

Impact of COVID-19

Obstetric Implications

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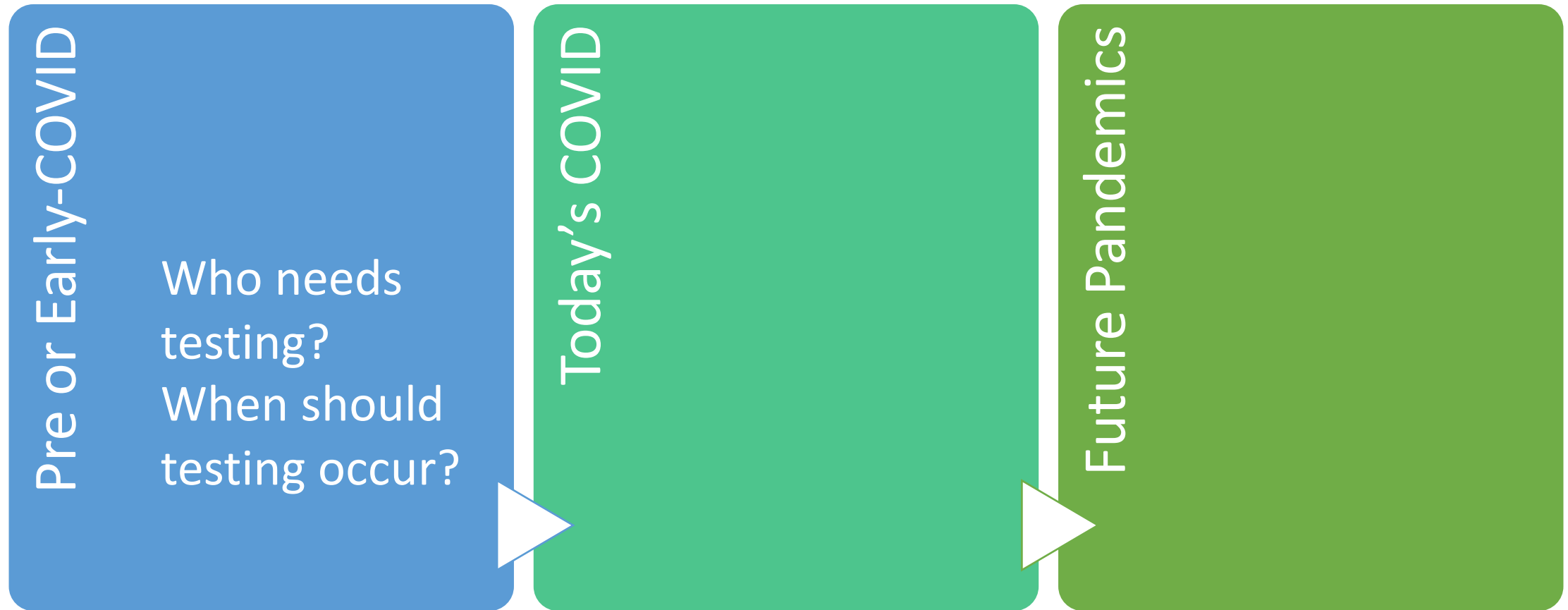
Chief of Obstetrics, Ben Taub Hospital

TCHMB Chair and TexasAIM Medical Director

Objectives

- Review obstetric considerations related to COVID-19
- Gain insights related to lessons learned during the pandemic that can be used for future infectious disease events

Detection of COVID-19 for Pregnant women



Detection of COVID-19 for Pregnant women

Original Research

Coronavirus disease 2019 infection among asymptomatic and symptomatic pregnant women: two weeks of confirmed presentations to an affiliated pair of New York City hospitals



Noelle Breslin, MD; Caitlin Baptiste, MD; Cynthia Gyamfi-Bannerman, MD, MPH; Russell Miller, MD; Rebecca Martinez, MD; Kyra Bernstein, MD; Laurence Ring, MD; Ruth Landau, MD; Stephanie Purisch, MD; Alexander M. Friedman, MD, MPH; Karin Fuchs, MD; Desmond Sutton, MD; Maria Andrikopoulou, MD; Devon Rupley, MD; Jean-Ju Sheen, MD; Janice Aubey, MD; Noelia Zork, MD; Leslie Moroz, MD; Mirella Mourad, MD; Ronald Wapner, MD; Lynn L. Simpson, MD; Mary E. D'Alton, MD; Dena Goffman, MD

Novel coronavirus disease 2019 is rapidly spreading throughout the New York metropolitan area since its first reported case on March 1, 2020. The state is now the epicenter of coronavirus disease 2019 outbreak in the United States, with 84,735 cases reported as of April 2, 2020. We previously presented an early case series with 7 coronavirus disease 2019—positive pregnant patients, 2 of whom were diagnosed with coronavirus disease 2019 after an initial asymptomatic presentation. We now describe a series of 43 test-positive cases of coronavirus disease 2019 presenting to an affiliated pair of New York City hospitals for more

course of their delivery admission or early after postpartum discharge. Of the other 29 patients (67.4%) who presented with symptomatic coronavirus disease 2019, 3 women ultimately required antenatal admission for viral symptoms, and another patient re-presented with worsening respiratory status requiring oxygen supplementation 6 days postpartum after a successful labor induction. There were no confirmed cases of coronavirus disease 2019 detected in neonates upon initial testing on the first day of life. Based on coronavirus disease 2019 disease severity characteristics by Wu and McGoogan, 37 women (86%) exhibited mild

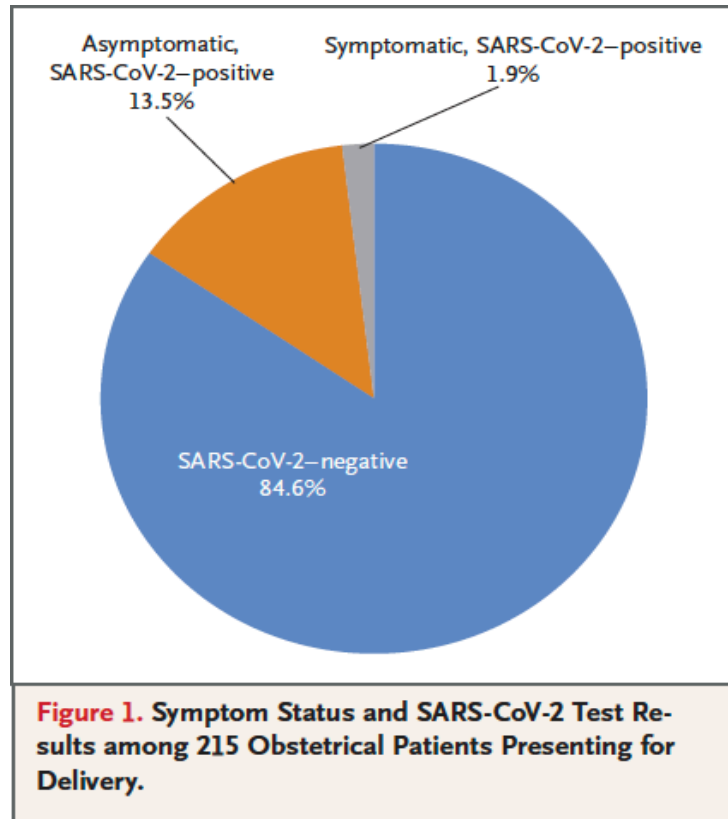
Pre or Early-COVID

High rates of asymptomatic positivity in pregnancy

Obstetric staff have a high rate of exposure and transmission

Do Pregnant women have a higher chance of illness severity?

Detection of COVID-19 for Pregnant women



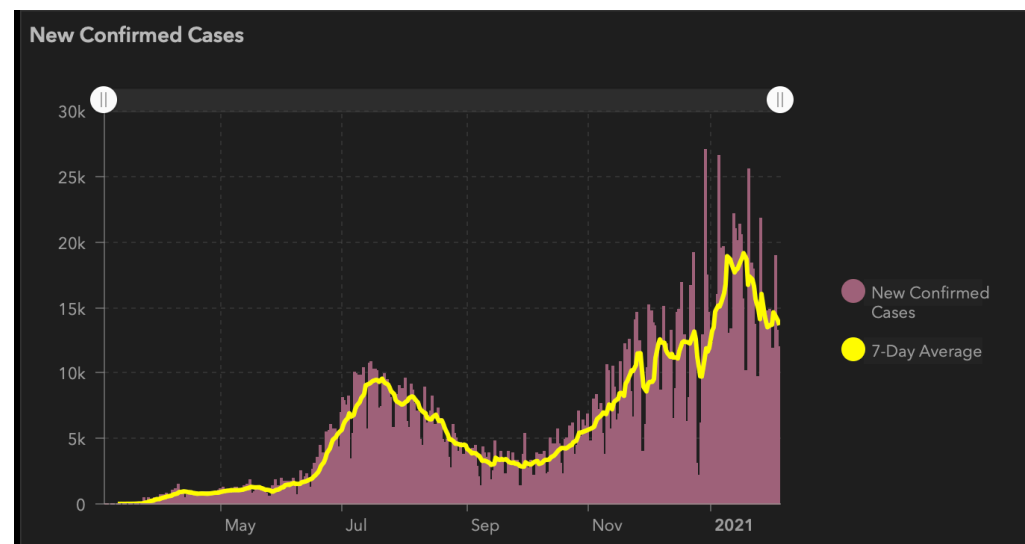
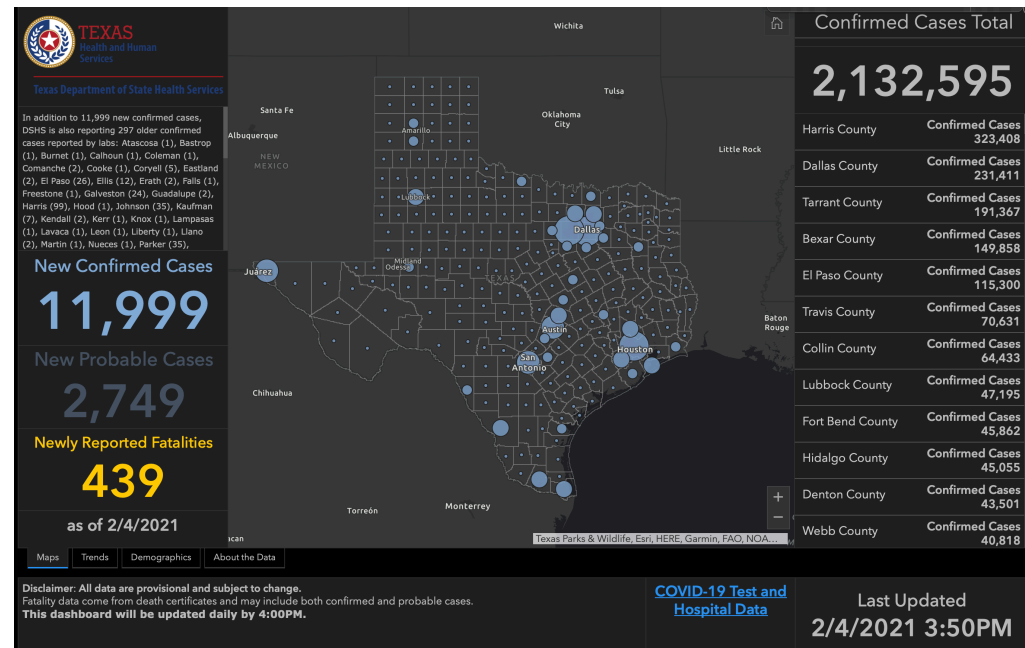
Pre or Early-COVID

Universal testing maybe
Indicated in some
settings

Detection of COVID-19 for Pregnant women

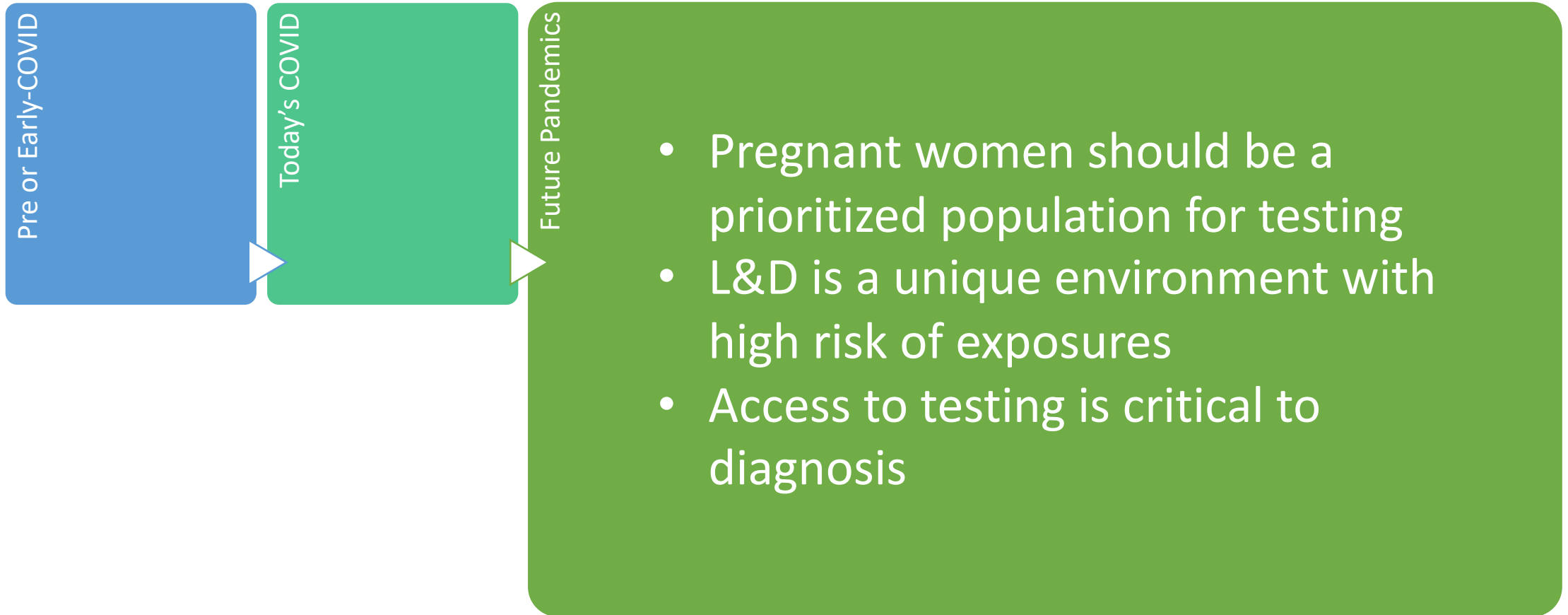
Today's COVID

- Almost 100% of Texas L&D Hospitals do universal screening on L&D
- Many are still challenged with access to timely COVID testing



Source: DSHS COVID Dashboard:
<https://txdshs.maps.arcgis.com/apps/opstdashboard/index.html#/ed483ecd702b4298ab01e8b9cafc8b83>

Detection of COVID-19 for Pregnant women



Illness Severity and Management of COVID-19 in Pregnant women

Pre or Early-COVID

- Do pregnant women have an increased risk of illness severity?
- Is there a risk of vertical transmission of COVID?
- What strategies can mitigate risk?

Today's COVID

Future Pandemics

Detection of COVID-19 for Pregnant women

Pre or Early-COVID

- Pregnant women have an increased risk of illness severity (ICU admissions, mechanical ventilation)

Ellington. Characteristics of Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection by Pregnancy Status — United States, January 22–June 7, 2020

Summary

What is already known about this topic?

Limited information is available about SARS-CoV-2 infection in U.S. pregnant women.

What is added by this report?

Hispanic and non-Hispanic black pregnant women appear to be disproportionately affected by SARS-CoV-2 infection during pregnancy. Among reproductive-age women with SARS-CoV-2 infection, pregnancy was associated with hospitalization and increased risk for intensive care unit admission, and receipt of mechanical ventilation, but not with death.

What are the implications for public health practice?

Pregnant women might be at increased risk for severe COVID-19 illness. To reduce severe COVID-19–associated illness, pregnant women should be aware of their potential risk for severe COVID-19 illness. Prevention of COVID-19 should be emphasized for pregnant women and potential barriers to adherence to these measures need to be addressed.

Detection of COVID-19 for Pregnant women

Pre or Early-COVID

- Pregnant women do not have an increased risk of illness severity

Figure. Flow Diagram of Pregnant Women Tested for Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Infection

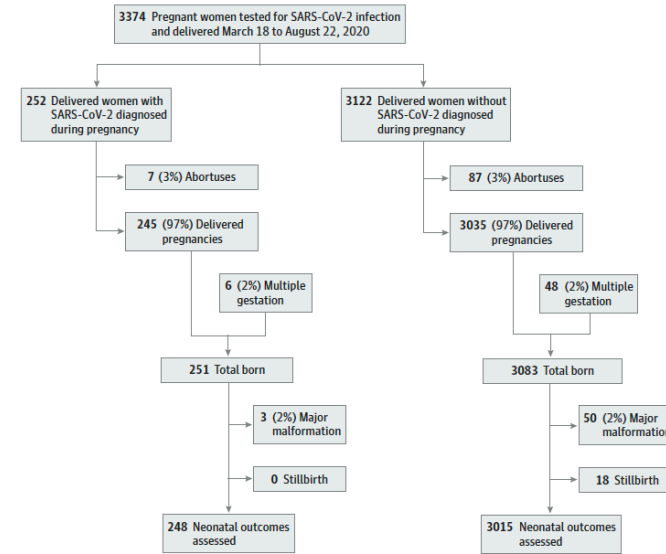


Table 3. Illness Severity, Progression, and Hospitalization Among Delivered Women Diagnosed With SARS-CoV-2 Infection During Pregnancy

| COVID-19 illness severity at initial presentation | Patients, No. (%) | | Clinical progression among pregnant women diagnosed with SARS-CoV-2 infection | | | | | Admitted within 14 d for COVID-19 pneumonia ^a |
|---|-------------------|--|---|----------|----------|--------|----------|--|
| | Total | Admitted within 14 d for obstetric indication ^a | Asymptomatic | Mild | Moderate | Severe | Critical | |
| Asymptomatic | 107 (42) | 99 (93) | 98 (92) | 7 (6) | 0 | 0 | 2 (2) | 1 (1) ^b |
| Mild | 132 (52) | 62 (47) | NA | 126 (95) | 2 (2) | 4 (3) | 0 | 4 (3) |
| Moderate | 10 (4) | 2 (20) | NA | NA | 6 (60) | 4 (40) | 0 | 6 (60) |
| Severe | 3 (1) | 0 (0) | NA | NA | NA | 1 (33) | 2 (67) | 3 (100) |
| Critical | 0 | NA | NA | NA | NA | NA | NA | NA |
| Total | 252 | 163 (65) | 98 (39) | 133 (53) | 8 (3) | 9 (4) | 4 (2) | 14 (6) |

Abbreviations: COVID-19, coronavirus disease 2019; NA, not applicable; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

^a Denotes admission within 14 days of symptom onset or diagnosis (if asymptomatic).

^b One asymptomatic woman developed critical COVID-19 illness while hospitalized for a non-COVID indication and is excluded from this group.

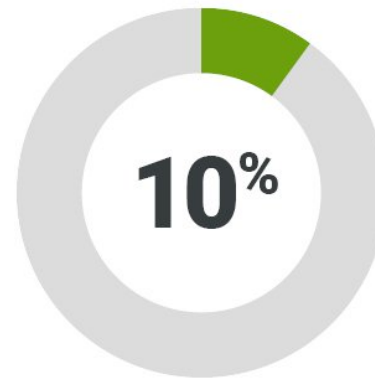
Detection of COVID-19 for Pregnant women

Pre or Early-COVID

- Pregnant women have an increased risk of illness severity (ICU admissions, mechanical ventilation)

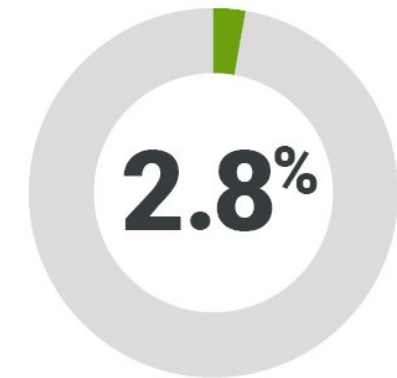
Hospitalization rate for COVID-19 in Washington state:

Pregnant women



VS

Nonpregnant adults
aged 20-39 years



Healio 



JAMA May 2020: (1) Yancy. COVID-19 and African Americans. (2) Webb-Hooper. COVID-19 Racial and Ethnic Disparities. (3) Williams et al. COVID-19 and Health Equity—A New Kind of “Herd Immunity”

Racial/Ethnic Disparities in COVID-19

- Rates of illness
- Illness severity at presentation

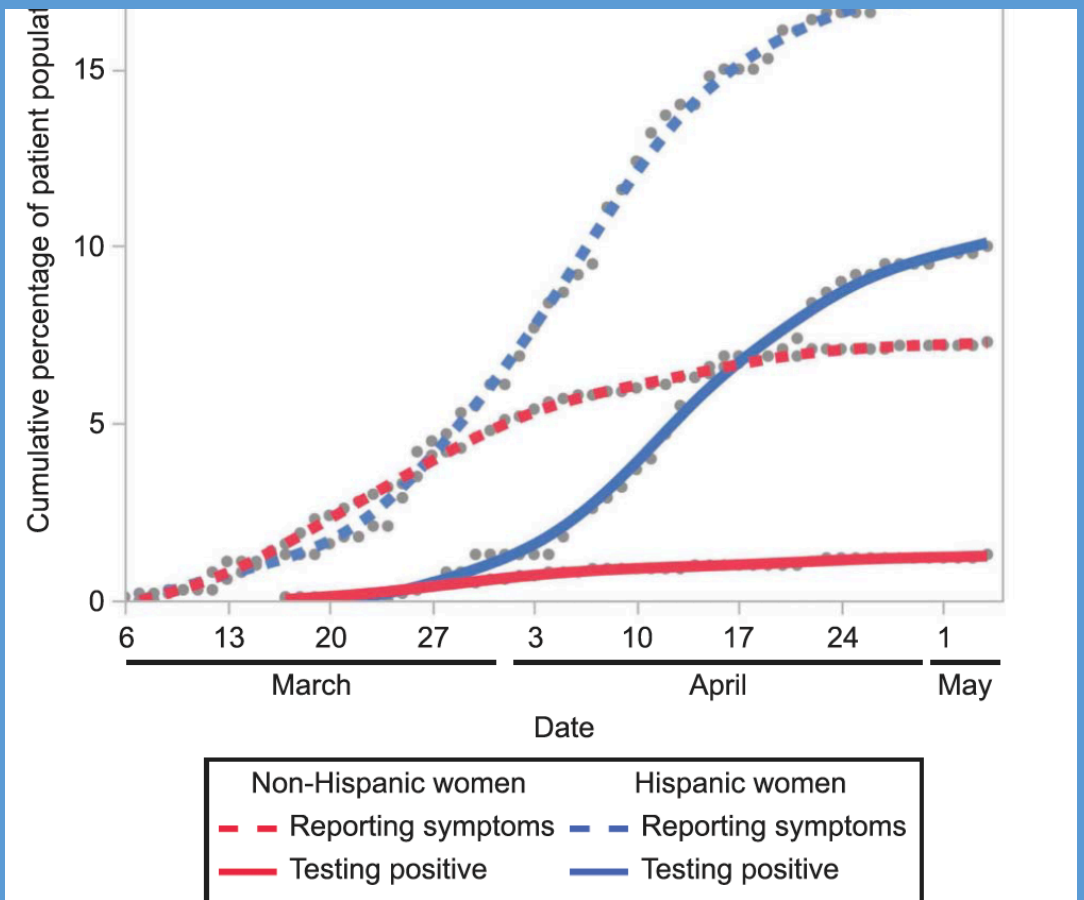


Fig. 1. Cumulative percentage of women reporting symptoms and testing positive for coronavirus disease 2019 (COVID-19) infection among the pregnant patient population. *Red and blue lines (solid and dashed) are smoothed lines to fit the points.*

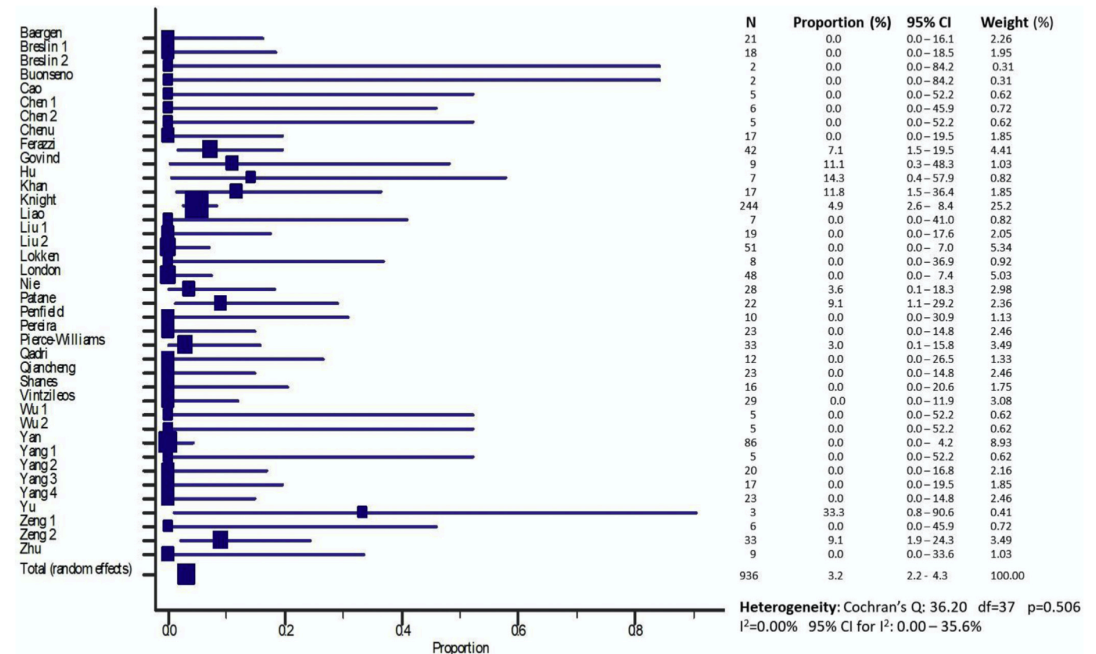
Goldfarb. Ethnic Inequities in COVID-19 Prevalence and Severity. Obstet Gynecol 2020.

Vertical Transmission and COVID-19

Pre or Early-COVID

Vertical Transmission is possible, but rare.


FIGURE 3
Forest plot of meta-analysis of SARS-CoV-2 nasopharyngeal swab assessments of all case series and cohort studies



CI, confidence interval; df, degrees of freedom; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

Kotlyar. Vertical transmission of COVID-19: a systematic review and meta-analysis. *Am J Obstet Gynecol* 2021.

Unscheduled Cesarean in PUI/COVID+

| Pre-Delivery Cesarean | Transfer from LDR to OR | In Operating Room | Post Delivery |
|---|--|---|---|
| <p>Notification Tree Stat/Urgent: OB emergency Unscheduled/Routine: Phone call</p> <ul style="list-style-type: none"> Primary RN 1: contact CN <ul style="list-style-type: none"> Request CD preparation items (SCDs, clipper, pre-op meds) Ask CN to inform scrub tech and gets a transporter Inform CN to obtain her N95, don PPE and prepare to transport patient OB MD 1: contact attending <ul style="list-style-type: none"> Discuss plan Identify 2nd surgeon Inform attending to obtain N95, go to OR and don sterile PPE Anesthesia 1: contact attending <ul style="list-style-type: none"> Discuss plan Inform attending to obtain PPE and N95, don PPE and meet patient in OR <p>Pre-Operative Team Briefing Charge Nurse, OB MD 2, Anesthesia 2 and scrub tech</p> <ul style="list-style-type: none"> Discuss timing of case, OR #, plan of care Review medications to be in room at time of delivery Review PPE order of events Designate supply personnel <p>Surgical Team Scrub tech, OB MD 2, OB MD 3, Anesthesia 2</p> <ul style="list-style-type: none"> Anesthesia 2: Obtain PPE bag and N95 from NM office **: Display signage outside of OR and ante-room Scrub tech, OB2 and OB3: go to OG6 and don #PPE prior to patient arrival <p>Anesthesia 3</p> <ul style="list-style-type: none"> Review and Prepare OR per Anesthesia Management Guideline Call intubation team if needed | <p>Transport Team: Nurse 2 dons #PPE Transporter dons *PPE</p> <p>Sequence of Events for team in patient room</p> <ul style="list-style-type: none"> Place surgical mask on patient for transport Nurse 1 and Anesthesia 1: pass bed to transport team in anteroom or outside room Nurse 2 and Transporter: transfers patient to the OR Nurse 1, Anesthesia 1 and OB MD 1: <ul style="list-style-type: none"> doff gown and gloves in labor room, perform hand hygiene, doff masks outside labor room and obtain N95. Then proceed to OR. don #PPE prior to entering OR if patient is in OR <p> Prior to taking patient into OG 6 Nurse 2 must confirm all required personnel are donned in #PPE Transporter does not go inside the OR</p> <p>Sequence of Events for transport team</p> <ul style="list-style-type: none"> Nurse 2, Anesthesia 2, Nurse 1 and Anesthesia 1: Transfer patient to OR table Nurse 2: carefully remove linen from labor bed and place in linen hamper in OR Nurse 2 and Anesthesia 2: push bed out of OR to transporter Transporter: sanitize bed with Oxivir wipes. Allow bed to completely dry and dress with linen. | <p>Safe surgical checklist and appropriate timeout to always be followed</p> <p>Team to call Transporter for any equipment needed that is outside of OR (do NOT leave OR enter sub-sterile room without doffing PPE)</p> <p>Nursing</p> <ul style="list-style-type: none"> Nurse 1 to act as primary circulator Nurse 2 to page NICU to attend delivery #16-#999 (OG6) <p>Anesthesia</p> <ul style="list-style-type: none"> Regional <ul style="list-style-type: none"> Confirm appropriate surgical level GETA <ul style="list-style-type: none"> To be performed by COVID Intubation team Add HMEF filter All personnel not involved with intubation to step away from patient (> 6 feet) Wait 10 minutes after intubation to prep patient (unless stat) <p>Operating Team</p> <ul style="list-style-type: none"> Scrub (#PPE) in prior to patient arrival and remain scrubbed until end of case No delayed cord clamping Infant is given directly to NICU MD Placenta double bagged and sent immediately to pathology <p>NICU MD</p> <ul style="list-style-type: none"> Take baby immediately out of OR and directly to NICU | <p>Postoperative Briefing required</p> <p>Extubation Plan Call COVID intubation team</p> <p>Sequence of Events for team in patient room:</p> <ul style="list-style-type: none"> Nurse 1 and Anesthesia 1 <ul style="list-style-type: none"> Doff gown/gloves and long boots only Put on new gloves (face masks stay in place) Exit OR to retrieve clean bed Move bed into OR Do not touch patient or assist with transfer Maintain current PPE Anesthesia 2, OB MD 2, OB MD 3, Nurse 2 <ul style="list-style-type: none"> Transfer patient from OR table to labor bed Doff gown/gloves and long boots Hand hygiene Remove surgical mask and throw away Remove bouffant once out of OR and throw away Remove N95 respirator and implement reuse protocol Hand Hygiene Nurse 1 and Anesthesia 1 <ul style="list-style-type: none"> Transfer patient to LDR to her established patient room <p>End of Case – decontamination</p> <ul style="list-style-type: none"> OR to remain empty for 60 min after patient leaves OR Scrub Tech to remove instruments and immediately send to SP; then remove trash and linen. EVS to perform terminal clean |

*PPE: surgical gown, mask, gloves, eye shield

PPE (Second stage or cesarean): surgical gown, N95 mask, gloves, eye shield, long boots, bouffant

\$ PPE (Sterile for Cesarean surgeons): N95, eye shield, surgical gown and gloves, boots, bouffant

| Role | Role | Role |
|-------------------------------------|---------------------|---------------------------------|
| Nurse 1 (primary nurse /circulator) | OB MD 1 (resident) | Anesthesia 1 (senior or fellow) |
| Nurse 2 (charge or designee) | OB MD 2 (attending) | Anesthesia 2 (attending) |
| Scrub Tech | | Anesthesia 3 (junior) |
| Transporter (RN or PCA) | OB MD 3 | COVID Airway Anesthesia 39003 |

Vaccination

INSIDER

HOME > HEALTHCARE

Fauci declares 'no red flags' from the 10,000 pregnant women in the US who have received a COVID-19 vaccine

Kate Duffy Feb 4, 2021, 5:18 AM



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Dr. Anthony Fauci, director of the National Institute for Allergy and Infectious Diseases, speaks during a news conference

Covid-19 vaccines are likely safe during pregnancy. When will we know for sure?

People who are pregnant or breastfeeding in the US could choose to get the vaccines, or wait until more data comes out this spring.

By Katherine Harmon Courage | Feb 3, 2021, 2:30pm EST

f t SHARE



A health worker administers a dose of the Pfizer/BioNTech Covid-19 vaccine to a pregnant woman in Tel Aviv, Israel, on January 23. | Jack Guez/AFP via Getty Images

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Illness Severity and Management of COVID-19 in Pregnant women

Pre or Early-COVID

Today's COVID

- Pregnant women *likely* have an increased risk of illness severity
- Treatment can include many of those offered to non-pregnant women
- Vertical transmission is possible but rare
- Strategies like telemedicine may amplify healthcare inequities in OB
- Pregnant women *should* be offered COVID vaccination

Future Pandemics

Illness Severity and Management of COVID-19 in Pregnant women



Surge Planning for L&D with emergencies

Pre or Early-COVID

- Does L&D need its own surge plan?
- Should women and infants be included in pandemic planning?
- Does L&D need PPE?

Today's COVID

Future Pandemics

L&D COVID Surge Activation

Non-COVID L&D



COVID L&D

Add labor beds/central monitoring to antepartum | **01**

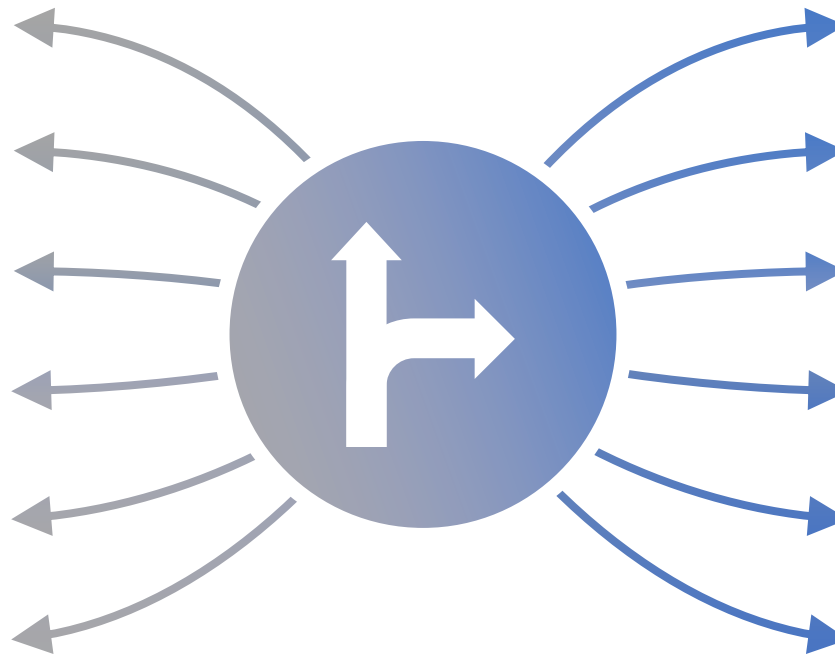
Anesthesia: medications, tackle boxes, epidural carts | **02**

Create new labor board and sign-out | **03**

Change OB emergency notification, add additional PPH kit | **04**

Add emergency release and medications to pyxis | **05**

Add 3 resuscitation stations, neo paging | **06**



01 | Notify Incident Command

02 | Set up donning/doffing stations with infection prevention

03 | Change labor board to COVID Board

04 | Create neo paging system specific to COVID unit

05 | Cohort nursing/MD care

06 | Cohort patients

Surge Planning for L&D with emergencies

Pre or Early-COVID

Today's COVID

- Surge planning looks different for L&D
- It is highly interdependent and collaborative
- L&D may surge with other high acuity units
- L&D is a high risk/high exposure area

Future Pandemics

Surge Planning for L&D with emergencies

Pre or Early-COVID

Today's COVID

Future Pandemics

- L&D specific emergency planning for pandemics and disasters
- PPE allocations for women and infants

TexasAIM Plus Hospital Teams
OB Care and COVID-19 Resources



Docs & Files

General COVID Information (Not OB-Specific)

Hospital Operations (Not OB-Specific)

Conditions, Diagnosis, Treatment and Outcomes

Resources

Message Board

- EG **Untitled**
Question — Hi Does 1
- RM **Physician chart audits**
Question — Hello, I was 10
- LB **PPE**
Are you considering COVID 0
- Neonatal Resuscitation**
Submitted by Laura Uribe 7
- OB Care and COVID19 Discussion Board**

Email Forwards

- TexasAIM@dshs.texas.gov (via Texas...
TexasAIM OB Care & COVID-1...
- TexasAIM@dshs.texas.gov (via Texas...
Cancelled: TexasAIM OB Car...
- TexasAIM@dshs.texas.gov (via Texas...
Reminder: TexasAIM OB Care...
- TexasAIM@dshs.texas.gov (via Texas...
Register: TexasAIM OB Care ...
- TexasAIM@dshs.texas.gov (via Texas...
Register: TexasAIM OB Care ...

Schedule

Set important dates on a shared schedule. Subscribe to events in Google Cal, iCal, or Outlook.



Maternal Disaster Response in COVID

- Began COVID peer to peer learning via some PCR Regions
- Peer learning via literature reviews, simulations, checklists, tools, webinars with content experts via the TexasAIM platform

Past Webinar Recordings

TexasAIM OB Care and COVID19 Call #...

This call featured a panel presentation on disparities and COVID-19.

TexasAIM OB Care & COVID19 Webinar #1 Mar...

This webinar features a panel presentation on OB Care and COVID-19 Response and

- Guidelines and

TexasAIM OB Care and COVID19 Call #...

This call featured a panel presentation on:

- New literature

TexasAIM OB Care and COVID19 Call #...

This webinar features a presentation on:

- New literature

TexasAIM OB Care and COVID19 Call #...

This webinar featured a presentation on:

- New literature

TexasAIM OB Care and COVID19 Call #...

This call featured an update on new literature and a panel Q&A around OB Care and COVID-19.

TexasAIM OB Care and COVID19 Call #...

This call featured a panel presentation on:

TexasAIM OB Care and COVID19 Call #...

This call featured a panel presentation on:

- New literature

TexasAIM OB Care and COVID19 Call #...

TexasAIM OB Care and COVID19 Call #...

TexasAIM OB Care and COVID19 Call...

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