ILPQC
Illinois Perinatal Quality Collaborative

COVID-19 Strategies for OB & Neonatal Units

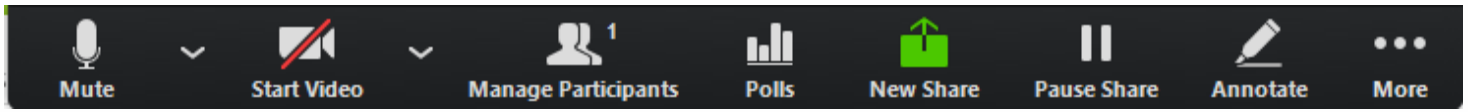
December 4, 2020

12:00 – 1:15pm

Welcome

Please be certain you are on *"mute"* when not speaking to avoid background noise.

Whether you have joined by phone or computer audio, you can mute and unmute yourself by clicking on the microphone icon.



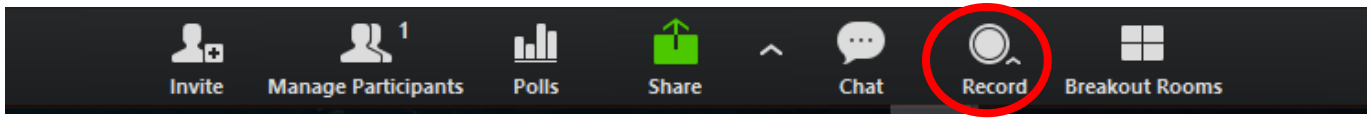
The following shortcuts can also be used

For PC: Alt + A : Mute or Unmute

For Mac: Shift + Command + A: Mute or Unmute

For telephone: *6 : Mute or Unmute

Housekeeping:
We Are Recording Now



ILPQC Covid 19 webinars

- The strategies shared today are examples from individual institutions not IDPH or ILPQC recommendations.

- This is our 16th COVID-19 strategies for OB/Neonatal Units webinar in coordination with IDPH, since April 3rd. Please see https://ilpqc.org/covid-19-information/ for future webinar registration, prior recorded webinars and written out Q/A's from those webinars.

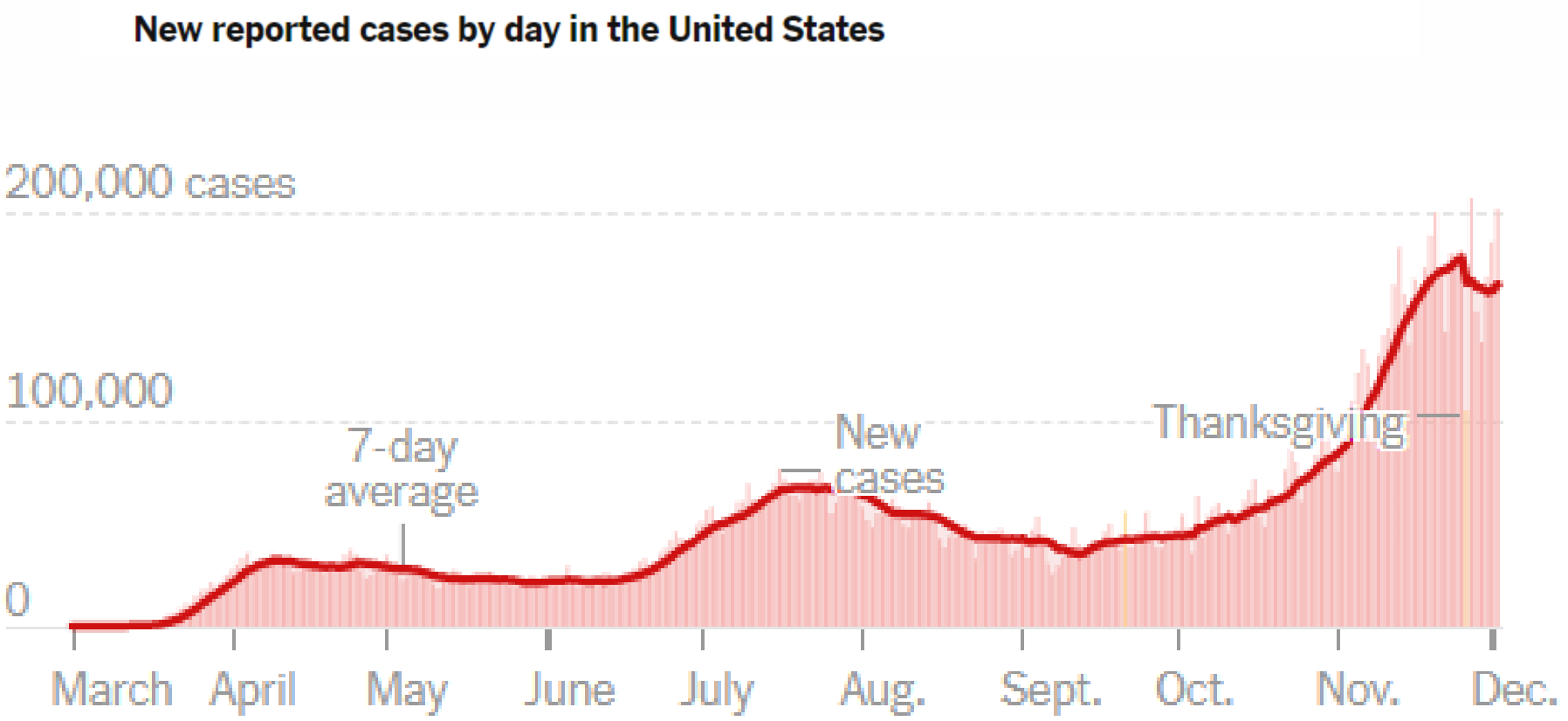
- The next webinar will be **Friday, January 8, noon to 1:15pm**. We are continuing monthly webinars for now.

- Please let us know if your hospital would like to share on an upcoming webinar, please put questions/comments into the chatbox or email directly to info@ilpqc.org

Overview

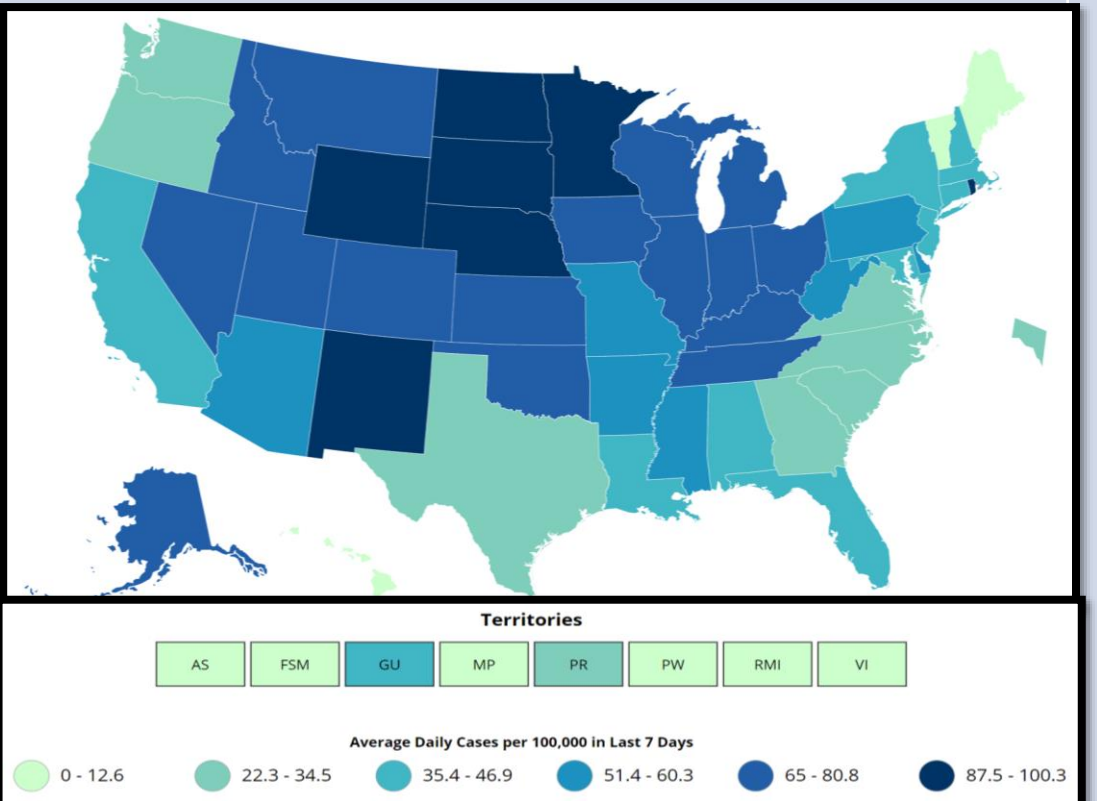
- **Introduction**
- **Discussion of Neonatal Unit Strategies**
  - **Beth Lamkin,** BSN, RN – Manager, Neonatal Intensive Care Unit, SSM Health Cardinal Glennon Children's Hospital, St. Louis
  - **Justin Josephsen, MD** - Medical Director, St. Mary's Hospital NICU, Neonatologist Cardinal Glennon Children's Hospital, St. Louis
  - **Leslie Caldarelli, MD -** NICU Director, Prentice Women's Hospital, Chicago
- **Discussion of OB Unit Strategies**
  - **Bridget A. Buyea, MD FACOG -** OB/GYN, Medical Director for Women's Health, Heartland Health Center, Swedish Covenant Hospital, Chicago
  - **Shelly Tien, MD** – Maternal Fetal Medicine, NorthShore University HealthSystem, Evanston Hospital
  - **Stephanie Lake, RN, BSN, MBA -** Clinical Director, Women and Infants Center, HSHS St. Mary's Hospital (SMD), Decatur
  - **Abbe Kordik, MD –**University of Chicago Medical Center, Chicago

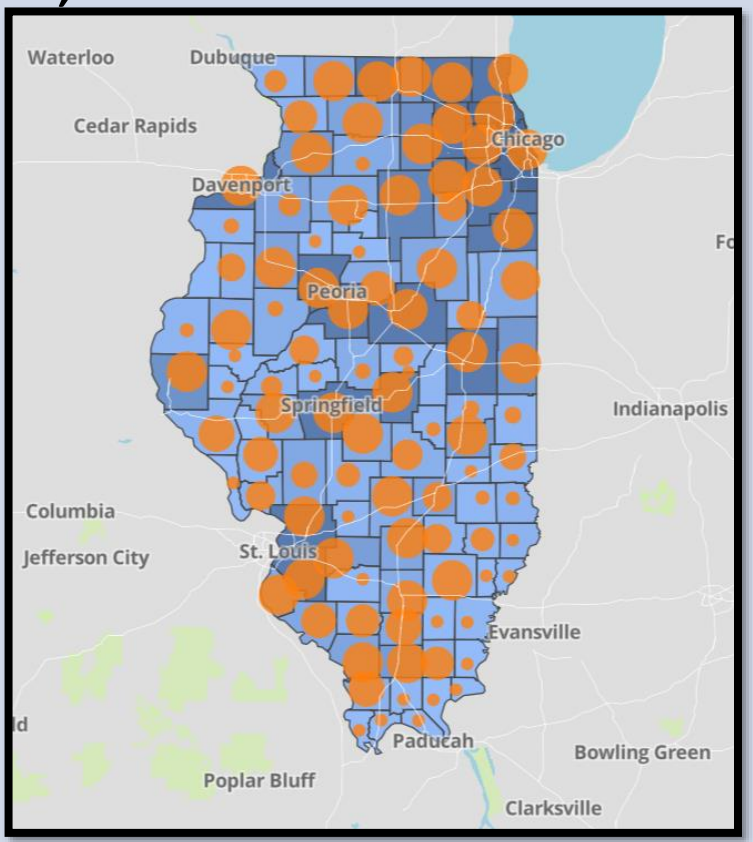
US COVID case trend



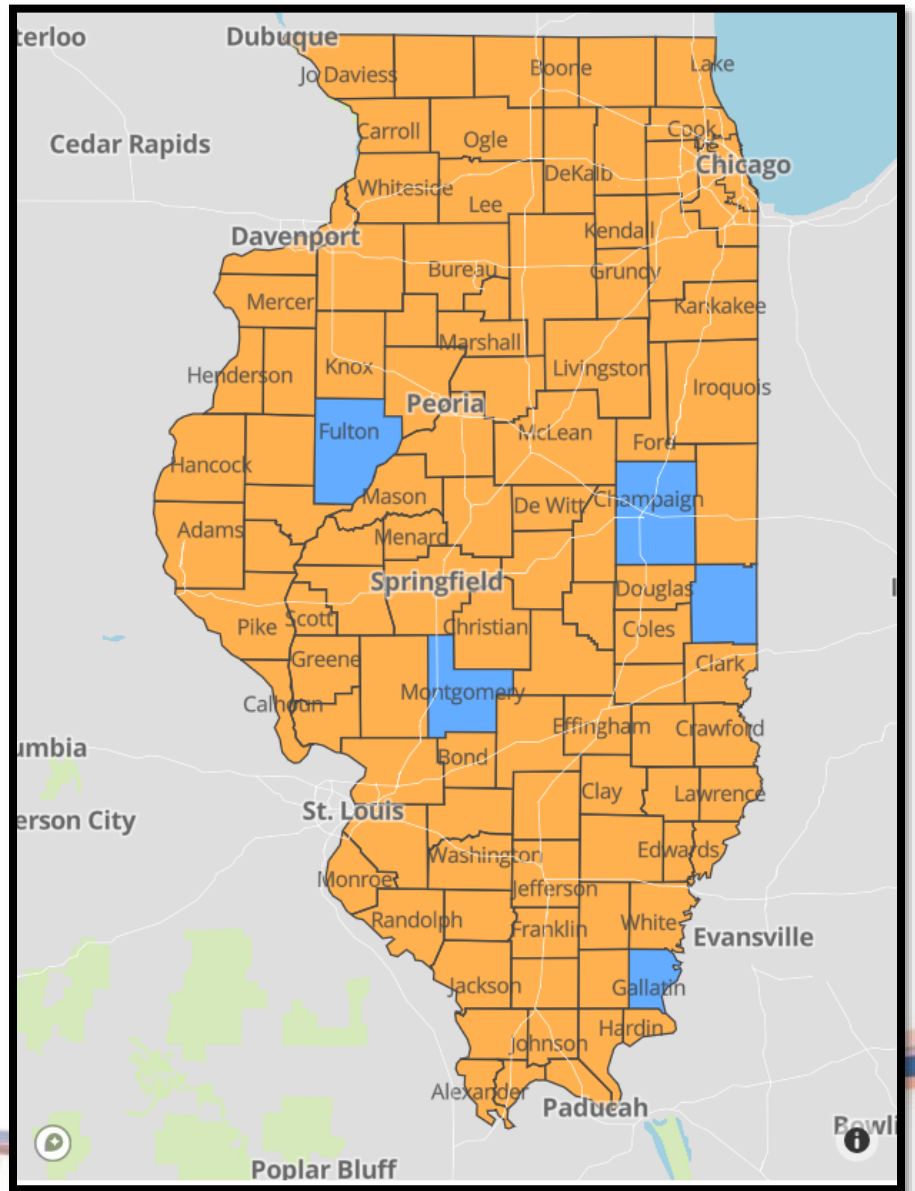
Data Update **December 3, 2020**
CDC/IDPH: COVID-19 Outbreak

CDC https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html	IDPH https://www.dph.illinois.gov/covid19
• Total cases: **13,626,022 confirmed** • Total deaths: **269,763 confirmed**	• **748,603** Confirmed Positive Cases • **12,639** Deaths





IDPH County Level COVID-19 Risk Metrics



Week 47: 11/15/2020 Through 11/21/2020

Blue indicates that the county is experiencing overall stable COVID-19 metrics.

Orange indicates there are warning signs of increased COVID-19 risk in the county.

Data Update **December 3, 2020**

IDPH: COVID-19 Outbreak

https://www.dph.illinois.gov/covid19

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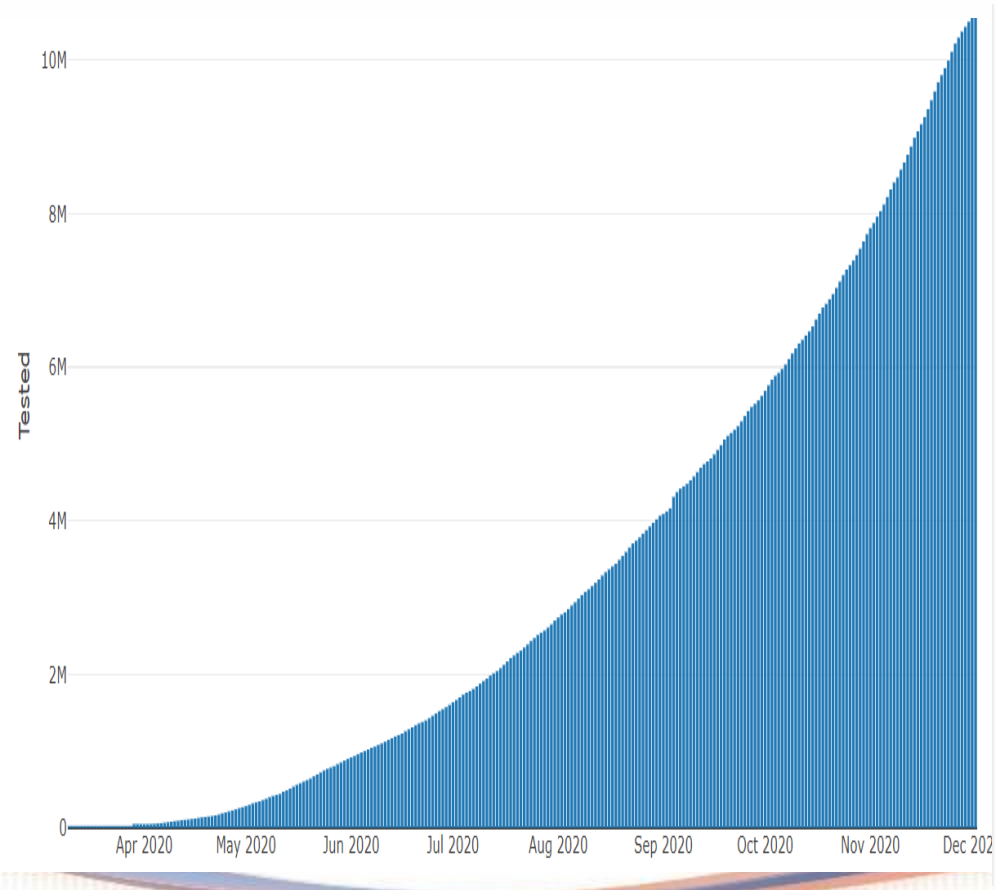
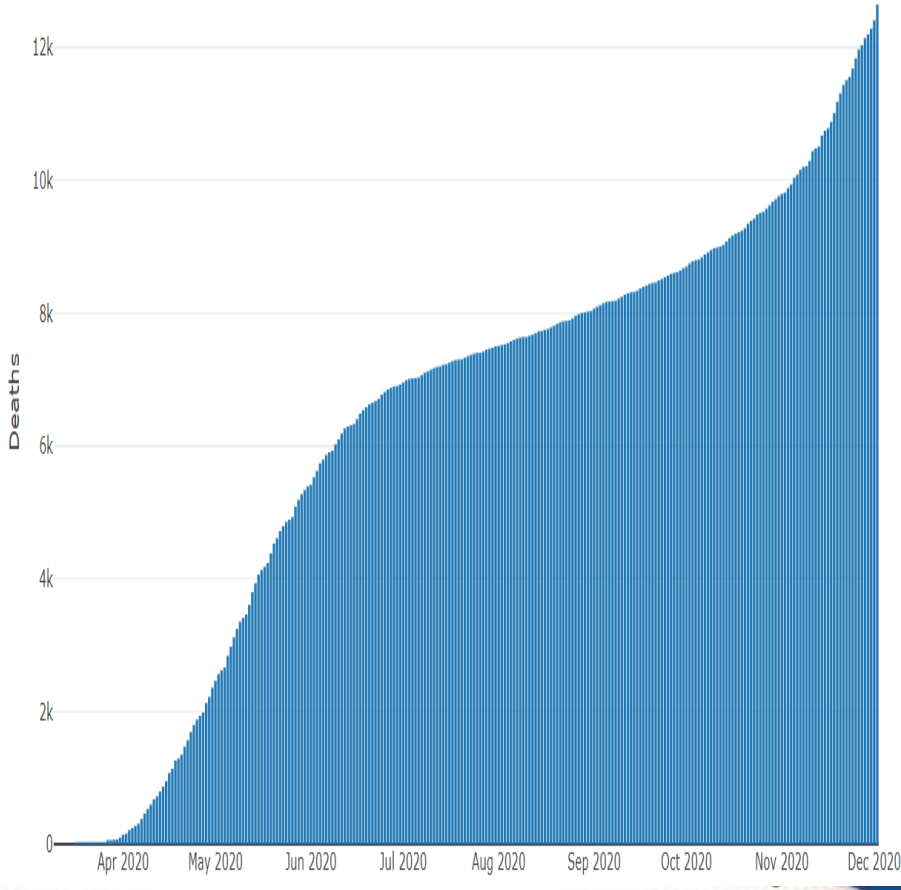
IL Positive Cases Over Time

Total: 748,603 Confirmed Positive Cases



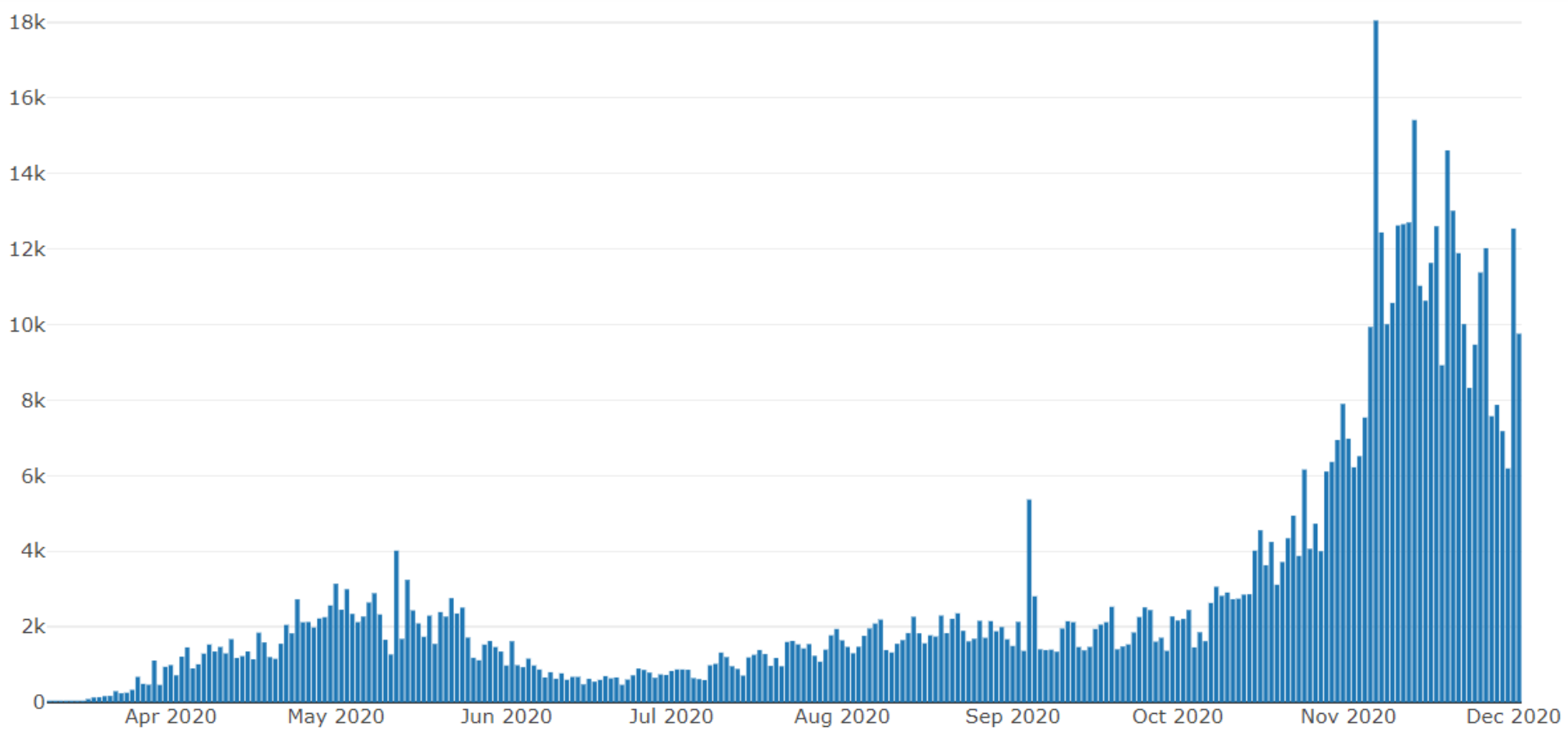
IL Deaths Over Time

Total: 12,639 Deaths



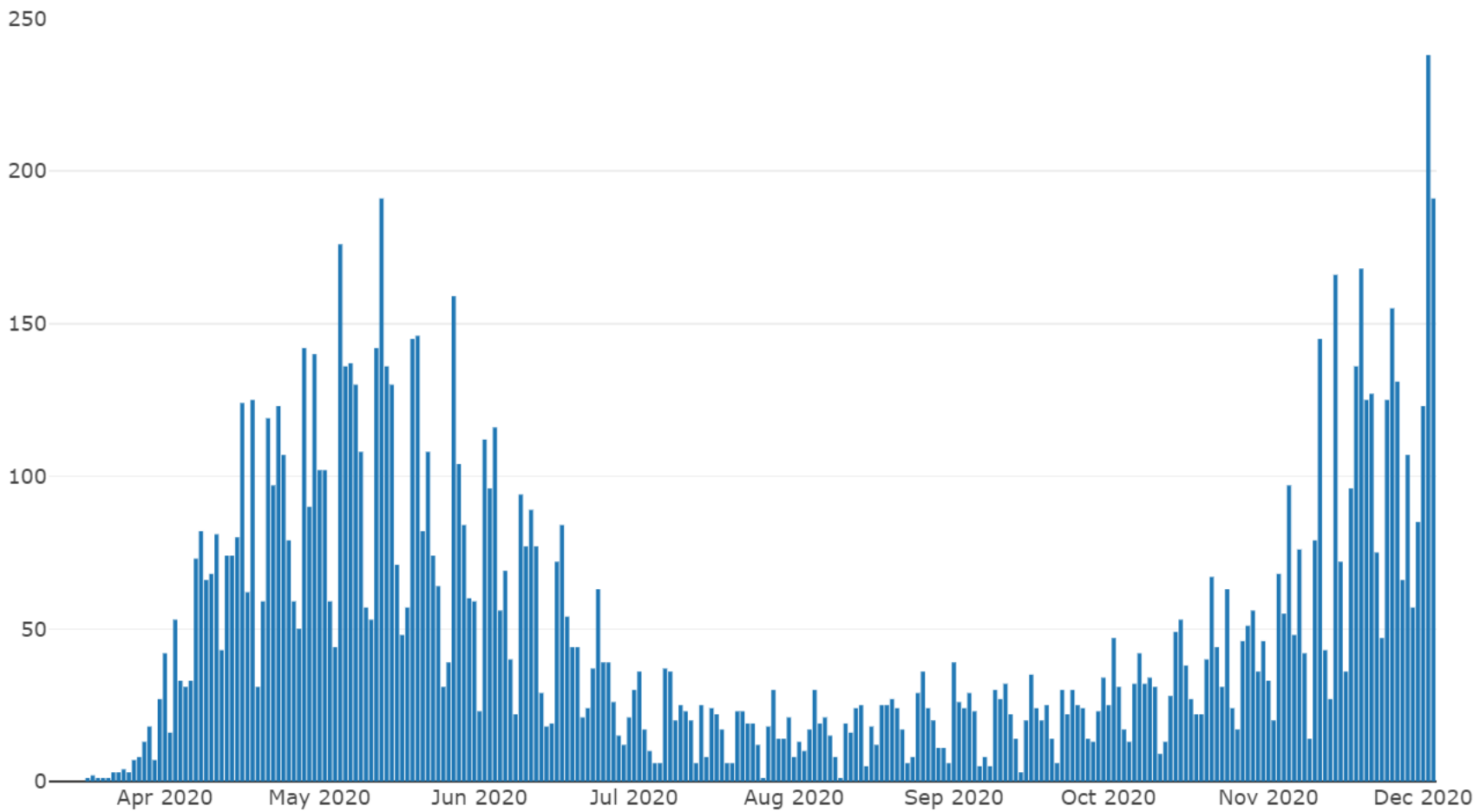
Illinois Daily Incidence

IDPH daily data summary



Illinois Covid Deaths

IDPH daily data summary



Data Update **December 3, 2020**

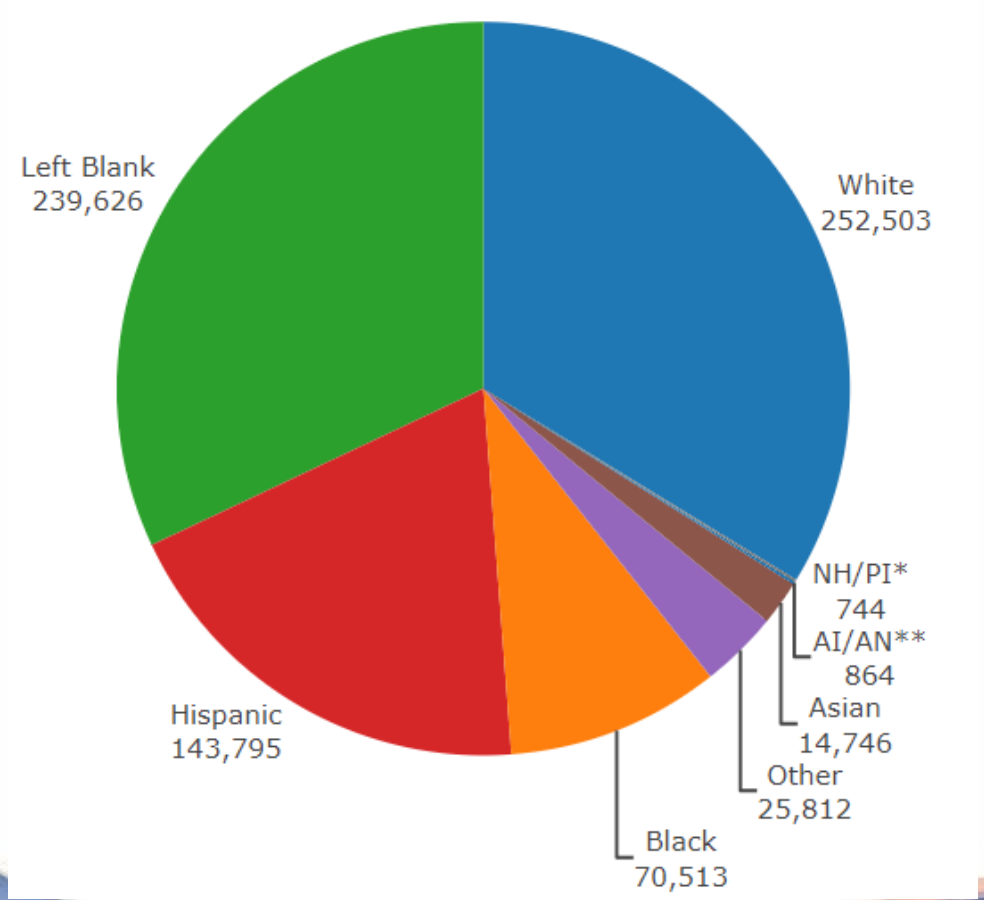
IDPH: COVID-19 Outbreak

Race Demographics

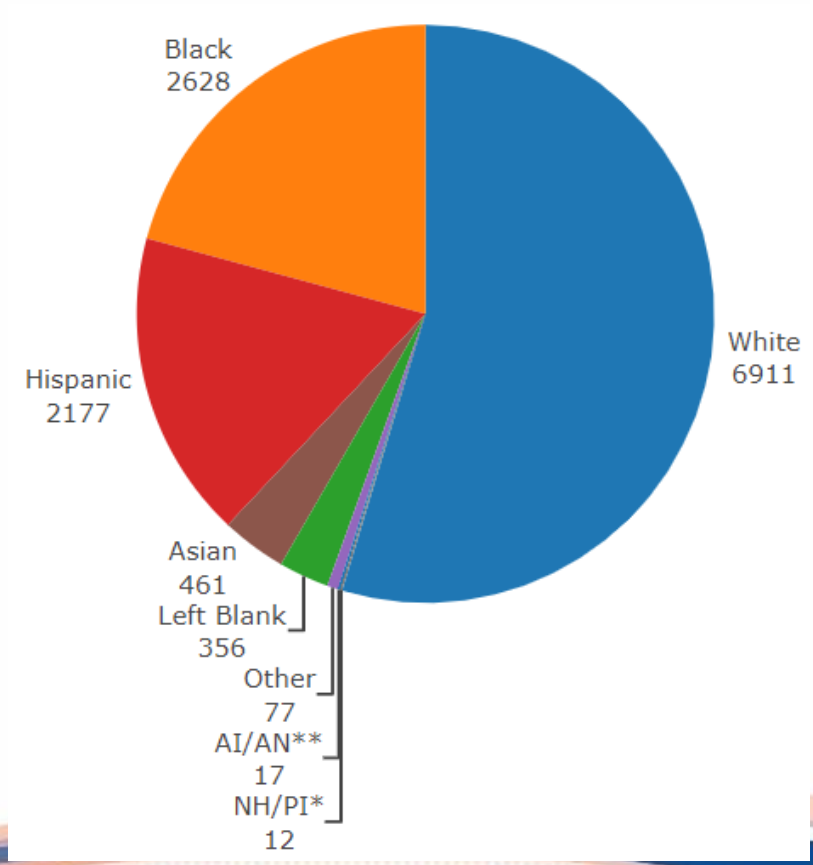
https://www.dph.illinois.gov/covid19

Illinois Perinatal Quality Collaborative

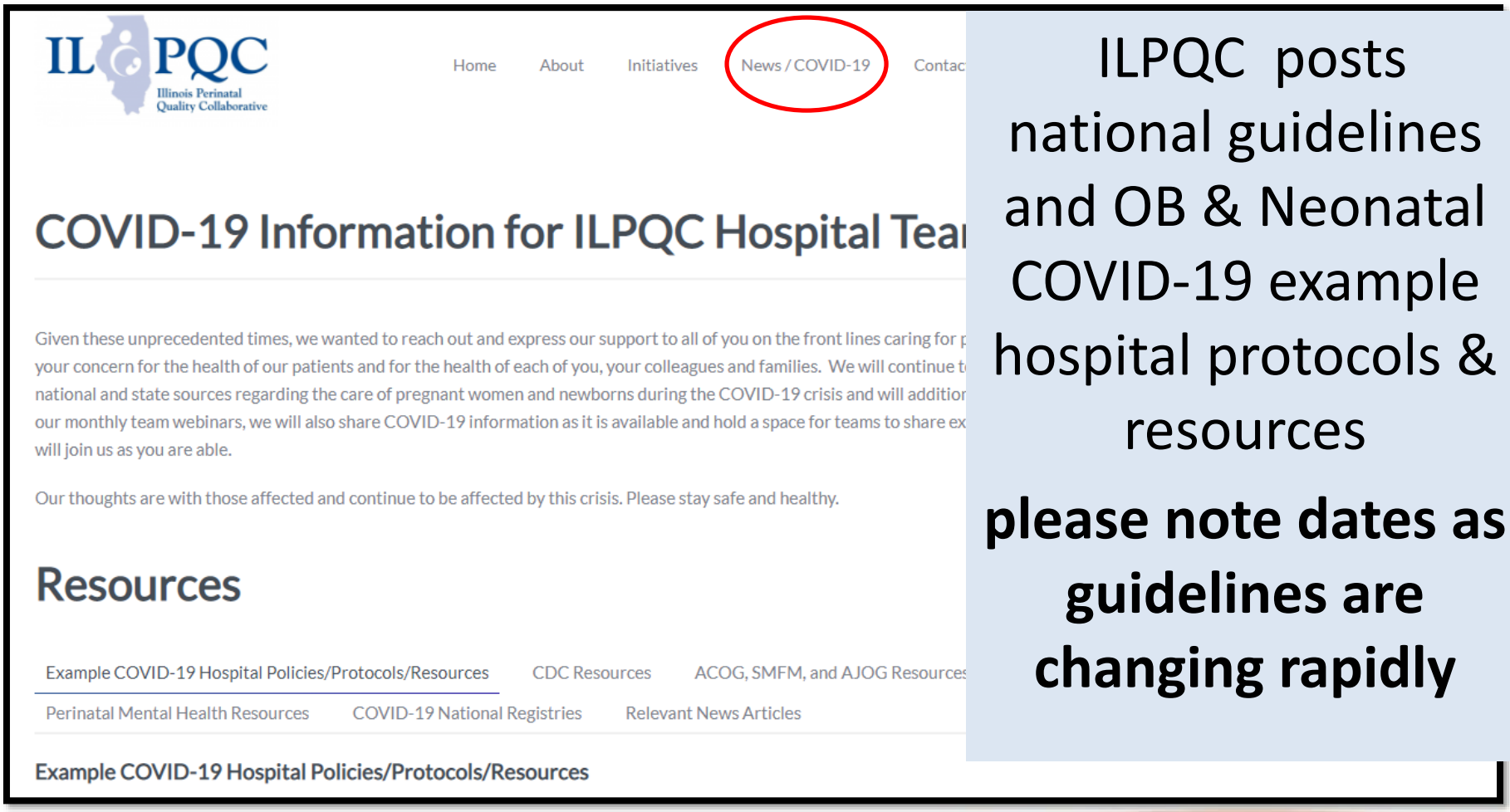
Confirmed Cases



Deaths



ILPQC COVID-19 Webpage www.ilpqc.org



ILPQC posts national guidelines and OB & Neonatal COVID-19 example hospital protocols & resources

please note dates as guidelines are changing rapidly

https://ilpqc.org/covid-19-information/

Updated OB (ACOG/SMFM) Resources

- ACOG & SMFM: Outpatient Assessment and Management for Pregnant Women With(COVID-19) (7.14.2020)
- **ACOG:** Wellness in the Time of COVID-19. (9.2020)
- **SMFM:** The Society for Maternal-Fetal Medicine COVID-19 Ultrasound Clinical Practice Suggestions. (10.20.2020)
- **SMFM & SOAP:** Labor and Delivery COVID-19 Considerations. (10.09.2020)
- **ACOG**: Practice Advisory: Novel Coronavirus 2019 (COVID-19) (Updated 11.9.20)
- **ACOG**: COVID-19 FAQs for Obstetrician-Gynecologists, Obstetrics (Updated 11.9.20)
- **ACOG:** COVID-19 FAQs for Obstetrician-Gynecologists, Ethics (Updated 11.9.2020)
- **ACOG Patient Education**: COVID-19 and Pregnancy: 3 Steps to Stay Safe. (Nov 2020)
- **SMFM:** revises Coronavirus (COVID-19) and Pregnancy: What Maternal-Fetal Medicine Subspecialists Need to Know (11.23.20)
- **SMFM:** SARS-CoV-2 Vaccination in Pregnancy (12.01.20)

Updated Neonatal /AAP Resources

- **Breastfeeding Guidance Post Hospital Discharge for Mothers or Infants with Suspected or Confirmed SARS-Co V-2 Infection:** Guidance developed to support pediatricians providing direct care for breastfeeding families after discharge from the newborn hospital stay. (12/2/2020)
- **FAQs: Management of Infants Born to Mothers with Suspected or Confirmed COVID-19:** Includes precautions for birth attendants, rooming-in, breastfeeding, testing, neonatal intensive care, visitation and hospital discharge. (11/19/2020)
- **Multisystem Inflammatory Syndrome in Children (MIS-C) Interim Guidance:** Clinical guidance for pediatricians including signs, symptoms, diagnosis and management of this rare but serious complication associated with COVID-19. (Updated 11/17/2020)
- **COVID-19 Testing Guidance**: Guidance developed to help pediatric practices determine when to test for severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2) infection in their patient population. (9/30/2020)
- **Family Presence Policies for Pediatric Inpatient Settings During the COVID-19 Pandemic:** Guidance on family presence policies developed to support family-centered care for all children and particularly for children with special health care needs, including those with disabilities, medical complexity, and serious illness. (10/12/2020)
- **Frequently Asked Questions: Interfacility Transport of the Critically Ill Neonatal or Pediatric Patient with Suspected or Confirmed COVID-19:** Guidance for both ground and air patient movements that balances infection control with transport safety to reduce risks for medical staff and patients. (10/06/2020)

Updated OB/Neo Covid Publications

- NE**OBGYN**: Prone Positioning for Pregnant Women With Hypoxemia Due to Coronavirus Disease 2019 (COVID-19) (6.9.2020)
- JAHA: Extracorporeal Life Support in Pregnancy: A Systematic Review. (9.2020)
- AJOG: Pre-procedural asymptomatic COVID-19 in obstetric and surgical units. (9.21.2020)
- AJOG: Epidemiology of COVID-19 in Pregnancy: Risk Factors and Associations with Adverse Maternal and Neonatal Outcomes. (9.24.2020)
- AJOG: Risk factors for severe acute respiratory syndrome coronavirus 2 infection in pregnant women. (9.2020)
- ACOG: Clinical Implications of Universal Severe Acute Respiratory Syndrome Coronavirus. (8.2020)
- JAMA: Association of SARS-CoV-2 Test Status and Pregnancy Outcomes. (9.23.2020)
- NEJM: SARS-CoV-2 Neutralizing Antibody LY-CoV555 in Outpatients with Covid-19. (10.28.2020)
- JAMA: Outcomes of Neonates Born to Mothers With Severe Acute Respiratory. (10.16.2020)
- AJOG: A marked decrease in preterm deliveries during the coronavirus disease 2019 pandemic. (10.15.2020)
- Ultrasound in Obstetrics & Gynecology: Perinatal outcomes of pregnancies affected by COVID-19:a multinational study. (10.15.2020)
- Archives of Women's Mental Health: Risk for probable post-partum depression among women during the COVID-19 pandemic. (10.12.2020)
- PRIORITY Study Published: Pregnancy Coronavirus Outcomes Registry. (10.9.2020)
- JAMA: COVID-19 Poses Pregnancy Risks (11.10.2020)
- JAMA: Pregnancy Outcomes Among Women With and Without Severe Acute Respiratory Syndrome Coronavirus 2 Infection. (11.19.2020)
- NeoReviews: Advancing Health Equity by Translating Lessons Learned from NICU Family Visitations during the COVID-19 Pandemic (8.31.2020)

Birth Equity Links

- **Please see the following links and publications for information that may help your organization consider next steps to take action to address birth equity and reduction of perinatal racial and ethnic disparities.**
- AIM: Reduction of Peripartum Racial/Ethnic Disparities Patient Safety Bundle (2018)
- ACOG: Reduction of Peripartum Racial and Ethnic Disparities: a conceptual framework and maternal safety consensus bundle (May 2018)
- ACOG Committee Opinion No. 729: Importance of Social Determinants of Health and Cultural Awareness in the Delivery of Reproductive Health Care (January 2018)
- SMFM: Strategies to overcome racism's impact on pregnancy outcomes (May 2020)
- SMFM: Strategies to provide equitable care during COVID-19 (May 2020)
- ACOG: Addressing Health Equity During the COVID-19 Pandemic (May 2020)
- AAP Policy Statement: The impact of racism on child and adolescent health (Aug 2019)
- Today: Black. Pregnant. And COVID-19 positive. (7.8.2020)
- CDC: COVID-19 Response Promising Practices in Health Equity II (7.31.2020)
- CDC: HEAR HER Campaign (8.4.2020)strategies promote birth equity and reduce preventable maternal mortality
- The NY Times: Protecting your Birth: a Guide for Black Mothers. (10.22.2020) How racism can impact your pre- and postnatal care — and advice for speaking to your OB.
- NeoReviews: Advancing Health Equity by Translating Lessons Learned from NICU Family Visitations during the COVID-19 Pandemic (8.31.2020)

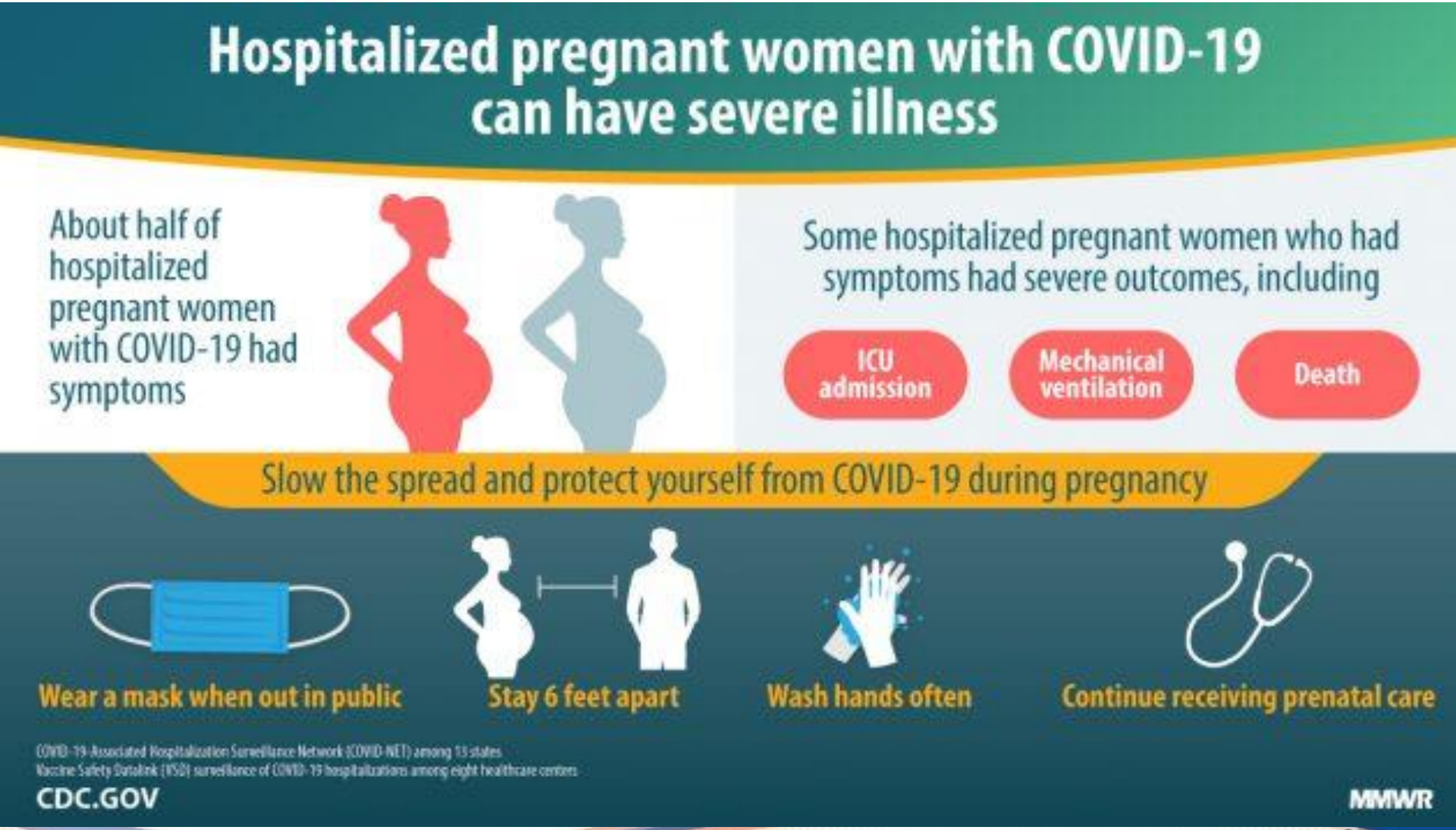
IDPH / HFS / CDC

- HFS: Provider Notice Issued Blood Pressure Monitoring Kit (7.2.2020) - Medicaid now covers home BP cuffs for all pregnant / postpartum patients
- CDC MMR: SARS-CoV-2 Infection Among Hospitalized Pregnant Women: Reasons for Admission and Pregnancy Characteristics. (9.25.2020)
- CDC MMR: Characteristics and Maternal and Birth Outcomes of Hospitalized Pregnant Women with Laboratory-Confirmed COVID-19. (9.25.2020)
- CDC: Evaluation and Management Considerations for Neonates At Risk for COVID-19 (10.23.20)
- CDC: Characteristics of Symptomatic Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection. (11.2.2020)
- CDC: Birth and Infant Outcomes Following Laboratory-Confirmed SARS-CoV-2 Infection in Pregnancy. (11.6.2020)
- CDC pt ed: Pregnancy, Breastfeeding, and Caring for Newborns. (11.3.2020)
- CDC: Considerations for Inpatient Obstetric Healthcare Settings (12.1.20)
- CDC: Guidance on Care for Breastfeeding Women. (12.3.20)
- CDC: Data on COVID-19 during Pregnancy (12.3.20)

CDC MMWR Nov 2 2020
Covid and Pregnancy Data 1/22 – 10/03

- 461,825 women with laboratory-confirmed infection with SARS-CoV-2, the virus that causes COVID-19
- 88.7% were symptomatic and of those patients 23,434 (5.7%) were pregnant
- After adjusting for age, race/ethnicity, and underlying medical conditions found that intensive care unit admission, invasive ventilation, extracorporeal membrane oxygenation, and death were more likely in pregnant women than in nonpregnant women.
- Pregnant women should be counseled about the risk for severe COVID-19–associated illness including death; measures to prevent infection with SARS-CoV-2 should be emphasized for pregnant women and their families.
- Limitations to the data and the overall risk remains low, however these are important messages to discuss with patients

CDC patient education



ACOG patient education

COVID-19 and Pregnancy
3 Steps to Stay Safe

1. Know the facts

- COVID-19 can spread between people who are in close contact with one another (within about 6 feet).
- Some people with COVID-19 may have no symptoms.
- Current reports suggest that pregnant women have a higher risk for more severe illness from COVID-19 than nonpregnant women.

2. Slow the spread

- Wear a mask or cloth face covering over your nose and mouth while in public.
- Clean hands often for at least 20 seconds with soap and water or hand sanitizer that contains at least 60 percent alcohol.
- Limit contact with other people as much as possible.
- Stay at least 6 feet away from other people if you need to go out.

3. Talk with your ob-gyn

- **Prenatal and postpartum care:** Your visit schedule may change, or you may have some visits over the phone or with a two-way video call on your computer. Before an in-person visit, tell your ob-gyn if you think you may have COVID-19 or contact with someone who has it.
- **Your birth plan:** In most cases, the way you plan to give birth does not need to change. And the safest place for you to give birth is still a hospital or accredited birth center.
- **Visitor policies:** You may not be able to have as many visitors at your checkups or during and after birth while COVID-19 is spreading.

Learn more: www.acog.org/COVID-Pregnancy

ACOG
The American College of Obstetricians and Gynecologists
409 12th Street SW
Washington, DC 20024-2188

ACOG Patient Education: [COVID-19 and Pregnancy: 3 Steps to Stay Safe](). (Nov 2020)

SMFM: SARS CoV-2 Vaccination in Pregnancy (12.1.20)

- Despite the categorization of pregnancy as a high-risk condition pregnancy currently remains an exclusion for participation in vaccine trials.
- SMFM / ACOG have consistently advocated for the inclusion of pregnant and lactating women in vaccination trials.
- In general, SMFM strongly recommends that pregnant women have access to COVID-19 vaccines in all phases of future vaccine campaigns, and that she and her healthcare professional engage in shared decision-making regarding her receipt of the vaccine.
- **Counseling should balance available data on vaccine safety, risks to pregnant women from SARS-CoV-2 infection, and a woman's individual risk for infection and severe disease.**

SMFM: SARS-CoV-2 Vaccination in Pregnancy (12.1.20)

SMFM: SARS CoV-2 Vaccination in Pregnancy (12.1.20)

- Three vaccines demonstrating early efficacy have been highlighted in the media (AstraZeneca's AZD1222, Moderna's mRNA-1273, Pfizer's BNT162b2). These vaccines employ novel next-generation platforms
- AstraZeneca's viral-vector is similar to the mechanism used in the regulated Ebola vaccine. The Ebola vaccine has been safely administered during pregnancy.
- Other vaccines that use conventional technologies for which there are known data for use in pregnancy (eg, the COVID-19 PiCoVacc and the NVX-CoV2373, similar to the seasonal flu vaccines) remain in phase I and II trials.
- As data emerge, counseling will likely shift, as some vaccines may be more suitable for pregnant women. mRNA vaccines, which are likely to be the first vaccines available, do not contain a live virus but rather induce humoral and cellular immune response through the use of viral mRNA.
- Healthcare professionals should also counsel their patients that the theoretical risk of fetal harm from mRNA vaccines is very low.

SMFM: SARS-CoV-2 Vaccination in Pregnancy (12.1.20)

SMFM: SARS CoV-2 Vaccination in Pregnancy (12.1.20)

- SMFM recommends that healthcare workers, who are considered prioritized for vaccination, be offered the vaccine if pregnant.
- A report by the National Academies of Sciences recommends that high-risk workers in health facilities or first responders should be among the first to receive the vaccine.
- Although pregnant women are not explicitly targeted in this framework, pregnant and lactating women who are otherwise eligible should be offered the vaccine.
- SMFM will continue to monitor data as it becomes available on COVID-19 vaccine efficacy and safety to evaluate appropriateness in pregnancy, and we will update recommendations on the SMFM COVID-19 website (https://www.smfm.org/covidclinical).

SMFM: SARS-CoV-2 Vaccination in Pregnancy (12.1.20)

COVID Mental Health Support Resources for Physicians & Healthcare Workers

- Project Parachute: offers pro-bono teletherapy (video or phone) to frontline workers
  - https://project-parachute.org/
- Physician Support Line
  - staffed by volunteer psychiatrists
  - offers free and confidential peer support to physicians in the U.S.
  - available daily by calling **1 (888) 409-0141** from 8 a.m. to 3 a.m. EST.
- For the Frontlines: 24/7 help line provides free crisis counseling for frontline workers. **Text FRONTLINE to 741741**

Masks for MOMS

- Masks for MOMS Illinois launched on April 21, 2020 to help meet the need for cloth masks among pregnant and postpartum persons in the Chicagoland area in response to the COVID-19 Pandemic.
- **If your Chicagoland site needs masks for labor/delivery or postpartum patients, please email coemch@uic.edu**
  - To date:
    - 13,700 masks have been donated
    - Over 140 donors and volunteers have contributed
    - Masks have been donated to the following sites and hospitals:

Healthcare Sites	Hospitals
• Access Community Health Network • Chicago Family Health Center • Christian Community Health Center • Erie Family Health Centers • Esperanza Health Centers • Family Christian Health Center • Friend Family Health Center • Near North Health Service Corp • PCC Community Wellness Centers • PrimeCare Health Centers • UI Health Mile Square South Shore Health Center	• Advocate Trinity Hospital • Cook County Hospital • Lawndale Christian Hospital • Norwegian American Hospital • Roseland Hospital • Rush University Medical System • South Suburban Hospital • UChicago Medicine- Bernard Mitchell • UChicago Medicine- Ingalls Memorial Hospital • University of Illinois Hospital • Evanston Hospital

Perinatal Sentinel Surveillance Reminder

- **IDPH has a sentinel surveillance system for hospitals conducting universal COVID-19 testing at labor & delivery**
  - Invitation email and materials sent from IDPH on 8/17 (to hospitals that indicated on state survey that they are doing universal testing)
  - Hospitals report aggregate data to REDCap each week
    - Daily counts for five data points
    - Brief questions about testing and specimen types in use at hospital
  - Voluntary hospital participation is needed – if interested, contact:
    - Amanda.C.Bennett@Illinois.gov
    - Sonal.Goyal@Illinois.gov

IDPH
Illinois Department of Public Health

DISCUSSION OF NEONATAL UNIT STRATEGIES

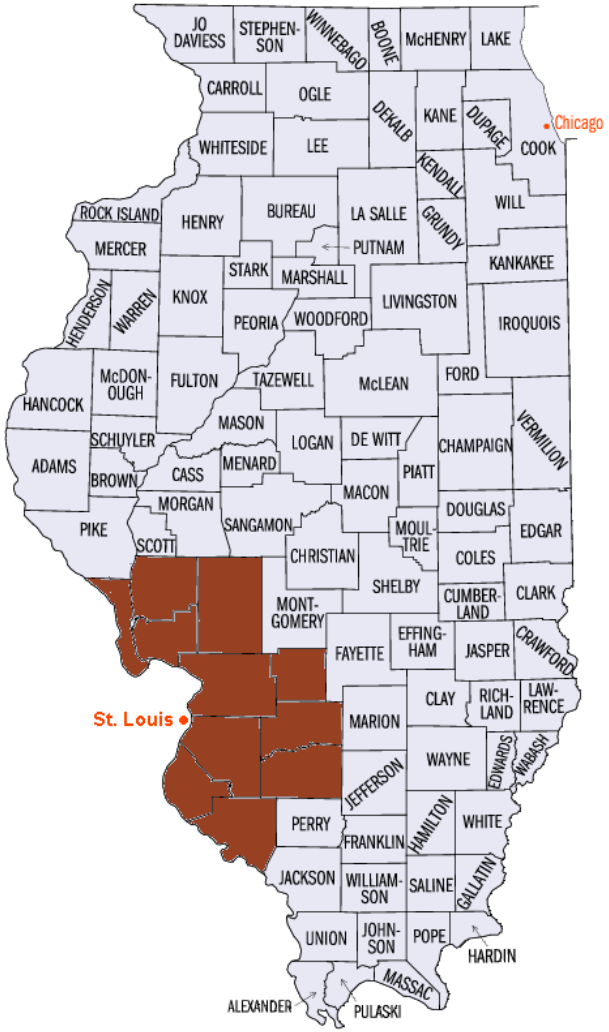
Neonatal Discussion Panel

- **Beth Lamkin,** BSN, RN – Manager, Neonatal Intensive Care Unit, SSM Health Cardinal Glennon Children's Hospital, St. Louis
- **Justin Josephsen, MD** - Medical Director, St. Mary's Hospital NICU, Neonatologist Cardinal Glennon Children's Hospital, St. Louis
- **Leslie Caldarelli, MD -** NICU Director, Prentice Women's Hospital, Chicago

Cardinal Glennon Children's Hospital

- Located St. Louis, MO
- Significant number of patients from Southern Illinois and the Metro East
- Partnership with SSM Health and Saint Louis University Physicians

Case Study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ROCK ISLAND
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BUREAU
LA SALLE
GRUNDY
MERCER
PUTNAM
KANKAKEE
STARK
MARSHALL
HENDERSON
WARREN
KNOX
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PEORIA
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PIKE
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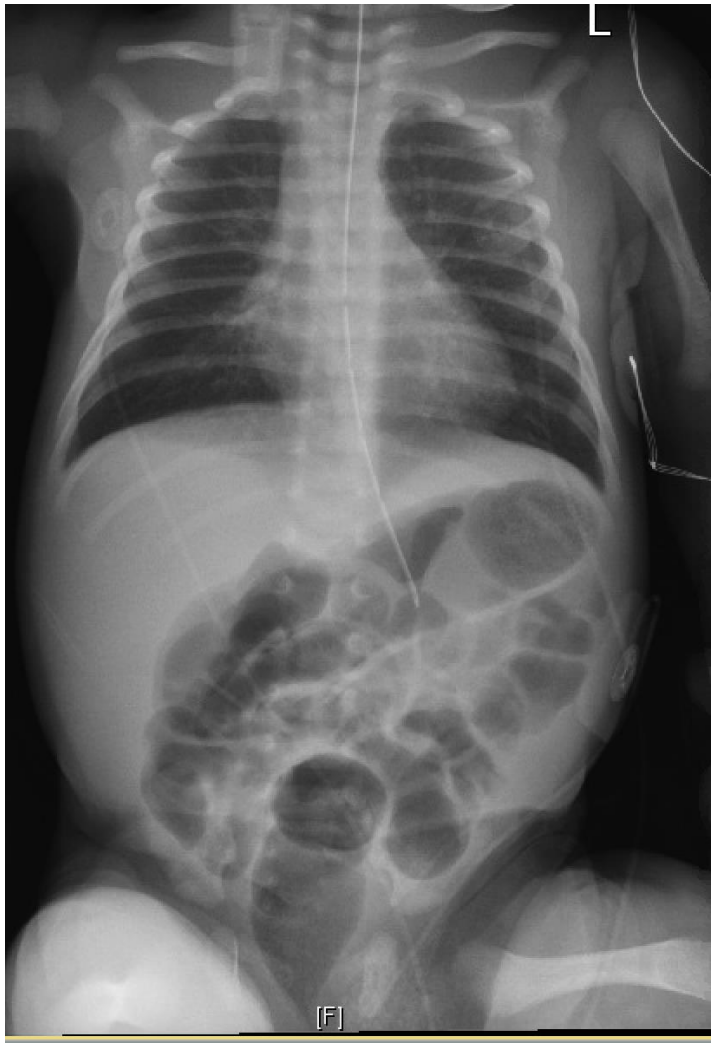
MONTGOMERY
EFFINGHAM
JASPER
CRAWFORD
FAYETTE
St. Louis
CLAY
RICHLAND
LAWRENCE
MARION
WAYNE
EDWARDS
WABASH
JEFFERSON
PERRY
HAMILTON
WHITE
FRANKLIN
JACKSON
WILLIAMSON
SALINE
GALLATIN
UNION
JOHNSON
POPE
HARDIN
MASSAC
ALEXANDER
PULASKI

Level IV NICU

- Within 195-bed, freestanding childrens hospital
- 65 bed, private NICU room model (twin rooms)
- 2 visitors, legal guardians (family centered care)
- Milk Depot/ Milk Room Coming Soon
- >700 admissions / year
- Serve 150 mile radius of patients from rural and urban combination
- Quaternary referral center for subspeciality patients in including cardiothoracic surgery and ECMO

Case

- 38 y/o, c/s delivery, 3kg at Level 2 hospital
- Pregnancy unremarkable, and after delivery infant went to newborn nursery
- Parents both work at LTC facility and report regular COVID testing
- Mother and father both present at delivery and for post-partum period
- On 2nd day, infant had lost 17% of birthweight, thought to be scale issue
- Same day, father tested for COVID due to sx, test positive the next day (3rd day)
- Mother asymptomatic, COVID tested both mom and baby (4th day)
- At 4 days, infant ready for discharge but had hypoglycemia
- Later in the afternoon, infant with abnormal distension
- Sepsis evaluation
- Transferred to Cardinal Glennon Children's Hospital for surgical evaluation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- Mom’s still pending, ultimately positive
- Infant admitted to negative pressure room, PUI
- CBC: 5.8>13.8/38.9<295 5B 38N 33L 19M 4E
- X-ray with diffuse distention, otherwise negative
- Infant with negative surgical evaluation
- NPO x 3 days, feeds reintroduced
- Mother brought in breastmilk per guidelines (shared with ILPQC) and local protocols for safely
- Feeds started
- Etiology ileus vs. benign abdominal distension
- Dad cleared to visit 10 days after first sx
- Infant ultimately discharged at 13 days to father, who had been cleared by infection prevention

Lessons Learned

Operational Planning

- Transport Team
  - PPE
- Charge Nurse
  - Room availability / negative pressure room
  - Isolettes
    - Filter in GE Giraffe isolette
- Staffing
  - Nursing volunteered to take care of patient (most previously had COVID)
  - Determine risk level; 1:1
    - Many discussions with nursing staff
- COVID19 Newborn Workflow algorithm
  - Patient Testing
  - Determine Transfer / isolation needs
  - Visitation
    - Nicview
  - Breastmilk
  - Discharge Planning (virtual and in person, able to do with iPads)

Neonatal Discussion Panel

- **Beth Lamkin,** BSN, RN – Manager, Neonatal Intensive Care Unit, SSM Health Cardinal Glennon Children's Hospital, St. Louis
- **Justin Josephsen, MD** - Medical Director, St. Mary's Hospital NICU, Neonatologist Cardinal Glennon Children's Hospital, St. Louis
- **Leslie Caldarelli, MD -** NICU Director, Prentice Women's Hospital, Chicago

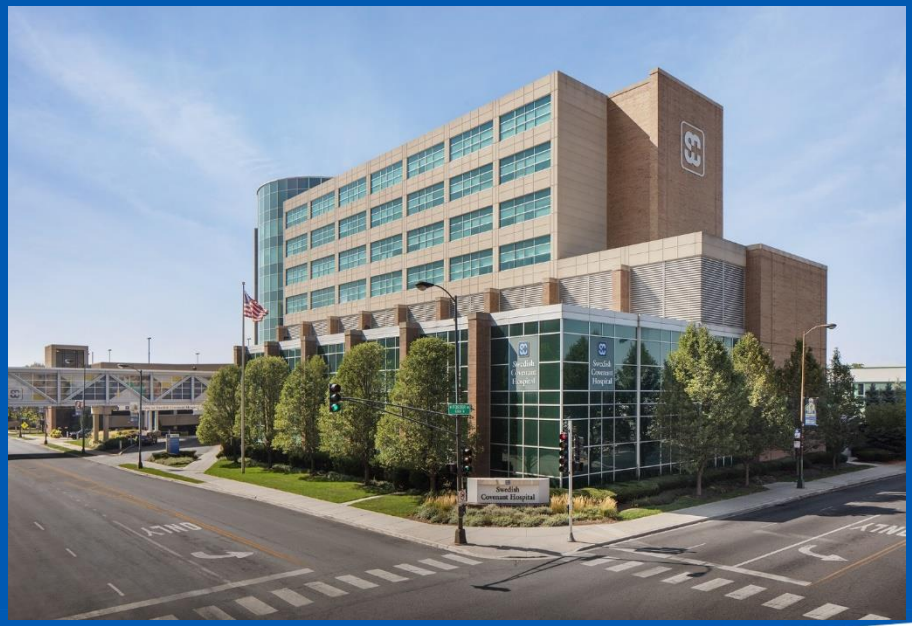
DISCUSSION OF OB UNIT STRATEGIES

OB Discussion Panel

- **Bridget A. Buyea, MD FACOG -** OB/GYN, Medical Director for Women's Health, Heartland Health Center, Swedish Covenant Hospital, Chicago
- **Shelly Tien, MD** – Maternal Fetal Medicine, NorthShore University HealthSystem, Evanston Hospital, Evanston
- **Stephanie Lake, RN, BSN, MBA -** Clinical Director, Women and Infants Center, HSHS St. Mary's Hospital (SMD), Decatur
- **Abbe Kordik, MD –**University of Chicago Medical Center, Chicago

Swedish Covenant Hospital, Chicago

- NorthShore Univ Health System, northside of Chicago
- Level II Hospital
- Serves over 3,500 women annually and delivers over 2,000 women
- Demographics
  - 9% Black/African American
  - 17% Asian
  - 46% “Other”
  - 28% White/Caucasian, 40% of which are Hispanic
  - 70% of patients served on Medicaid



NorthShore University HealthSystem

Evanston Hospital, NorthShore University HealthSystem

- Regional Perinatal Center
- Perinatal Level 3
- 3500 births per year
- 44 NICU beds

NorthShore
University HealthSystem

Case

- 31 yo G1 at 38w4d
- Uncomplicated pregnancy, no medical issues, BMI 31
- Developed symptoms of cough, shortness of breath, sore throat and lack of appetite on 10/23
- Diagnosed with Covid 10/27 at 38 1/7 weeks gest
  - Worsening symptoms, sent to hospital on 10/30 at 38/4, PO 92% on RA, improved to 95% with 3L NC. No initial plan for delivery but continued to deteriorate.
- RRT on 11/ 2 (39 0/7) called due to PO 88%, required vapotherm on 40L 100% FIO2 NRB mask to achieve a PO of 92%. Could not maintain >95% PO.
- Underwent LTCS via spinal anesthesia on 11/2 due to worsening maternal respiratory status, baby also breech

Case

- Uncomplicated primary CS, fascia closed with 0-vicryl
  - Initially did well post op, but then deteriorated
- Worsening symptoms - transferred to ICU on 11/6 for discussion of intubation. Had persistent violent coughing resulting in fascial dehiscence and bowel evisceration on 11/6
- 11/6: OR take back, had primary re-approximation of fascia with 0-PDS and closure of skin with staples
  - Intubated for surgery
- Clinical status continued to worsen, remained intubated but with declining respiratory status
- Transferred to Evanston ICU for possible ECMO 11/9 1 week postpartum

Case

- 11/10 Evanston ICU:
- COVID-viral pneumonitis and respiratory failure
  - CXR: Extensive dense pulmonary consolidation and airspace disease is identified
  - Dexamethasone 6mg daily started 10/30, Remdesivir 11/6 to 11/9
  - Zosyn 11/10-11, Cefazolin for prophylaxis 11/11 to 11/13
- Veno-venous (VV) ECMO initiated
  - Placement of dual lumen internal jugular cannula
  - A femoral venous cannula also placed because of poor venous drainage
  - Anticoagulation with argatroban and heparin infusions

Case

- Thankfully, she improved
- 11/16: Extubated
- 11/18: ECMO decannulated
- 11/23: transferred out of ICU to general floor
  - Continued enoxaparin 1mg/kg bid
  - Lasix infusions for diuresis
- 11/24: CT chest:
    - » No evidence of pulmonary embolism
    - » Thick-walled cystic structure in the anterior and middle that may represent acquired bleb
    - » Diffuse bilateral groundglass opacities, nonspecific but compatible with known Covid infection and acute respiratory distress system
- 11/27: home with oxygen
  - Husband Covid positive but no symptoms, baby healthy

Lessons Learned

- Even young heathy pts can decompensate quickly
- Establish delivery plan at time of admission and consider delivery 39 weeks or if worsening status
- Close communication / support with tertiary center
- Severely ill, Covid + patients who require cesarean delivery require several considerations:
  - Poor tissue perfusion at incision sites
  - Potential for increased stress on incision due to coughing (this patient's coughing significantly increased post op)
  - Use longer lasting suture for fascia (ex. PDS) and take deeper bites

HSHS St. Mary's Hospital is a 230-bed regional medical center offering a comprehensive array of health care services to a population base of 1.3 million central Illinois residents.
St. Mary's is part of Hospital Sisters Health System (HSHS), a health care ministry with 15 hospitals and a multi-specialty medical group in Illinois and Wisconsin.

HSHS St. Mary's Hospital

Current Macon County and Decatur, IL Demographics

- County population: 105,000
- Decatur population: 71,500

The racial makeup of the county:

- 79.3% white
- 16.3% black or African American
- 1.0% Asian
- 0.2% American Indian
- 0.7% other races
- 2.5% two or mor
- 1.9% Hispanic

HSHS St. Mary's Women and Infants Unit COVID preparation time line

- April 2020-Developed plans based on information from ILPQC and South Central Illinois Perinatal Center
- May 18, 2020-Began testing all scheduled inductions and c-sections
- Monitored trends in community
- Mid October- OB offices reported increase in number of patients testing positive. COVID policies and procedures reviewed and updated.
- November 9, 2020-First known positive COVID patient
- 3 Covid + following 2 weeks

Learning from Covid debriefs

- Have two isolation carts available so one can be taken to the OR for easier donning and doffing. Staff is limited so no d-officer has been available.
- Flyer with testing schedule created and sent to provider offices with instructions for patients to call unit if they have not received a call regarding pre-procedure COVID testing
- Soiled utility room has to be closed for 1 hour following Pre-Klenz for instruments
- Nursery and OR have different down times-OR air exchange only requires 30 minutes; nursery is 2 hours. Perform circs in patient room.

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Thank You

- We continue to give thanks to the nurses, doctors, health care workers, public health teams and others across our state at work confronting the COVID-19 pandemic.
- Please send questions, comments and recommendations, cases / willingness to share for future COVID-19 OB/Neo discussion webinars to info@ilpqc.org
- Recording of this webinar, Q/A and registration for the **next webinar on Friday, 1/8/20** will be available at www.ilpqc.org

THANKS TO OUR

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IDPH
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DHS
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JB & MK PRITZKER
Family Foundation

Email info@ilpqc.org or visit us at www.ilpqc.org

Outpatient Monitoring for pregnant patients with mild or no symptoms

- Outpatient monitoring with a 14-day self-quarantine can be considered for **pregnant patients with COVID-19 who have mild symptoms or are asymptomatic**. Recommendations for outpatient monitoring is outlined.
- **Check on outpatient Covid positive patients regularly and review signs/symptoms to call, recognize can worsen around day 7-10**
- For 3rd trimester patients who need outpatient fetal or maternal monitoring establish protocol: schedule at the end of the day with limited staff with appropriate PPE
- After 14 days from positive test or symptom onset, if symptoms improved and no fever >72 hours then can be considered recovered.

SMFM: Management Considerations for Pregnant Patients with COVID-19 (7.2.2020) updated

The severity scale for COVID-19

- **Asymptomatic or presymptomatic disease** or presumptive infection is defined as a positive COVID-19 test result with no symptoms.
- **Mild disease** is defined as flu-like symptoms, such as fever, cough, myalgias, and anosmia without dyspnea, shortness of breath, or abnormal chest imaging.
- **Moderate disease** is defined by evidence of lower respiratory tract disease with clinical assessment (dyspnea, pneumonia on imaging, abnormal blood gas results, refractory fever of 39.0 ° C /102.2 ° F or greater, while maintaining an oxygen saturation of greater than 93% on room air at sea level.
- **Severe disease** is defined by a respiratory rate greater than 30 breaths per minute (bpm), hypoxia with oxygen saturation less than or equal to 93%, a ratio of arterial partial pressure of oxygen to fraction of inspired oxygen of less than 300, or greater than 50% lung involvement on imaging.
- **Critical disease** is defined as multi-organ failure or dysfunction, shock, or respiratory failure requiring mechanical ventilation or high-flow nasal cannula.

SMFM: Management Considerations for Pregnant Patients with COVID-19 (7.2.2020) updated

Inpatient monitoring may be needed for the following categories of patients:

- **Pregnant COVID-19 patients with moderate to severe signs and symptoms or oxygen saturation less than 95%. (incudes dyspnea)**
- **Pregnant COVID-19 patients with comorbid conditions**, eg, uncontrolled hypertension, inadequately controlled gestational or pregestational diabetes, chronic renal disease, chronic cardiopulmonary disease, or immunosuppressive states (intrinsic or medication-related)
- **Pregnant COVID-19 patients with fevers greater than 39 ° C** despite acetaminophen, raising concern for secondary hemophagocytic lymphohistiocytosis (sHLH) or "cytokine storm syndrome." sHLH is a fulminant and often fatal hypercytokinemia associated with multi-organ failure. The disease is defined by unremitting fever, cytopenia, and high ferritin levels. If a patient has an Hscore (see Table 1) indicating a high probability for sHLH, inpatient observation is warranted.

SMFM: Management Considerations for Pregnant Patients with COVID-19 (7.2.2020) updated

Timing of Delivery: mild symptoms

- In an **asymptomatic or mildly symptomatic** woman positive for COVID-19 at **37 to 38 6/7 weeks of gestation** without other indications for delivery, **expectant management can be considered until 14 days** after the polymerase chain reaction (PCR) result was noted to be positive OR until 7 days after onset of symptoms and 3 days after resolution of symptoms. This option allows for decreased exposure of health care workers and the neonate to SARS-CoV-2.
- In an **asymptomatic or mildly symptomatic woman positive for COVID-19 at 39 weeks of gestation or later, delivery can be considered to decrease the risk of worsening maternal status.**

SMFM: Management Considerations for Pregnant Patients with COVID-19 (7.2.2020) updated

Timing of Delivery: critical illness

- The **timing of delivery requires carefully weighing the benefits and risks for the patient and fetus**, and the decision to deliver requires close communication between the maternal-fetal medicine and critical care teams. **Improvement in lung mechanics gained by early delivery is theoretical. In the third trimester, the pressure of the uterus can decrease expiratory reserve volume, inspiratory reserve volume, and functional residual capacity, which can increase the risk of severe hypoxemia in pregnant patients, especially those who are critically ill.**
- Although data regarding delivery timing and acute respiratory distress syndrome are limited, **it is reasonable to consider delivery in the setting of worsening critical illness.**

SMFM: Management Considerations for Pregnant Patients with COVID-19 (7.2.2020) updated