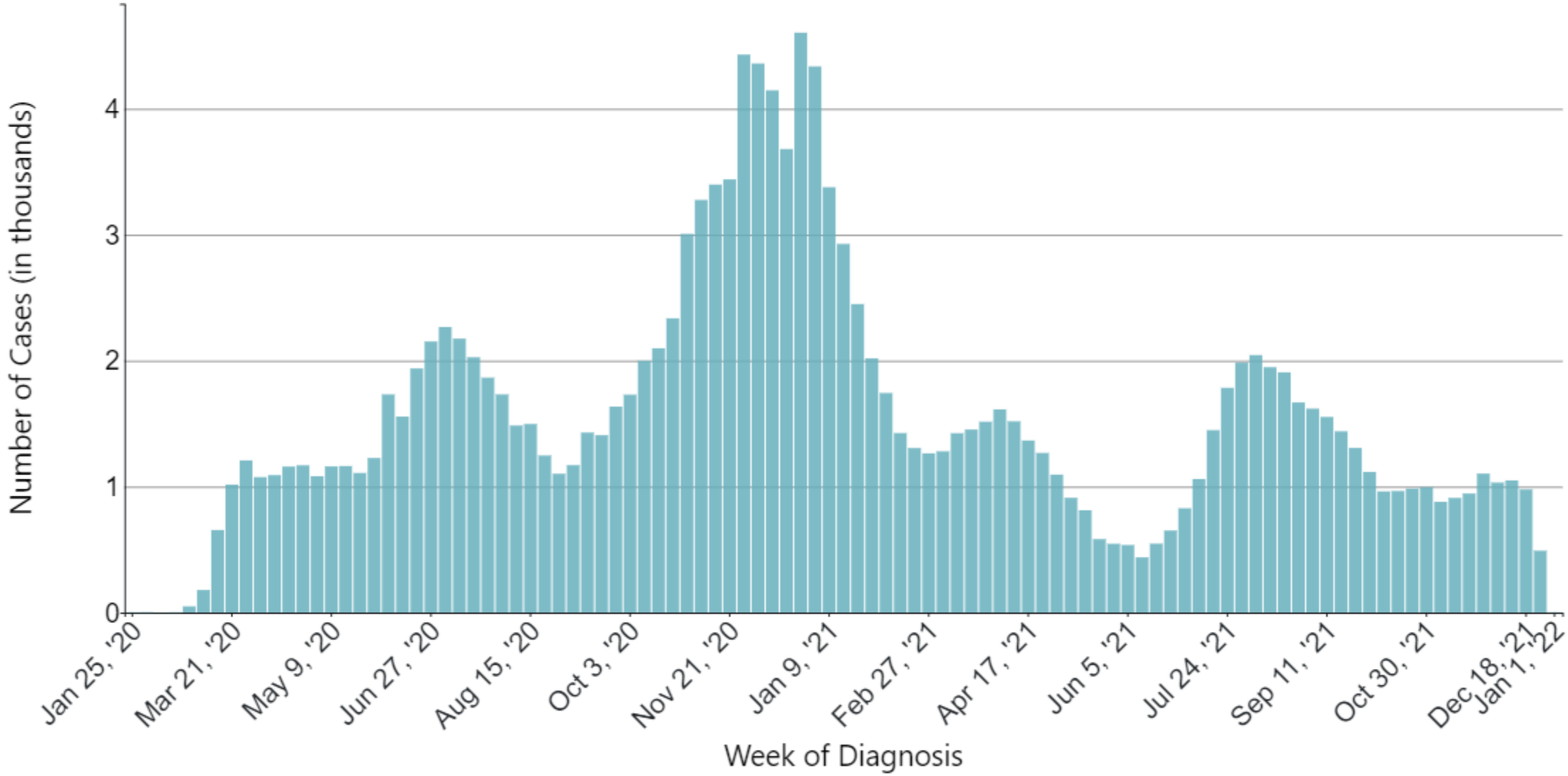
Total Women with Known Timing of Infection




WA
ND
MN
Chicago
VT
NH
MA
NY
MI
New York City
PA
NJ
Philadelphia
MD
NE
IA
IL
CA
NV
KS
MO
TN
OK
AR
SC
GA
FL
Los Angeles County
Houston
Puerto Rico
USVI
Participating Jurisdictions

Cases of COVID-19 among Pregnant Women by Week of Diagnosis*

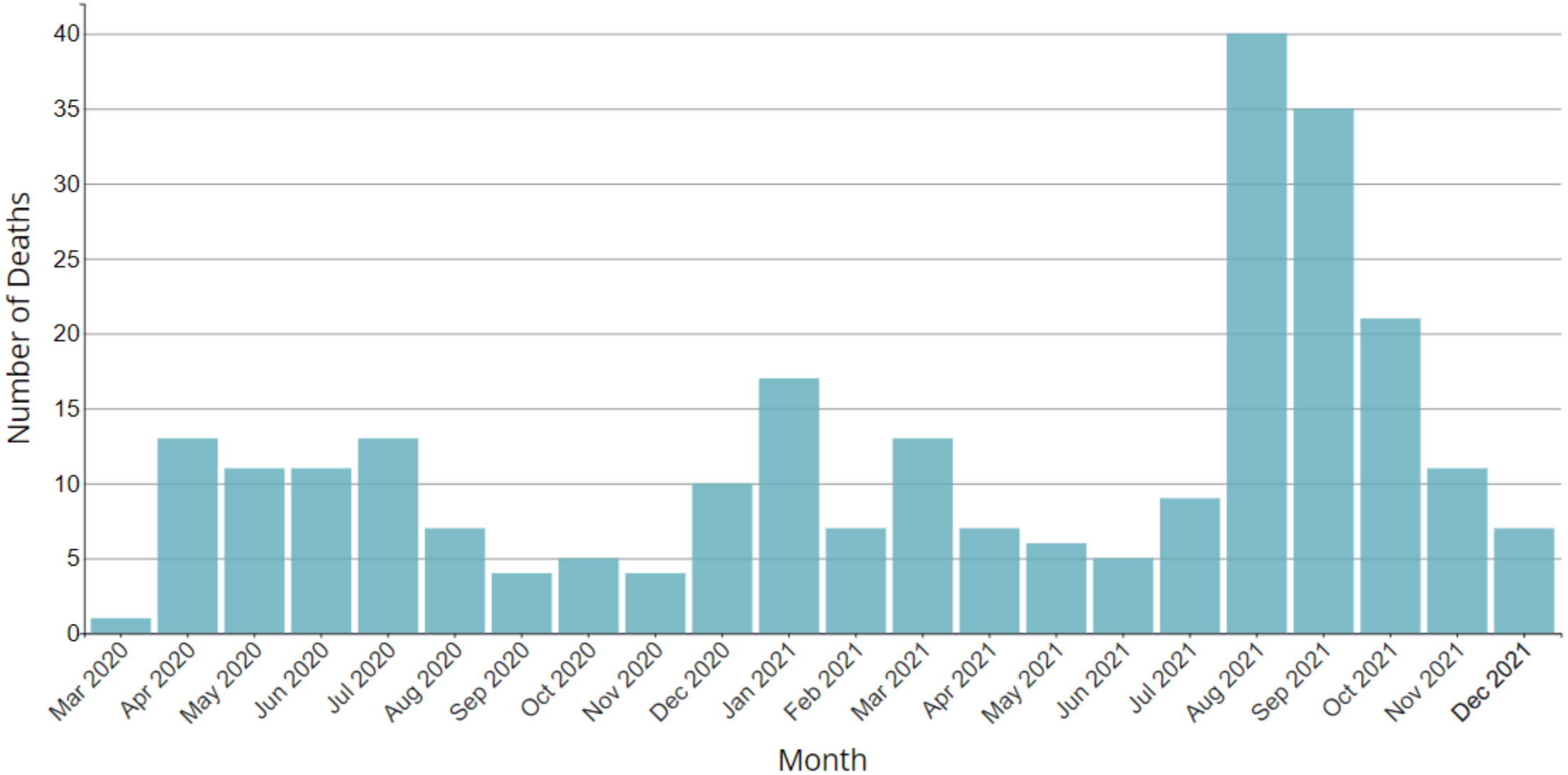
Data were collected from 155,587 women and date of diagnosis** was available for 155,587 (100%) women.



Pregnant Women[1] with COVID-19, United States, January 22, 2020 - January 3, 2022

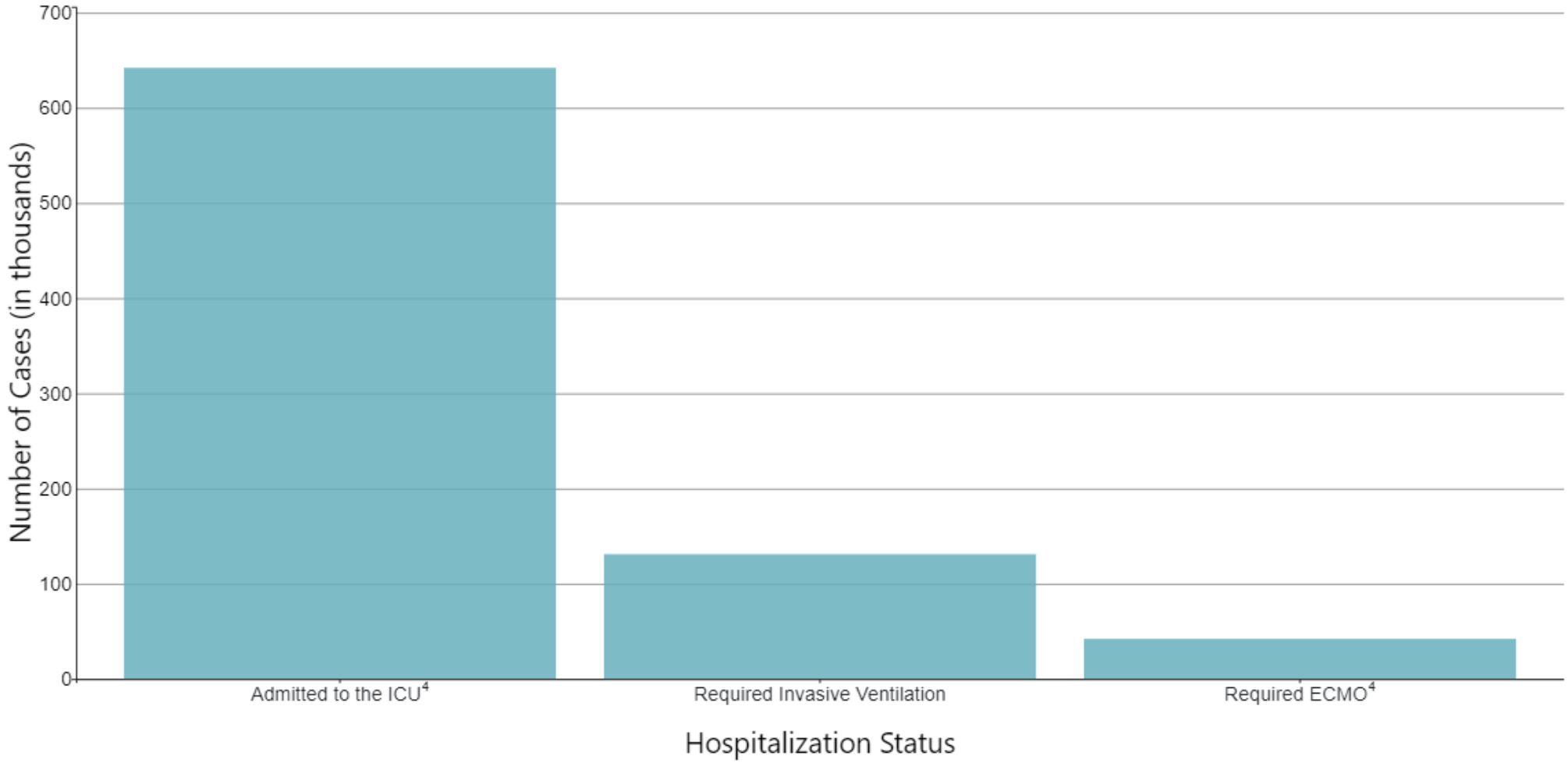
TOTAL CASES[1]	TOTAL DEATHS
155,587	257

Deaths* among Pregnant Women with COVID-19 by Month**



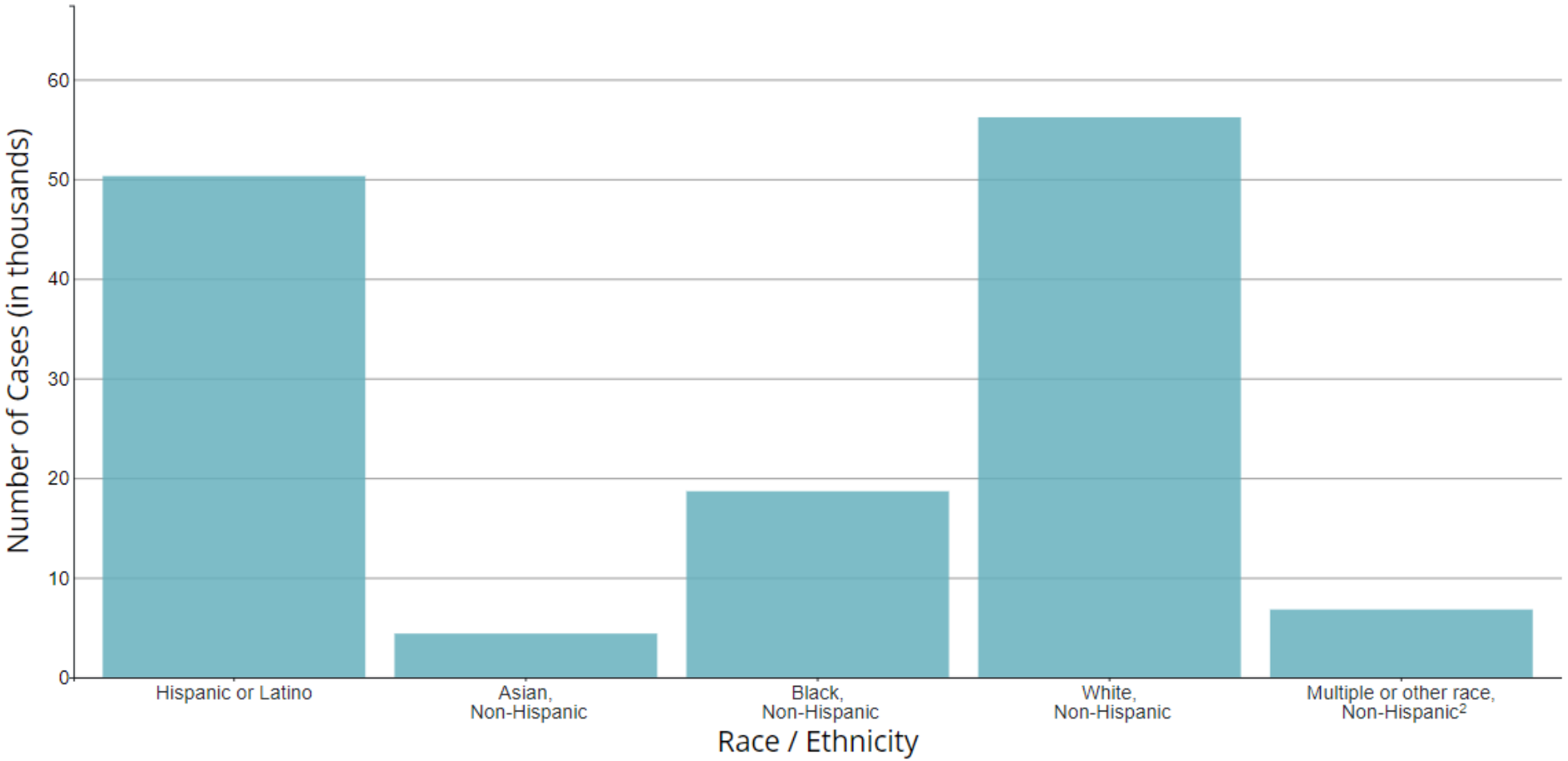
Pregnant Women with COVID-19 Admitted to the ICU, Who Required Invasive Ventilation, or Who Required ECMO, United States, January 22, 2020 - January 3, 2022

Data were collected from 155,587 women, but ICU admission data were only available for 17,123 (11%) women, invasive ventilation data were only available for 12,445 (8%) women, and ECMO data were only available for 13,125 (8.4%).



Pregnant Women with COVID-19 by Race/Ethnicity, United States, January 22, 2020 - January 3, 2022

Data were collected from 155,587 women, but race/ethnicity was only available for 136,341 (87.6%) women.



Ethnic Disparities in Coronavirus Disease 2019 after the Implementation of Universal Screening in Hartford, Connecticut

Veronica Maria Pimentel, MD, MS[1,2,3] Frank Ian Jackson, DO[1,4] Anthony Dino Ferrante, DO[1] Reinaldo Figueroa, MD[1,2]

[1] Department of Obstetrics and Gynecology, St. Francis Hospital and Medical Center/Trinity Health of New England, Hartford, Connecticut
[2] Department of Obstetrics and Gynecology, Quinnipiac University, Frank H. Netter School of Medicine, North Haven, Connecticut
[3] Department of Obstetrics and Gynecology, University of Connecticut School of Medicine, Farmington, Connecticut
[4] Division of Obstetrics and Gynecology, University of New England, College of Osteopathic Medicine, Biddeford, Maine

Address for correspondence Veronica Maria Pimentel, MD, MS, Department of Obstetrics and Gynecology, Saint Francis Hospital and Medical Center, 114 Woodland Street, Hartford, CT 06105 (e-mail: veronicamaria.pimentel@trinityhealthofne.org).

AJP Rep 2021;11:e147–e153.

Abstract

Objective The aim of this article was to estimate the prevalence of coronavirus disease 2019 (COVID-19) in Connecticut, examine racial/ethnic disparities, and assess pregnancy outcomes in pregnant women following the implementation of universal screening for the virus.

Materials and methods This is a retrospective cohort study of all obstetric patients admitted to our labor and delivery unit during the first 4 weeks of implementation of universal screening of COVID-19. Viral studies were performed in all neonates born to mothers with severe acute respiratory syndrome coronavirus 2. We calculated the prevalence of COVID-19, compared the baseline characteristics and pregnancy outcomes between those who tested positive and negative for the virus, and determined the factors associated with COVID-19.

Results A total of 10 (4.6%) of 220 women screened positive for the virus. All were asymptomatic. Week 1 had the highest prevalence of infection, nearing 8%. No neonates were infected. Hispanics were more likely to test positive (odds ratio: 10.23; confidence interval: [2.71–49.1], $p = 0.001$). Obstetric and neonatal outcomes were similar between the groups ($p > 0.05$).

Conclusion Although the rate of asymptomatic COVID-19 was low, ethnic disparities were present with Hispanics being more likely to have the infection.

Keywords

- coronavirus
- COVID-19
- SARS-CoV-2
- pregnancy
- ethnic disparities
- obstetric outcomes
- neonates
- labor and delivery

Key Points

- 4.6% of pregnant women in labor and delivery tested positive for COVID-19 while being asymptomatic.
- Hispanic women were more likely to test positive for severe acute respiratory syndrome coronavirus 2.
- Pregnancy outcomes were similar between COVID-19 positive and negative women.
- No vertical transmission was detected.

Addressing Maternal and Child Health Disparities

employment, work hours on the job, or income.[9] Food insecurity also has been an issue for many families. These challenges can have detrimental effects on downstream health outcomes.

Addressing Health Care Disparities

A multipronged strategy is needed to eliminate the persistent racial and economic disparities in health that were exacerbated by COVID-19.

1. **Expand access to health care:** The US would benefit from increased investment in community health centers and safety net hospitals that disproportionately serve individuals who are from minority, low-income, and undocumented immigrant groups in the US. An expansion of Medicaid eligibility for those who have recently lost employer-based insurance would prevent further decreases in access to health care. In addition, hospitals should be prohibited from pursuing debt collection measures against patients who have received COVID-related health services.
2. **Establish equitable care models:** To encourage patients to seek needed care, whether for COVID-19 or other issues, health systems should facilitate establishment of multidisciplinary teams that build culturally appropriate communication and outreach practices. This information and these activities must be multilingual and universally accessible. The use of approved encrypted free platforms to communicate with patients beyond traditional phone calls and office visits can help break down access barriers. Systems should establish robust equity and quality measurements for delivering COVID-19 self-care information and prioritize groups that have persistently been excluded from receiving health information. The use of trusted community voices (such as clergy and sports and entertainment stars) should be promoted to encourage vaccination against COVID-19 to ensure that minority communities are not disproportionately unvaccinated.
3. **Address social determinants of health:** Although there is limited evidence that it is effective, health care systems should consider screening patients for social needs (eg, housing, food, legal assistance) and connecting patients to existing community resources to address these needs. The 3-month waiting time for adults without children to receive Supplemental Nutrition Assistance Program benefits should be waived through the end of the COVID-19 pandemic. Extending unemployment benefits would enable many people to have sufficient economic resources to be self-sustaining.

Conclusions

Disparities in disease outcomes by racial, ethnic, and socioeconomic status in the US are not new. COVID-19 has served to emphasize the deadliness of these disparities and has made social conditions far worse for many Black, Hispanic, and American Indian persons living in the US. But these inequities are not immutable. Future versions of federal COVID-19 legislation should address these gaps in access to care and public health education.

However, true change will require more than an expansion of services. The COVID-19 pandemic provides an opportunity for clinicians, health systems, scientists, and policy makers to address social disparities, and thereby improve the health and well-being of all persons in the US for both known and future illnesses. Societal efforts to improve conditions for minority communities should build on the intrinsic strengths of each unique community.

ARTICLE INFORMATION

Published Online: January 22, 2021. doi:10.1001/jama.2020.26443

Conflict of Interest Disclosures: None reported.

3. McCormack G, Avery C, Spitzer AKL, Chandra A. Economic vulnerability of households with essential workers. *JAMA*. 2020;324(4):388-390. doi:10.1001/jama.2020.11366

Netw Open. 2020;3(6):e2012403. doi:10.1001/jamanetworkopen.2020.12403

7. Kurtzleben D. Job losses higher among people of color during coronavirus pandemic. Published April

Vaccination is key

COVID-19 vaccines reduce the risk of infection, severe disease, and viral spread

COVID-19 Vaccines While Pregnant or Breastfeeding

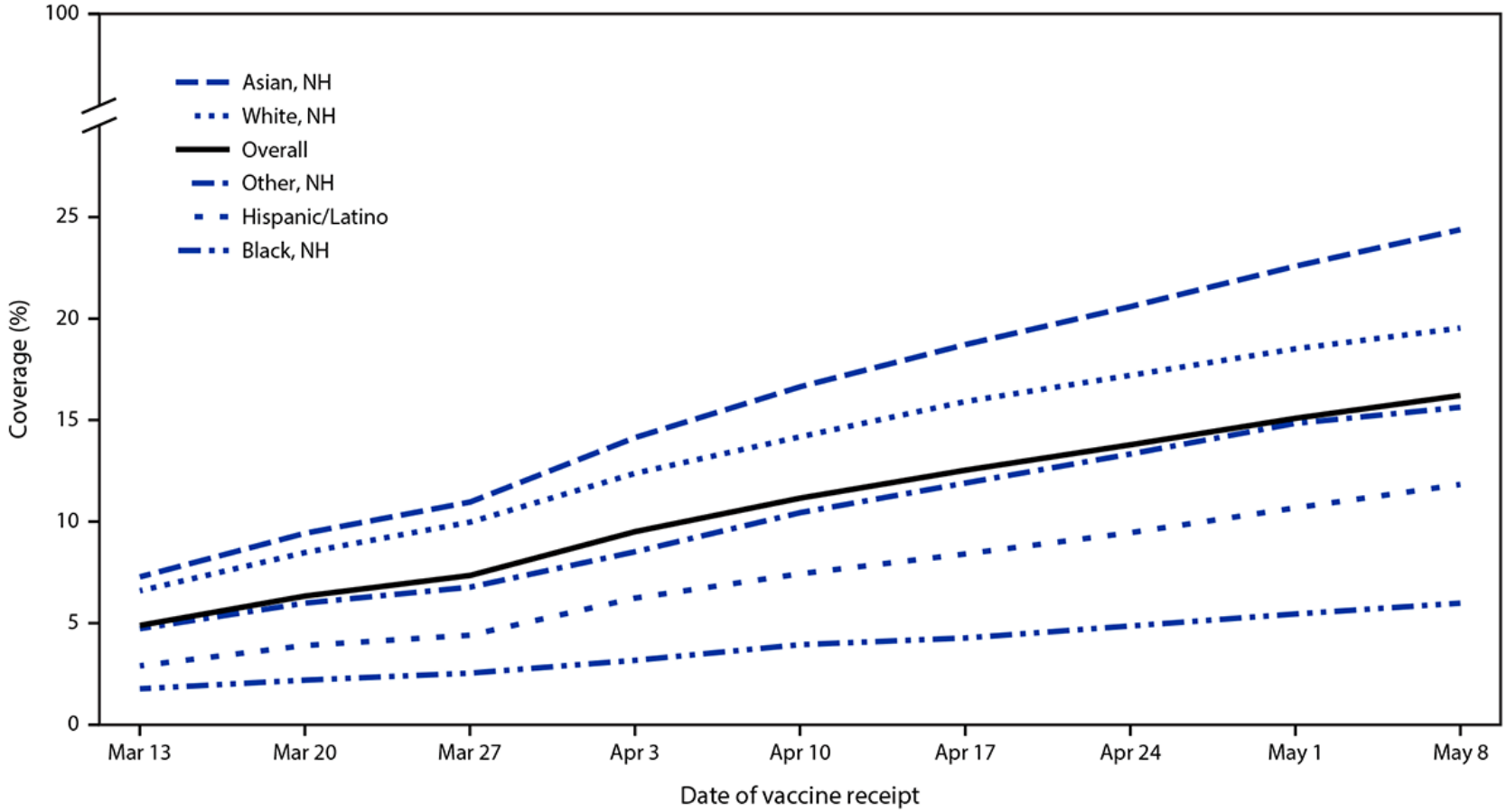
Updated Dec. 6, 2021 Languages Print

What You Need to Know

- People who are pregnant or recently pregnant are more likely to get severely ill with COVID-19 compared with people who are not pregnant.
- Getting a COVID-19 vaccine can help protect you from severe illness from COVID-19.
- COVID-19 vaccination is recommended for people who are pregnant, breastfeeding, trying to get pregnant now, or might become pregnant in the future.
- People who are pregnant may receive a COVID-19 vaccine booster shot.
- Evidence about the safety and effectiveness of COVID-19 vaccination during pregnancy has been growing. These data suggest that the benefits of receiving a COVID-19 vaccine outweigh any known or potential risks of vaccination during pregnancy.
- There is currently no evidence that any vaccines, including COVID-19 vaccines, cause fertility problems in women or men.

Inequities in COVID vaccination rate in pregnancy

FIGURE. Cumulative COVID-19 vaccination coverage (receipt of ≥1 dose*) among pregnant women,† overall and by race and ethnicity§ Vaccine Safety Datalink, United States, March 13–May 8, 2021¶



Vaccination lowest among Hispanic (11.9%) and non-Hispanic Black women (6.0%) and women aged 18–24 years (5.5%)

Community Health Center, Inc. Vaccination Data

CHC Data from April 15, 2021 through October 31, 2021 shows 55.39% of people receiving prenatal care at CHC, Inc. have been vaccinated against COVID-19.

Sorted by race and ethnicity:

- Vaccinations are highest among **Asian** (non-Hispanic) **(80 percent)**
- **Hispanic/Latino (55.05 percent)**
- **White** (non-Hispanic) **(54.84 percent)**
- **Black or African American** (non-Hispanic) **(42.86 percent)**

11 Reasons I have found that patients are not getting vaccinated

1. Campaign of misinformation about vaccines
2. Pregnant people not included in the vaccine trials
3. Not trusting the “system”
4. History of racism and cruelty in medicine against minoritized populations
5. Lack of care prior to pregnancy
6. Not seeing a continuous trusting medical provider
7. Fear of the possibility of causing harm to the fetus by getting vaccinated
8. Suboptimal understanding of the concept of risks and benefits
9. Friends or family members getting infected and being “okay”
10. Language barriers
11. Inconsistent messages from providers and organizations

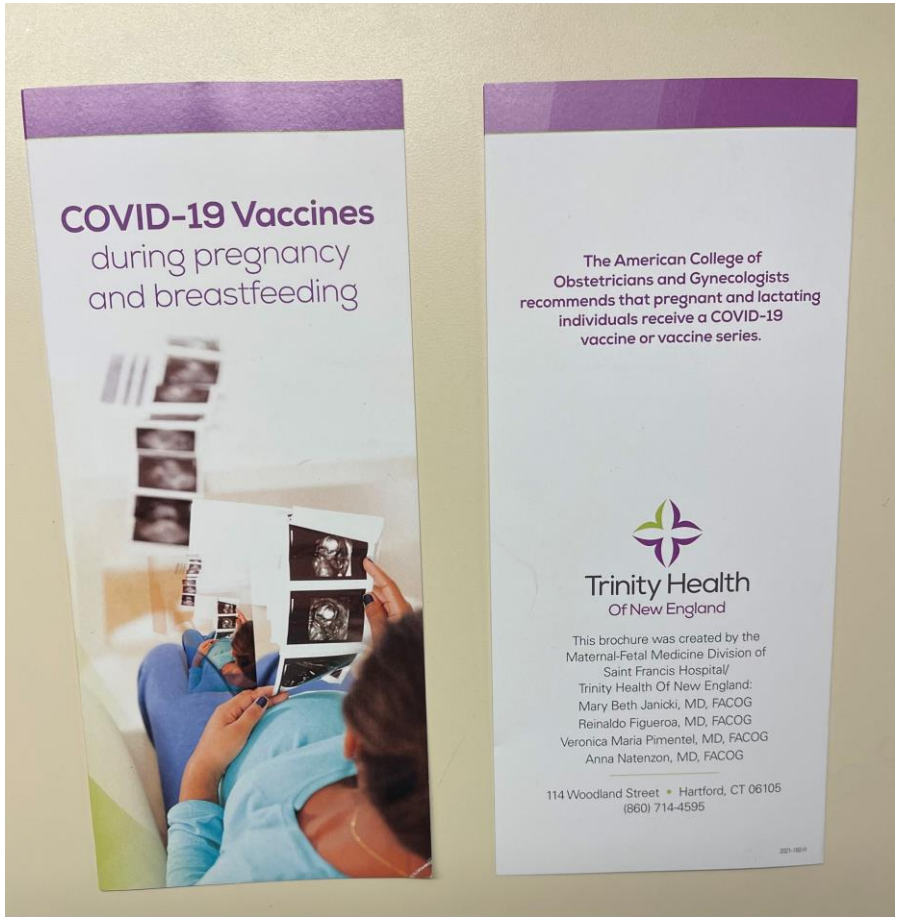
Campaign to educate pregnant people, public and professionals

- Panel discussion with the U.S. Surgeon General about the safety of the COVID vaccines during pregnancy and the importance of getting vaccinated
- October 25, 2021 at 5:15 pm

What are we doing at St. Francis

- Assess vaccination status of every patient presenting for prenatal ultrasound
- Counsel unvaccinated patients about the risks of COVID-19 and benefits of vaccination
- Vaccination clinic in the ultrasound unit

Outcome: Increase in vaccination rate in pregnancy



“My job is to educate one pregnant person at a time. If I change one pregnant person, I will change her family. If I change her family, I will change her community.”

Currently working with ACOG on an exciting project to reach thousands of pregnant people and their families. Will keep you posted.

Thank you for the invitation and your time

Let’s collaborate to decrease the disparity gap

Veronica Maria Pimentel, MD, MS, FACOG