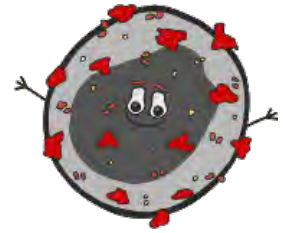


The COVID-19 Pandemic: Infant Outcomes and Feeding in this Emergency



Kathleen A. Marinelli MD, IBCLC, FABM, FAAP
**Clinical Professor of Pediatrics, University of Connecticut School of
Medicine**
**Division of Neonatology, Connecticut Children's Medical Center,
Hartford, CT, USA**

Speaker Disclosure



I am a neonatologist, and a breastfeeding medicine specialist;

I volunteer for Baby-Friendly USA;

I volunteered for many years as a medical director of a HMBANA milk bank.

I volunteer for the Academy of Breastfeeding Medicine.

I am an Associate Editor of the *Journal of Human Lactation*.

I have no associations with commercial entities.

I abide by the International Code of Marketing of Breast-Milk Substitutes.

I am a firm believer that human milk is the optimal feeding for all human babies and young children, with very few exceptions.

Kathleen A. Marinelli MD, IBCLC, FABM, FAAP

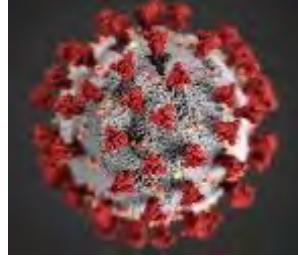
Breastfeeding Awareness Month

Native Breastfeeding Week takes place the second week of National Breastfeeding Month and is a time to honor, encourage, support, and make visible Natives' experience with infant feeding.

“Strong, Resilient, Latched.” 2020 Theme



The participant will be able to

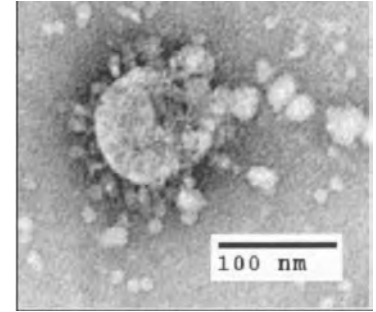


- Describe coronaviruses known to infect humans particularly SARS-CoV-2.
- Assess the current and on-going evidence for vertical transmission and presence of virus in human milk.
- Discuss available information concerning incidence and severity of infant COVID-19 infections.
- Evaluate the guidelines issued for postpartum care and infant feeding based on evidence, knowledge of standard infant feeding recommendations, or fear of unknown.

Coronavirus species

- Six coronavirus species were known to cause human disease
 - four (229E, OC43, NL63, and HKU1)
 - typically cause cold symptoms
 - immunocompetent subjects
 - two (Severe acute respiratory syndrome coronavirus [SARS-CoV] and Middle East respiratory syndrome coronavirus [MERS-CoV])
 - zoonotic in origin
 - cause severe respiratory disease outbreaks from cross-species infections

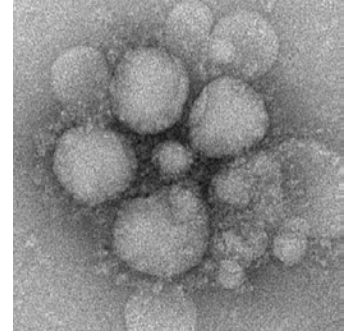
SARS-associated coronavirus (SARS-CoV)



- Severe acute respiratory syndrome (SARS)
 - First reported in Asia February 2003
 - Spread to more than two dozen countries in North America, South America, Europe, and Asia before contained
 - Viral respiratory illness
 - Infected 8098 people with a case-fatality rate of about 10.5%
 - Since 2004, there have not been any known cases of SARS reported anywhere in the world

<https://www.cdc.gov/sars/index.html>

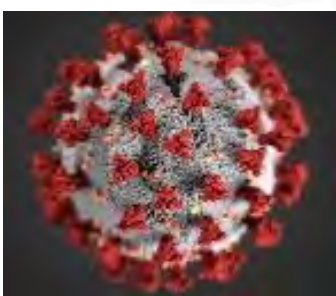
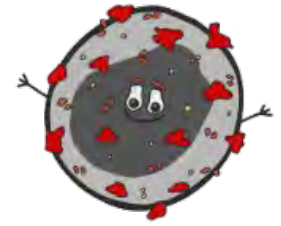
Middle East Respiratory Syndrome Coronavirus (MERS-CoV)



- Middle East Respiratory Syndrome (MERS)
 - First reported in Saudi Arabia September 2012
 - First known cases in Jordan April 2012
 - Largest outbreak outside Arabian Peninsula in Republic of Korea 2015
 - “Camel flu”
 - Severe respiratory illness
 - 2519 laboratory-confirmed cases; a case–fatality rate of 34.4%

<https://www.cdc.gov/coronavirus/mers/about/index.html>

Severe Acute Respiratory Syndrome Coronavirus 2



Epidemic...

...an outbreak of an infectious disease that spreads quickly affecting or tending to affect a disproportionately large number of individuals within a population, community, or region at the same time.

An example: *COVID-19 when it was contained in China.*

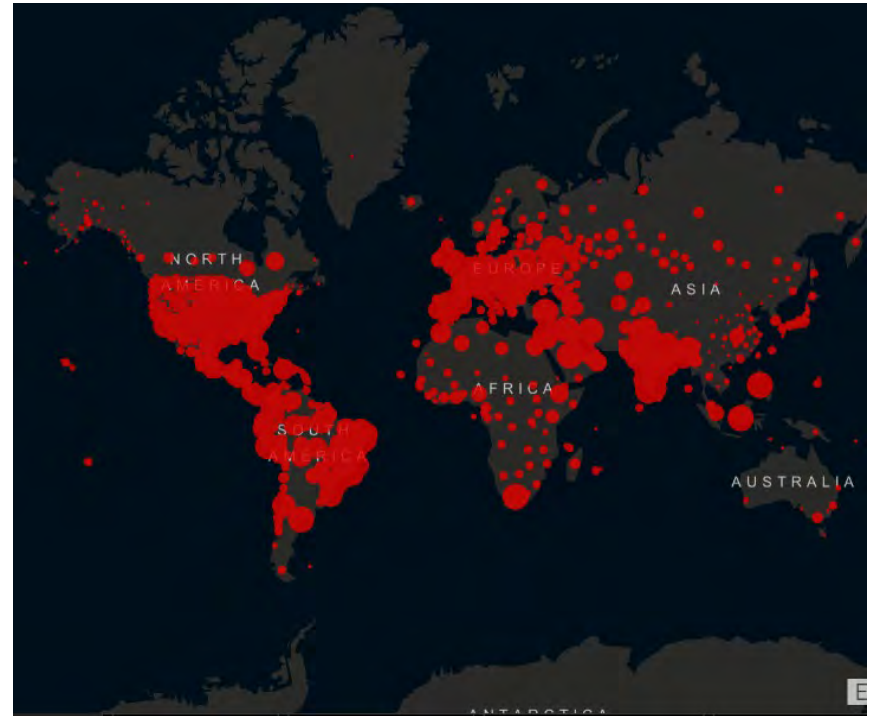
Pandemic...

... occurs when a new infectious disease, to which immunity has not developed, spreads in a widespread manner across a substantial part of the world causing significant economic, social, and political disruption.

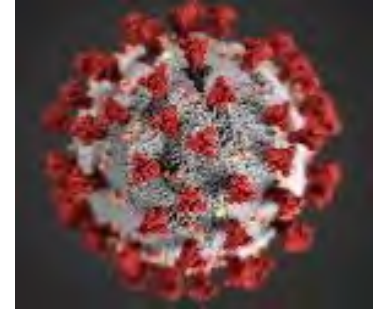
Plotkowski M.J. (2020)

<https://coronavirus.jhu.edu/map.html>

October 19, 2020

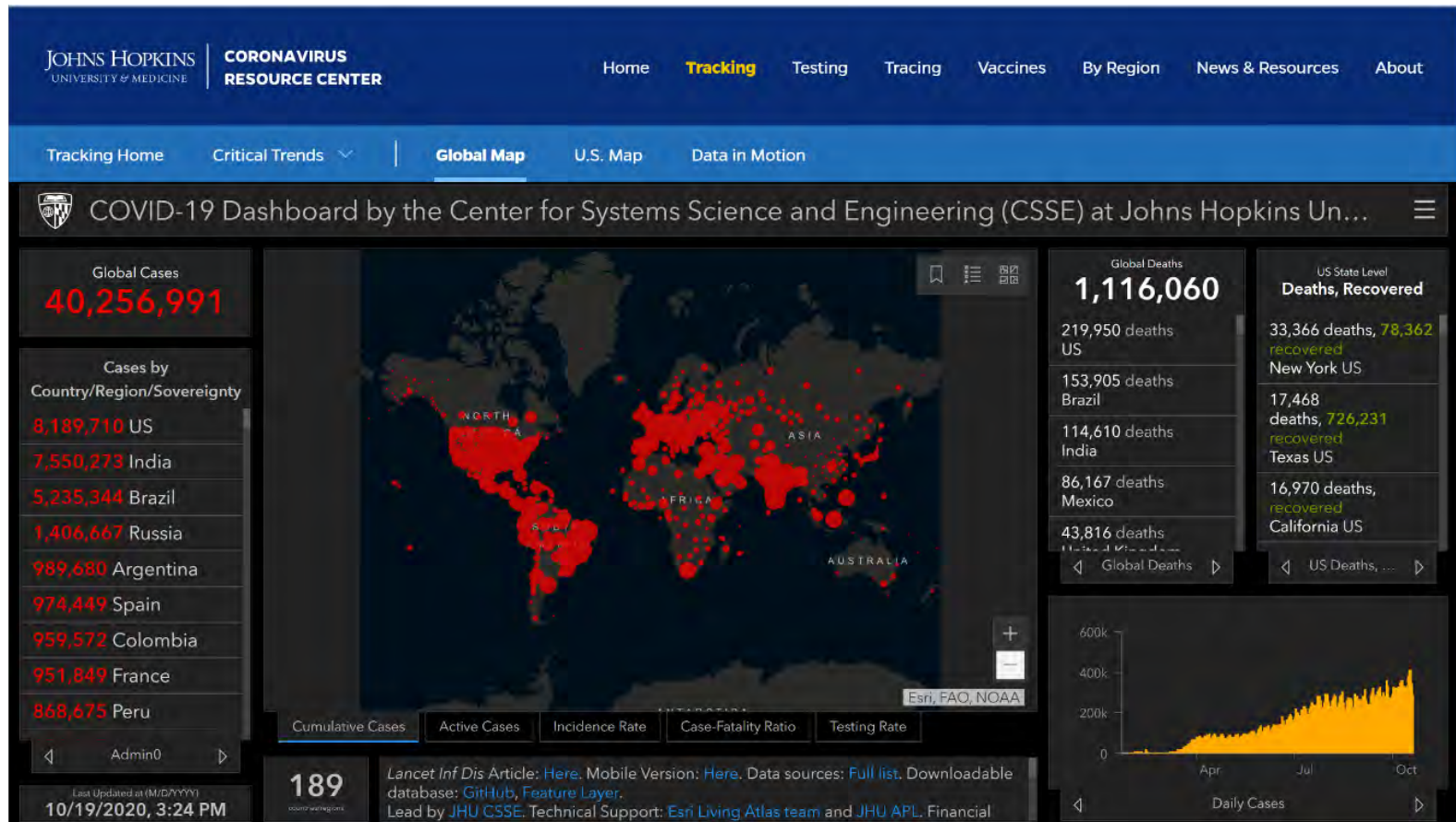


Terminology



- Novel coronavirus, SARS-CoV-2 is Severe Acute Respiratory Syndrome Coronavirus 2: the *virus*
- COVID-19 is Coronavirus Disease 2019: the *disease* caused by the virus
- Reverse Transcription Polymerase Chain Reaction (RT-PCR): the gold standard *test* to confirm diagnosis
- PPE is personal protective equipment
- IPC is infection protection and control

19 October 2020

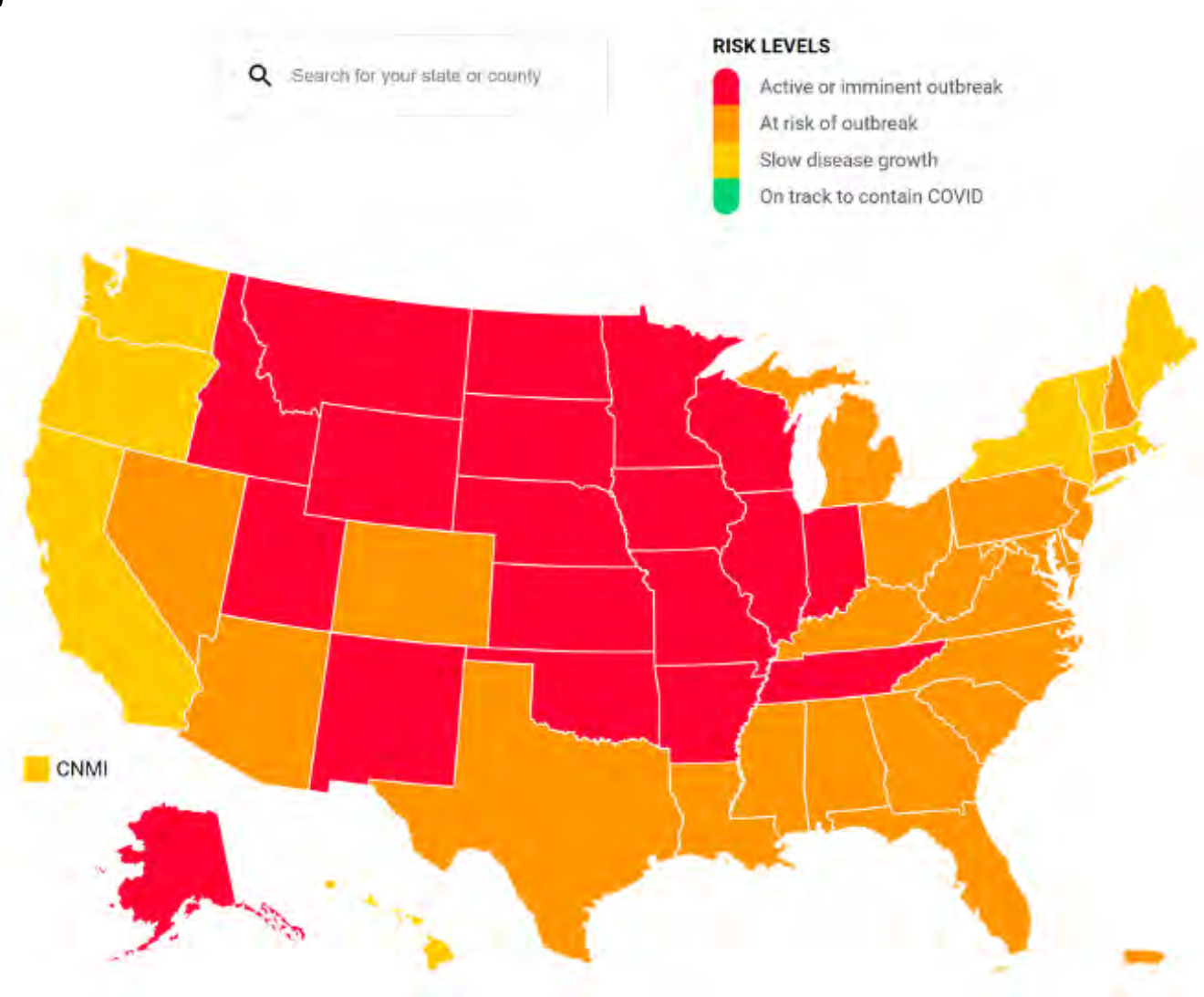


- <https://coronavirus.jhu.edu/map.html>
- Overall: CFR=2.77
- US: CFR=2.69
- US Flu 2018-19 CFR=0.1

America's COVID Warning System

<https://covidactnow.org/?s=1044223>

Oct 19, 2020



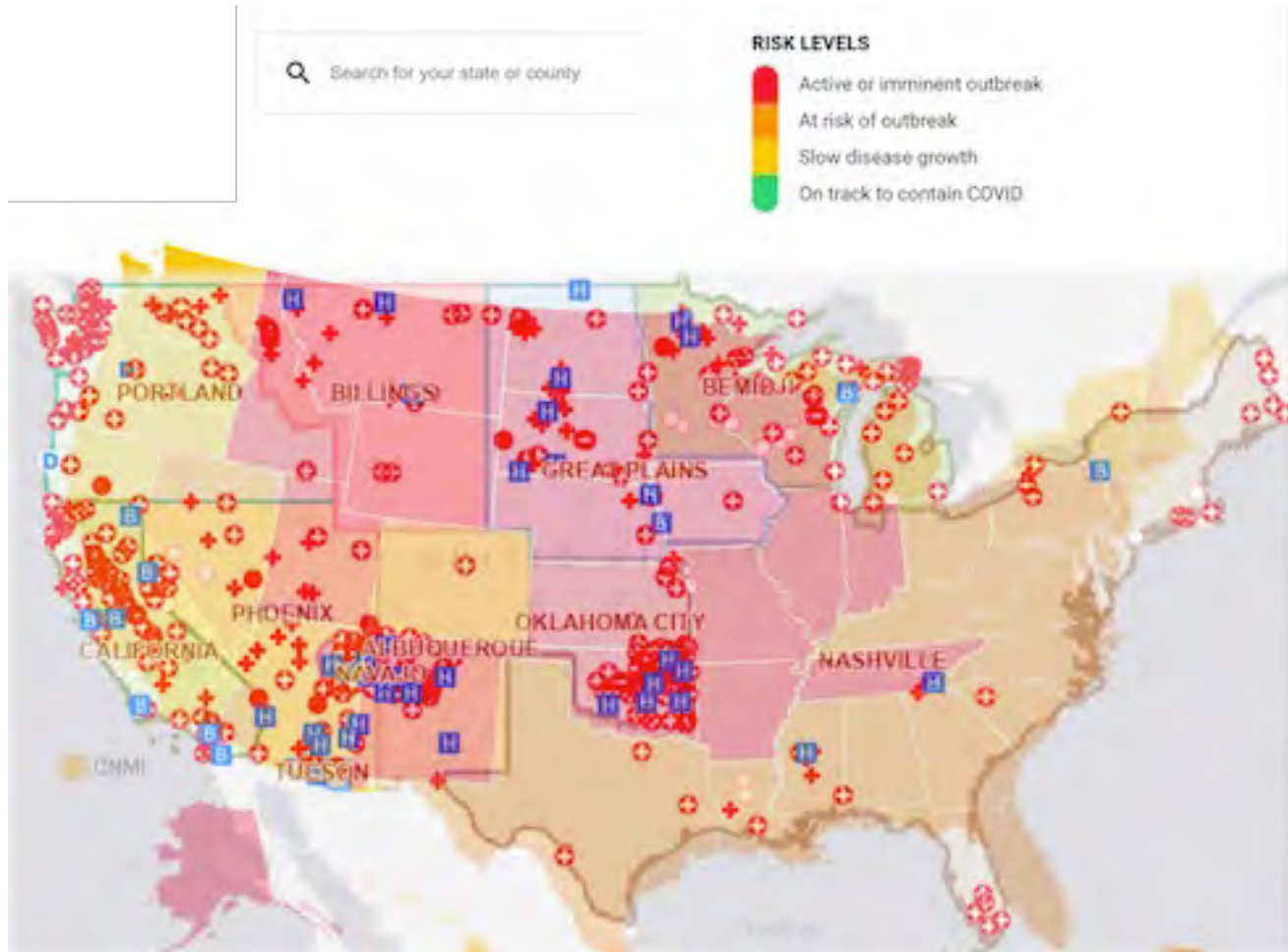
Selu Mothering Project & Breastfeeding Support

- Original artwork by <https://www.instagram.com/smugmorenita/> on Selu Mothering Project & Breastfeeding Support
- <https://www.facebook.com/SeluEBCI/>



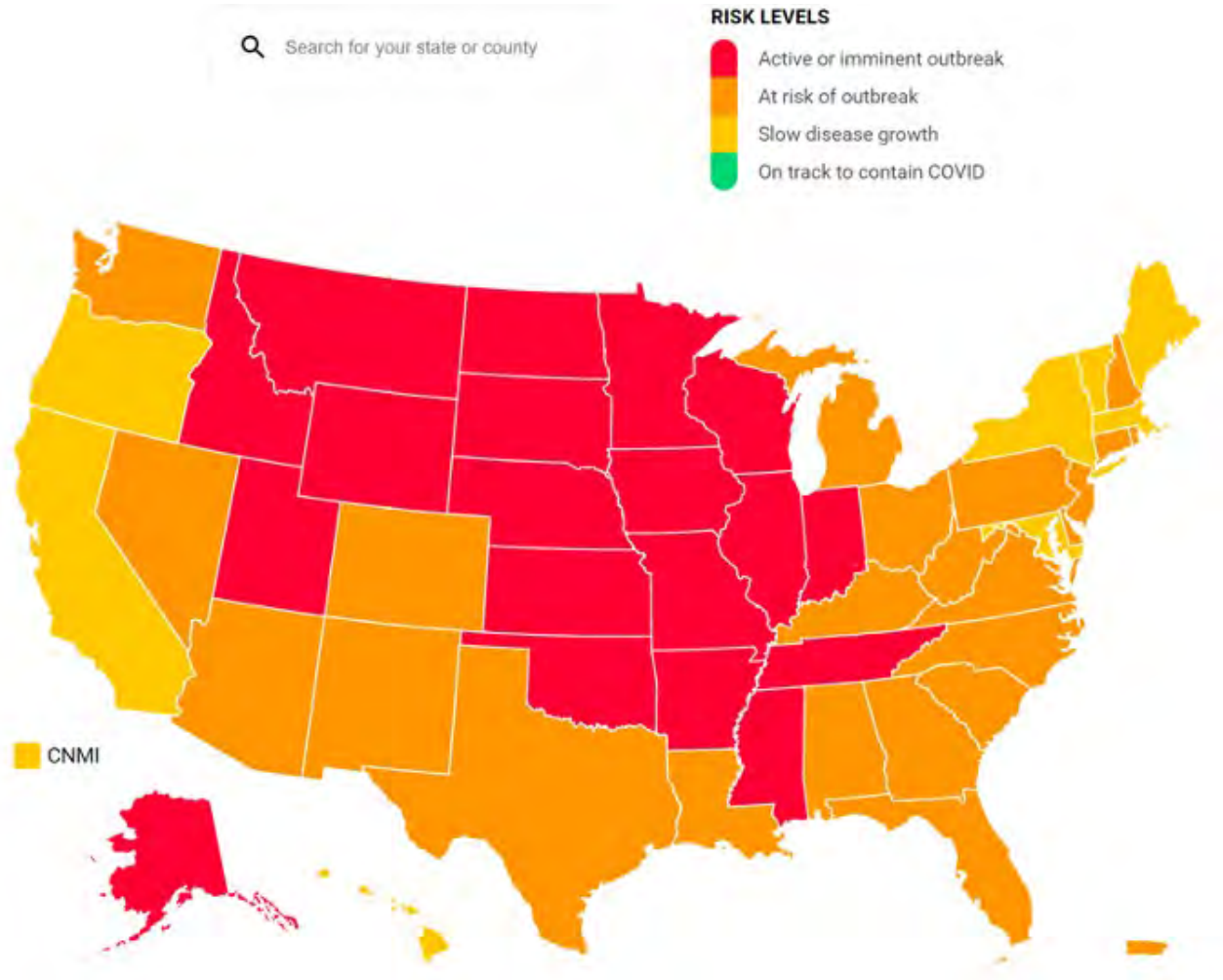
America's COVID Warning System

<https://maps.ihs.gov/portal/apps/webappviewer/index.html?id=dea3c23a39d1410c8244d936e67dbdf5>



America's COVID Warning System

South Dakota



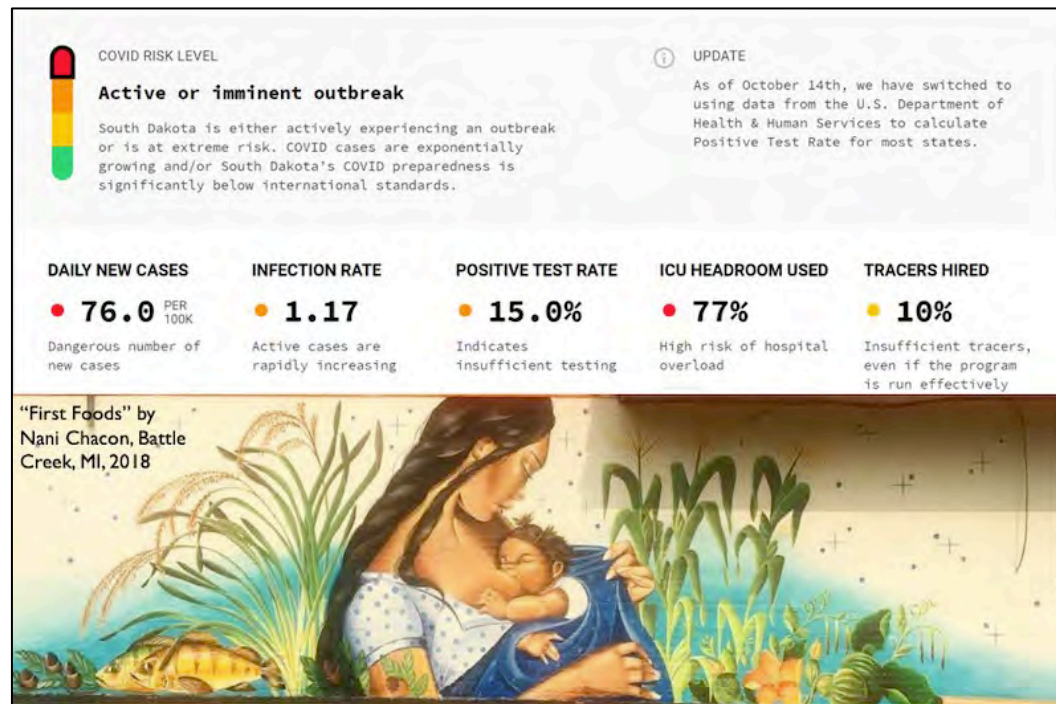
South Dakota

<https://covidactnow.org/us/ks?s=1044223>

October 19, 2020

- The mural below is called "First Foods" by Nani Chacon, Battle Creek, MI, 2018. Chacon writes, "This mural pays homage to the indigenous first foods of the region that have sustained people for centuries : depicted is the celebration of breastfeeding; wild rice, yellow perch fish, arikara squash, acorns, cranberry pole bean, and indigenous corn."

<https://www.facebook.com/NativeBreastfeedingWeek/photos/a.105077880851952/361870031839401/>



SARS-CoV-2

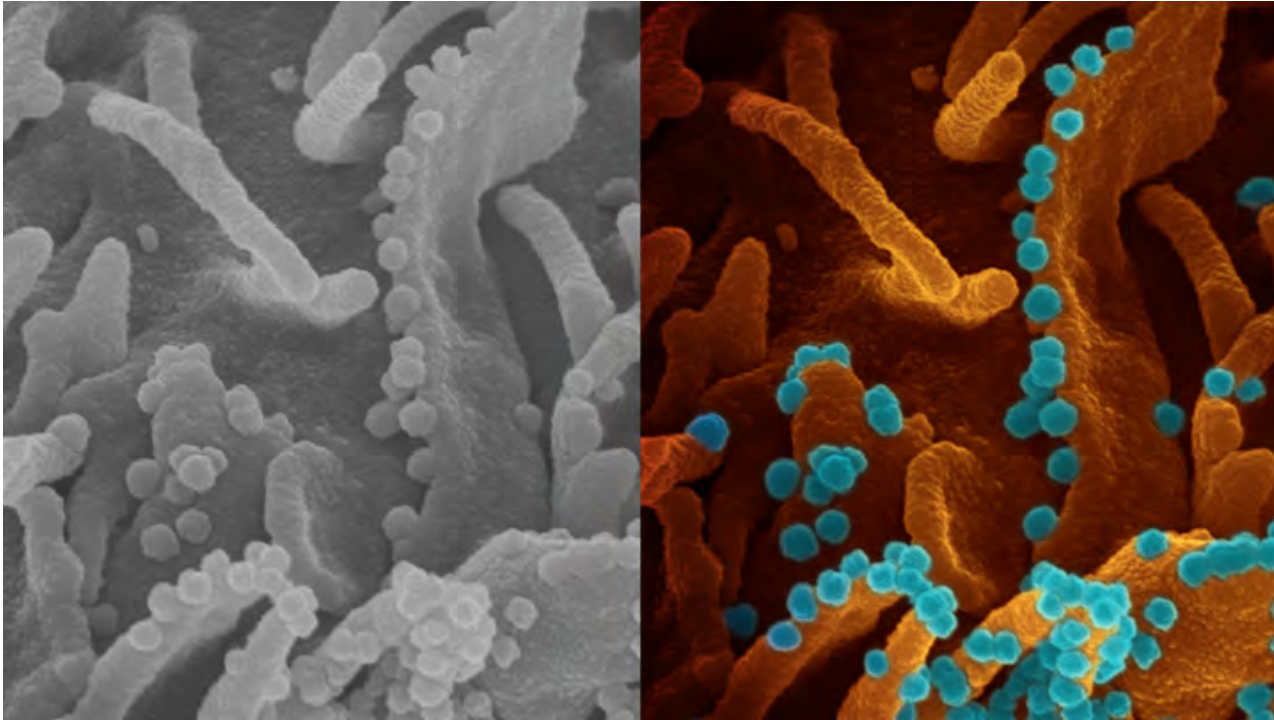


- Single-stranded RNA virus, genus betacoronavirus
- 88–96% sequence identity to three bat-derived SARS-like coronaviruses
- and a coronavirus strain isolated in pangolins
 - scaly, ant-eating mammal
 - highly trafficked for its presumed medicinal virtues
 - clandestinely sold in live-animal markets such as Wuhan

<https://www.worldwildlife.org/species/pangolin>



Viral Shedding



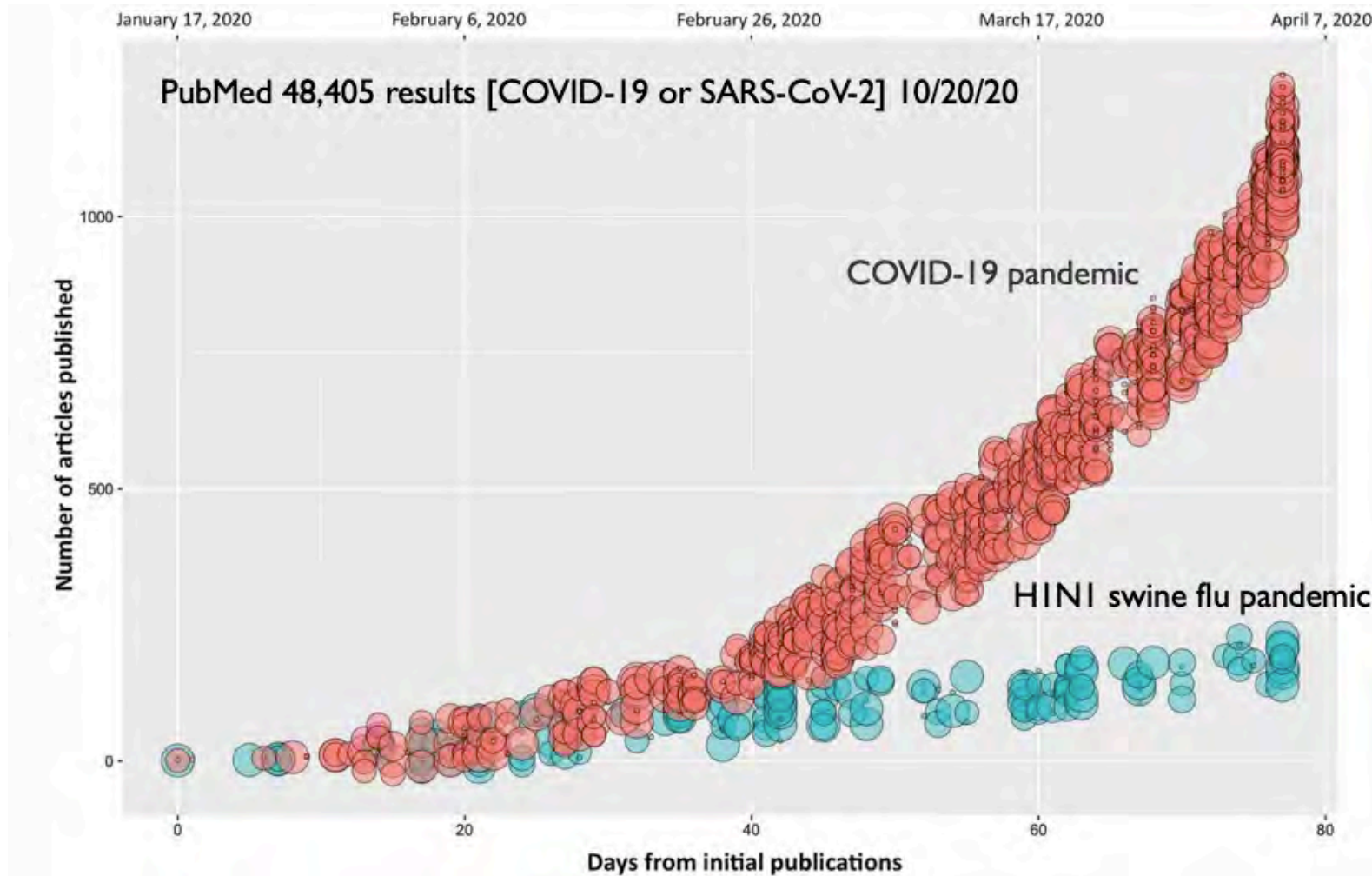
Elizabeth Fischer, Rocky Mountain Laboratories, National Institute of Allergy and Infectious Diseases, Hamilton, MT. A snapshot of viral shedding, a process in which viral particles are released from a dying cell (commonly studied primate kidney epithelial cell line).

<https://directorsblog.nih.gov/2020/04/28/capturing-viral-shedding-in-action/>

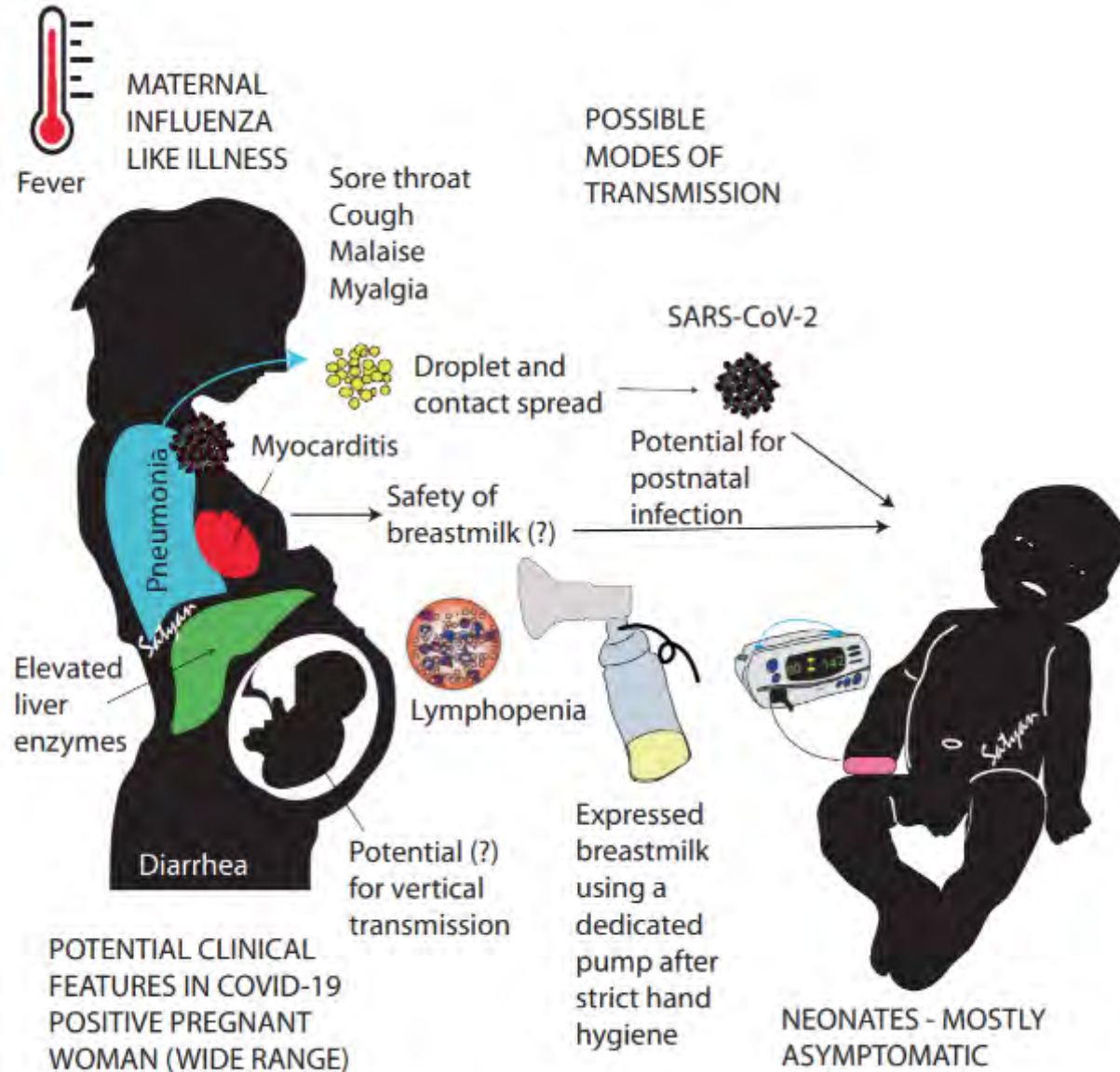
A word of caution...

- Enormous need for information to inform clinical care, policy making, and planning
- Articles are being released at a rapid rate
 - in pre-print, pre-peer review formats
- Peer review process is critical
- Critically read these reports
 - particularly methodology
 - don't take at face value

PubMed 48,405 results [COVID-19 or SARS-CoV-2] 10/20/20, DiGiralomo, et al., 2020



Vertical transmission, Mimouni, F et al., 2020



Evidence: Maternal outcomes

- Scoping review 33 original studies reporting 385 women with COVID-19 during pregnancy and childbirth
- 10 countries
- December 8, 2019 to April 19, 2020
- 175 (69.4%) delivered by cesarean 77 (30.6%) vaginal birth
- Case severity 368 mild (95.6%); 4 severe (3.6%); 3 critical (0.8%)
- 17 (4.4%) required ICU admission
- 6 (1.6%) mechanically ventilated (1ECMO)
- All ICU admissions improved and discharged, except for one mortality and one case on ECMO
- Elshafeey et al., 2020

March 2020 Anthony Wallace_AFP via Getty Images



COVID-19 and first trimester spontaneous abortion: a case-control study of 225 pregnant patients

- February 22 to May 21, 2020
- Case-control study at St. Anna Hospital, Turin, Italy
- COVID-19 compared between women with spontaneous abortion ($n=100$) and ongoing pregnancy ($n=125$)
 - infection determined by NP swab and SARS-CoV-2 IgG/IgM antibodies in blood
- $n=23/225$ (10.2%) tested positive for COVID-19 infection
 - no difference in incidence of COVID-19 between cases (11/100, 11%) and controls (12/125, 9.6%) ($p=0.73$)
 - COVID-19 appears to have a favorable maternal course at the beginning of pregnancy, consistent with what has been observed during the second and the third trimester

Cosma, et al., 2020

Rates of Maternal and Perinatal Mortality and Vertical Transmission in Pregnancies Complicated by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-Co-V-2) Infection: A Systematic Review

- 13 studies included 538 pregnancies
 - SARS-CoV-2 diagnosed by RT-PCR NP swab
 - 420 from China, 76 from the United States, 42 from Italy
 - 20.1% rate of preterm birth
 - 85% underwent cesarean delivery (306/332 from China, 18/332 from Italy, 8/332 from US)

Huntley et al., 2020

Inclusion criteria for this study were case series of at least 10 pregnant patients who tested positive for SARS-CoV-2 infection. We attempted to limit our interpretation to data from laboratory-confirmed cases; however, when this distinction was not discernible, data from all cases presented were incorporated into our analysis. We did exclude publications of smaller cases that were subsequently incorporated into larger case series. In an effort to minimize duplication of data, we compared the names of hospitals from previously published studies.

Rates of Maternal and Perinatal Mortality and Vertical Transmission in Pregnancies... (cont.)

- 3.0% (8/263) maternal ICU admission rate
- No maternal deaths secondary to COVID-19
- NICU admission rate influenced by Chinese reports
 - 134/137 newborns admitted to NICU in China
 - 3/137 from United States
 - 64.9% overall NICU admission (protocol in China)
 - rate of 5-minute Apgar scores <7 was 0.5%
 - neonatal mortality occurred in 0.3% of cases
 - no cases of vertical transmission

Huntley et al., 2020

Neonatal management and outcomes during the COVID-19 pandemic: An observation cohort study

- 116 SARS-COV-2 positive mothers; 3 hospitals in NY City
 - rooming-in and breastfeeding with IPC measures**
 - 82 neonates followed up at 5-7 days rooming-in (83%); breastfeeding(78%) rates
 - No positive SARS-COV-2 among the 79 neonates retested at 5-7 and 14 days old

Salvatore et al., 2020

Evidence: Newborn COVID-19 outcomes

- Critical systematic review
- 49 studies
 - $n=666$ neonates of $n=655$ women
 - testing COVID-positive or “high clinical suspicion” through May 2020
 - 28 (4%) infants had confirmed COVID-19
 - more after cesarean delivery ($n=20$; 5.3%) than vaginal ($n=8$; 2.7%)
 - no association of infection with feeding method or maternal proximity

Walker et al., 2020

Evidence: Newborn COVID-19 outcomes (2)

- 28 cases of “vertical transmission” were reported but none fulfilled confirming criteria
- Authors summarize: “neonatal COVID-19 infection is uncommon, almost never symptomatic, and the rate of infection is no greater when the baby is born vaginally, breastfed or allowed contact with the mother”

Walker et al., 2020

Helping ward off infection



Helping ward off infection

These hoodies are getting extra protection from the treatment they get from a special cream.

The tiny baby, delivered right and before, were diagnosed with the virus by a number of plastic surgeons in central Thailand in a bid to keep them safe from infection.

It may be called a "face shield" but it covers a lot more than just that, protecting down over most of the baby's little torso.

Children do not appear to be at higher risk than adults in their adults though there have been infections of babies who had restricted the disease going in the air.

Tuberculosis which has not been recorded more than 10,000 cases of infection and at least 20 deaths, has environmental a right to be written across the country as the government tries to get people to stay at home and stop the spread of the virus.



Evidence: Newborn outcomes

- 33 studies from 10 countries
- 248 singleton & 4 twin pregnancies
- 30–41 weeks of gestation
- 39 (15.2%) preterm birth (<37 weeks)
- 8 NICU (3.1%)
 - 3 (1.2%) mechanical ventilation; 3 (1.2%) pneumonia
 - 12 (4.7%) respiratory distress syndrome
- Much of the prematurity may have been iatrogenic
 - cesarean rates 92.2% in review of 16 studies (Teles Abrao Trad et al., 2020)
Elshafeey et al., 2020

Infants

- The World Health Organization defines an infant as “a child younger than one year of age” (WHO, 2013)
- COVID-19 appears to be less prevalent and generally less severe in infants and young children than in older populations
- However, there are exceptions
- Photo credit: Vanessa Simmons *JHL* Cover 2019



© K. Marinelli MD Do not copy without permission Oct 2020

US Centers for Disease Control and Prevention (CDC COVID-19 Response Team, 2020)

- 149,082 lab-confirmed COVID-19 cases in US which age known from Feb 12-April 2, 2020
 - 2,572 (1.7%) cases in children <18 years
 - 398 (15%) infants <1 year
 - 95 infants <1 year with known hospitalization status
 - 59 (62%) hospitalized
 - 5 admitted to an ICU
 - infants <1 year are underrepresented as COVID patients
 - findings are comparable to findings in China

Epidemiology of Pediatric Patients

Pre-publication Release

Epidemiological Characteristics of 2143 Pediatric Patients With 2019 Coronavirus Disease in China

Epub 2020 Mar 16

Yuanyuan Dong, Xi Mo, Yabin Hu, Xin Qi, Fang Jiang, Zhongyi Jiang, Shilu Tong

DOI: 10.1542/peds.2020-0702

Journal: *Pediatrics*

Citation: Dong Y, Mo X, Hu Y, et al. Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. *Pediatrics*. 2020; doi: 10.1542/peds.2020-0702

PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Article

Epidemiology of COVID-19 Among Children in China

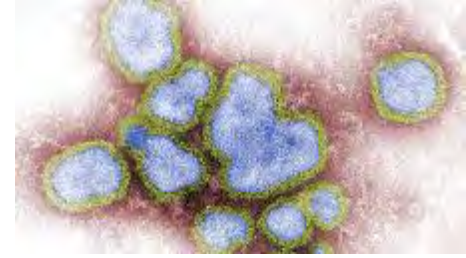
Yuanyuan Dong, Xi Mo, Yabin Hu, Xin Qi, Fan Jiang, Zhongyi Jiang and Shilu Tong

Pediatrics June 2020, 145 (6) e20200702; DOI: <https://doi.org/10.1542/peds.2020-0702>

Epidemiology of COVID-19 Among Children in China (Dong, Y., et al, 2020)

- Chinese CDC, 16 Jan - 8 Feb 2020
 - 2143 pediatric patients, 379(376) <1 year old
 - counted both “confirmed” ($n=85$) by testing and “suspected” ($n=291$) by symptoms as COVID-19 cases
 - Of 40 infants in the severe and critical categories, only 17.5% ($n=7$) were confirmed
 - Problems: non-specific symptoms c/w respiratory and gastrointestinal pathogens
 - Children with coronavirus in their respiratory tracts can have viral co-infections in up to 2/3 of cases (Heimdal, 2020)

Common viral pathogens



- January 7 to January 15, 2020, 366 hospitalized children (≤ 16 years of age) enrolled in a retrospective study of respiratory infections
- most frequently detected were influenza A virus (n=23; 6.3%) and influenza B virus (n=20; 5.5%)
- Covid-19 detected in 6 patients (1.6%)
- severe cases in the “suspected” category in Dong Y., et al. could have been due to other, more prevalent, respiratory viruses



Liu et al, 2020

Summary: Infant COVID-19

- Presenting as “fever of unknown origin” in infants
- Appears to occur from horizontal transmission
- Generally mild or asymptomatic compared to older age groups
- Serious cases do occur
 - 1.8% <16 yo admitted to ICU (Lu et al., 2020)
 - 5 < 1 yo of 15 pediatric ICU admissions in CDC data (33.3%) (CDC COVID-19 Response Team, 2020)
 - 3 pediatric deaths under investigation
 - 34+5/7 death due to multiple organ failure (Zhu et al., 2020)
 - stillbirth (Liu et al., 2020)
- Jury still out on placental transmission

What Do We Know About COVID-19 in the Native American Population?

Photo credit USBC



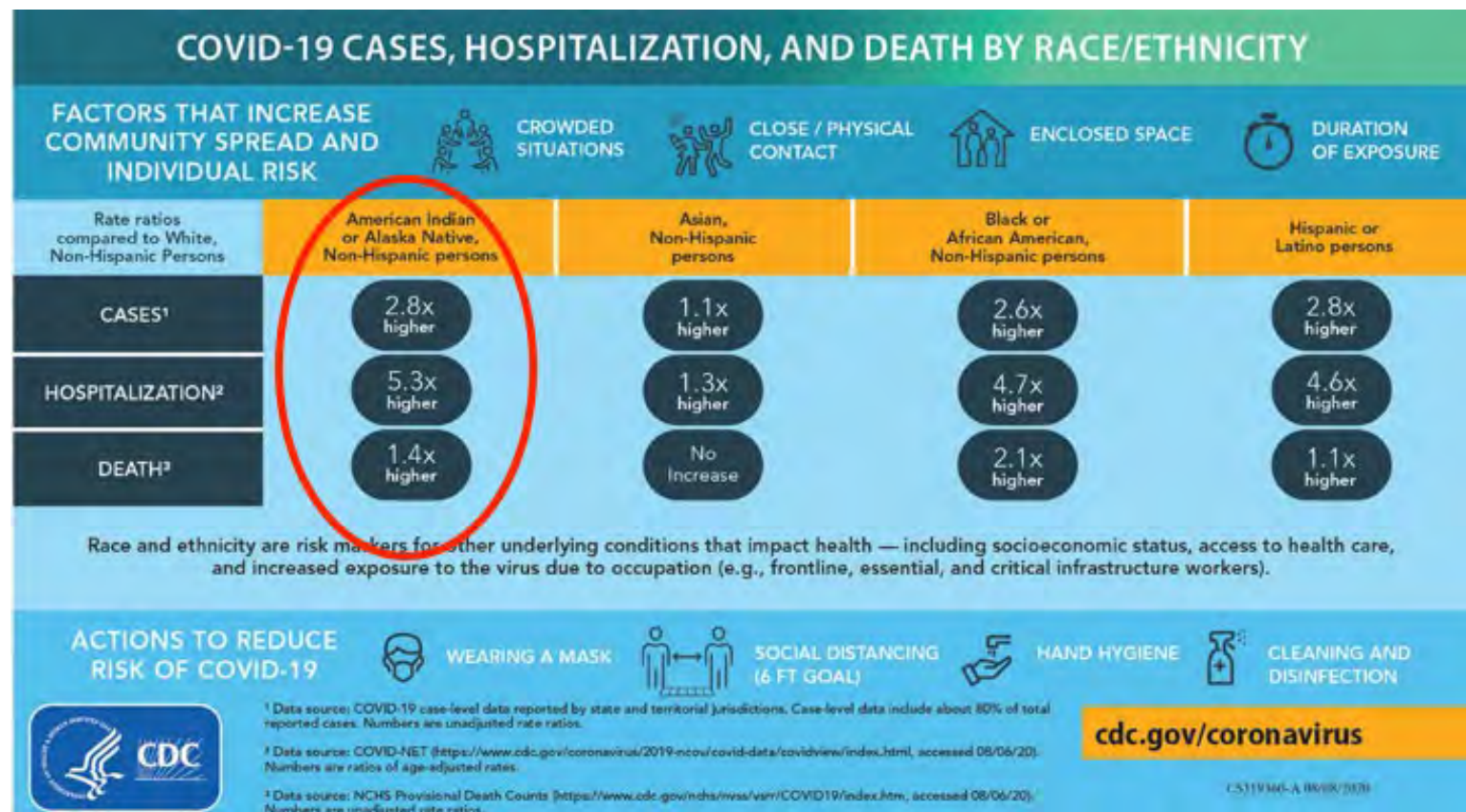
The Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities in the United States

- Disproportionately affected by chronic medical conditions and lower access to healthcare
- Experience living and working conditions that predispose to worse outcomes
- Long-standing structural and societal factors that the COVID-19 pandemic has exposed
 - Uninsured rates among nonelderly Americans are significantly higher for Native Americans (22%), Hispanics (19%), and African Americans (12%), than whites (8%)
- In Arizona, 13% of cases and 18% of deaths are Native Americans
 - only make up 5.3% of the state's population

Tai, et al., 2020

COVID-19 Hospitalization and Death by Race/Ethnicity (updated Aug. 18, 2020)

<https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html>



COVID-19 Among American Indian and Alaska Native Persons – 23 States, January 31–July 3, 2020

- Hatcher, et al, 2020

Paula Nelson of the Big Cove Community, Selu Mothering Project and BF Support

Morbidity and Mortality Weekly Report

**COVID-19 Among American Indian and Alaska Native Persons —
23 States, January 31–July 3, 2020**

Sarah M. Hatcher, PhD¹; Christine Agnew-Brune, PhD¹; Mark Anderson, MD¹; Laura D. Zambrano, PhD¹; Charles E. Rose, PhD¹; Melissa A. Jim, MPH¹; Amy Baugher, MPH¹; Grace S. Liu, MPH^{1,2}; Sadhna V. Patel, MPH¹; Mary E. Evans, MD¹; Talia Pindyck, MD¹; Christine L. Dubray, MD¹; Jeanette J. Rainey, PhD¹; Jessica Chen, PhD¹; Claire Sadowski, MPH^{1,3}; Kathryn Winglee, PhD¹; Ana Penman-Aguilar, PhD¹; Amruta Dixit, PhD⁴; Eudora Claw, MPH⁴; Carolyn Parshall, MPH⁴; Ellen Provost, DO⁵; Aurimar Ayala, MPH⁶; German Gonzalez, MD⁷; Jamie Ritchey, PhD⁸; Jonathan Davis, PhD⁸; Victoria Warren-Mears, PhD⁹; Sujata Joshi, MSPH⁹; Thomas Weiser, MD^{9,10}; Abigail Echo-Hawk, MA¹¹; Adrian Dominguez, MS¹¹; Amy Poel, MPH¹¹; Chrisry Duke, MPH¹²; Imani Ransby, MPH¹²; Andria Apostolou, PhD^{13,14}; Jeffrey McCollum, DVM¹³

On August 19, 2020, this report was posted as an MMWR Early Release on the MMWR website (<https://www.cdc.gov/mmwr>).

Although non-Hispanic American Indian and Alaska Native (AI/AN) persons account for 0.7% of the U.S. population,* a recent analysis reported that 1.3% of coronavirus disease 2019 (COVID-19) cases reported to CDC with known race and ethnicity were among AI/AN persons (1). To assess the impact of COVID-19 among the AI/AN population, reports of laboratory-confirmed COVID-19 cases during January 22[†]–July 3, 2020 were analyzed. The analysis was

Individual COVID-19 case reports submitted to CDC using the CDC COVID-19 case report form[‡] and through the National Notifiable Diseases Surveillance System** during January 22–July 3, 2020 were analyzed. Laboratory-confirmed^{††} and probable^{§§} COVID-19 cases are reported by state and local health jurisdictions based on reports submitted by health care providers and laboratories. Cases with missing report date were excluded. Probable cases (12,081) and cases among persons repatriated to the United States from Wuhan, China (two cases), and the Diamond Princess cruise ship



Strong, resilient, latched — Native Breastfeeding Week



SARS-CoV-2 and human milk: What is the evidence?

Lackey, K. A. et al., 2020

- 14 studies tested human milk for human coronaviruses
 - 48 milk samples from 32 women
 - all but one tested negative for SARS-CoV-2
 - reported in a non-peer-reviewed, preprint
 - no methodologies provided
 - any interpretation of results must be made with extreme caution

Evaluation of SARS-CoV-2 in Breastmilk from 18 Infected Women

- 64 serial milk samples from 18 SARS-CoV-2-infected U.S. women collected before and after positive SARS-CoV-2 RT-PCR tests
 - one with SARS-CoV-2 RNA by RT-PCR
- subset of 26 milk samples from nine women tested for replication-competent virus by established culture methods
 - All were negative including the sample that tested positive for viral RNA
- While determining presence of viral RNA in mothers' milk is important, more research with validated methods of analysis for the human milk matrix and culture for viability of virus are required

COVID-specific immunoglobulins in human milk

- COVID-positive mother's milk in the newborn period was negative for virus but positive for SARS-Co-V specific IgG and IgA (Dong, Chi et al., 2020)
- Mother with COVID symptoms, who roomed-in and exclusively breastfed her infant had SARS-CoV-2 specific IgA in her milk on day three of life. Her infant remained well through 45 days of follow-up

(Lebrão et al., 2020)

Normalize breastfeeding

- June 27 is the international day to #NormalizeBreastfeeding started by artist and activist @vanessa_simmons.

<https://www.facebook.com/hashtag/normalizebreastfeeding>



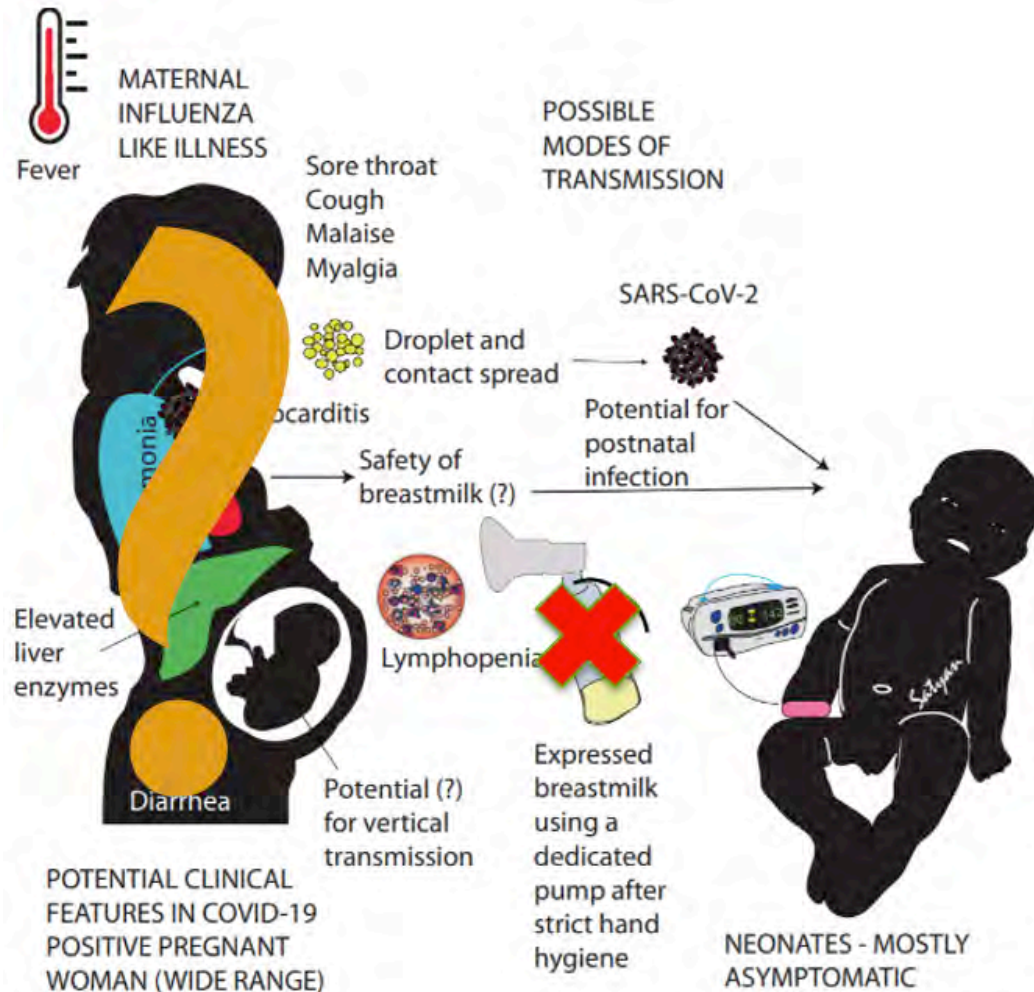
The COVID-19 liquid gold rush: Critical perspectives of human milk and SARS-CoV-2 infection. Palmquist et al., 2020

TABLE 1. Key points for studying human milk in the context of COVID

- 1 Breastfeeding and human milk are critical to maternal and infant health outcomes, especially during public health emergencies; recommendations for infant feeding must rely on complex decision-making in which the risks, benefits, and costs of available alternatives are weighed.
- 2 Of the COVID-19+ individuals who had milk tested, viral RNA was only detected in a small percentage, and repeat samples from the same individuals did not consistently yield identification of viral RNA; there is no evidence that this RNA is infectious.
- 3 There is considerable evidence that the science used to support perinatal separation policies for COVID-19, including strongly advising against breastfeeding or provision of human milk with SARS-CoV-2 infection are disproportionately harming BIPOC.
- 4 Structural racism directly and indirectly perpetuates problematic cultural ideologies about the risks of breastfeeding and human milk, leading to obstetric violence and harm among Black, Indigenous, and People of Color families during the COVID-19 pandemic.
- 5 Human ecological studies of human milk, in which human milk studies are co-created with the people whose milk is under investigation and where study findings are interpreted in the context of human lived experiences, offer conceptual and methodological alternatives to more extractive, reductionistic, and racist scientific approaches.

Have we dismissed vertical transmission?

Mimouni, F et al., 2020



Let's stop and think...



What is being done globally, and on what basis, to laboring women and postpartum mothers and infants in the era of COVID-19?

What We Know

Think about this...guidance...

- Largest published experience of coronavirus in pregnancy and delivery is from China
- Almost exclusively caesarean deliveries: Chinese expert consensus on the perinatal and neonatal management for the prevention and control of the 2019 novel coronavirus infection (6 Feb 2020)
- Separated from their infants for a minimum of 14 days and not breastfed or roomed in

Wuhan, China



Newborns and COVID



▲ An Indonesian nurse wearing protective gear holds a newborn baby wearing a face shield at a clinic in Bireuen. Photograph: Amanda Jufrian/AFP via Getty Images

U.S. Centers For Disease Control And Protection

February 2020

- Consider **temporarily separating** (e.g., **separate rooms**) the mother who has confirmed COVID-19 or is a PUI from her baby
- If rooming in with her newborn, consider using **physical barriers** (e.g. a curtain between the mother and newborn) and keeping the newborn ≥ 6 feet (2 m) away from mother
- During temporary separation, mothers who intend to breastfeed should be encouraged to **express their milk**
- If a mother and newborn do room-in and the mother breastfeeds, she should wear a facemask and practice hand hygiene before each feeding

World Health Organization

13 March 2020

This is the second edition (version 2.2) of this document, which was originally adapted from Clinical management of severe acute respiratory infection when SARS-CoV-2 infection is suspected (WHO, 2019). It is intended for clinicians involved in the care of adult, pregnant, and paediatric patients with at-risk for severe acute respiratory infection (SARI) when infection with the COVID-19 virus is suspected. It provides recommendations for postnatal prevention and management, as well as highlighted throughout the text. It is not intended to replace clinical judgement or specialist consultation but rather to complement the management of these patients and to provide supportive guidance. Best practices for infection prevention and control (IPC), triage, and isolation of suspected cases are included.

This document is organized into the following sections:

1. Background
2. Screening and triage: early recognition of patients with SARI associated with COVID-19
3. Identification and management of asymptomatic SARS-CoV-2 infections
4. Collection of specimens for laboratory diagnosis
5. Management of adult COVID-19: respiratory assessment and monitoring
6. Management of adult COVID-19: oxygen therapy and ventilation
7. Management of severe COVID-19: respiratory distress syndromes
8. Management of adult COVID-19: acute respiratory distress syndrome (ARDS)
9. Management of critical illness and COVID-19: prevention of complications
10. Management of critical illness and COVID-19: acute shock
11. Hospital-acquired infection (HAI) and COVID-19
12. Care for pregnant women with COVID-19
13. Care for children and newborns with COVID-19: IPC and breastfeeding
14. Care for older persons with COVID-19
15. Clinical research and specific adult COVID-19 treatment
16. Appendix: resources for supporting the management of SARI in primary care

Key messages:

- Do the interventions to reduce viral spread (prevention and control) in high-risk settings
- Do not use the interventions to lower viral spread
- Consider the intervention only if beneficial in selected patients (conditional recommendation) OR to control viral spread in the community

- Infants born to mothers with suspected/probable/ confirmed COVID-19 should be fed according to **standard infant feeding guidelines**, applying necessary Infection Prevention and Control (IPC)
 - **Initiate within 1 hour; exclusivity**
- **Breastfeeding, skin-to-skin or kangaroo mother care:** practice respiratory/hand hygiene before/after contact with child; routinely clean/disinfect surfaces symptomatic mother has contacted
- Provide **breastfeeding counselling, basic psychosocial support, and practical feeding support** to all pregnant women and mothers
- [https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected)

World Health Organization

28 April 2020



FREQUENTLY ASKED QUESTIONS:
Breastfeeding and COVID-19
For health care workers
(28 April 2020)



- If unable to breastfeed encourage and support mothers to express their milk, and safely provide their milk to the infant
- **Remain together and practice rooming-in throughout the day and night**
- FAQs include **donor milk, wet-nursing, relactation** options

https://www.who.int/docs/default-source/maternal-health/faqs-breastfeeding-and-covid-19.pdf?sfvrsn=d839e6c0_1

[https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected)

International Perspectives Concerning Donor Milk Banking in the SARS-CoV-2 (COVID-19) Pandemic

(Marinelli, KA, March 30, 2020)

- Personal communications with donor bank colleagues in China, Italy, and my own donor milk bank in Illinois, United States
- Donor screening “more careful and rigorous”
- Added screening questions for travel, COVID-19 exposures
- Temporarily suspending recruitment of new donors possibly exposed for 2 weeks

<https://journals.sagepub.com/doi/full/10.1177/0890334420917661>

Safe Handling of Containers of Expressed Human Milk in all Settings During the SARS-CoV-2 (COVID-19) Pandemic (Marinelli & Lawrence, 2020)

- Received questions from NICUs globally and non-US health authority on how to handle containers of expressed milk
- Glass contamination appeared in the range of 4–5 days, while plastics were from 48 hr to 9 days (Kampf et al. 2020; van Doremalen et al. 2020)
- Many surfaces positive in the room of patient tested prior to disinfection.
- No surfaces were positive in the rooms of patients after disinfection (Ong et al., 2020)

<https://journals.sagepub.com/doi/pdf/10.1177/0890334420919083> 3 April 2020

Response to Letters to the Editor about the Safe Handling of Containers of Expressed Human Milk in all Settings During the SARS-CoV-2 (COVID-19) Pandemic

- 3 April 2020
 - <https://journals.sagepub.com/doi/pdf/10.1177/0890334420919083>

Table 1. Recommendations for Handling Containers of Human Milk After Milk is Expressed.

Recommendations

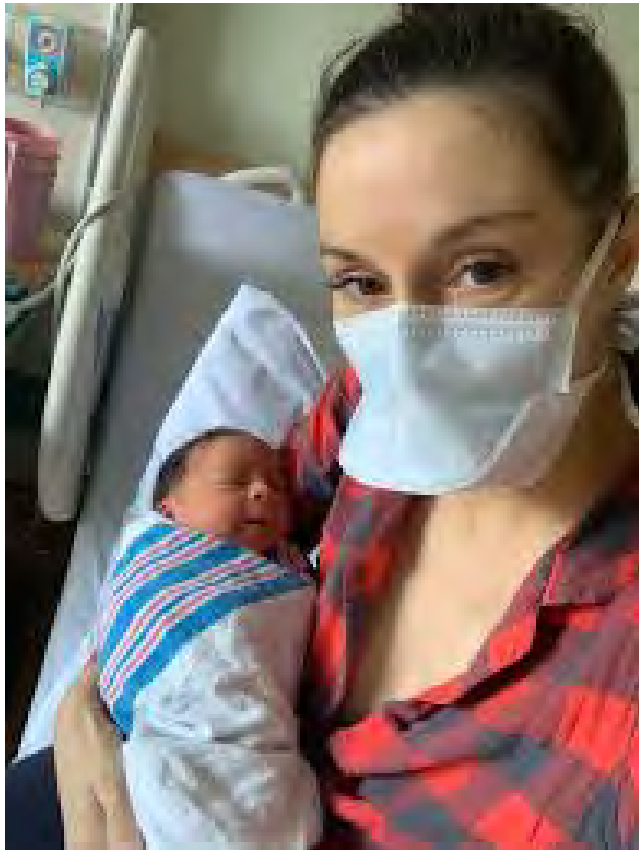
- Receive containers from mothers or boxes of donor milk with gloved hands
- Wipe down the outside surface of the individual milk containers with disinfectant
 - suggest viricidal agents already in place at hospitals, donor milk banks, etc.
 - alternatively use "high level disinfection" of 0.5% solution, a dilution of 1:10 diluted bleach (sodium hypochlorite [NaOCl])
- Set wiped containers in a rack or on a tray to dry (wet to dry ensures time for viricidal effect) before storing in refrigerators or freezers
- For hospital wards and neonatal intensive care units, separate bins for each infant in the same refrigerator are fine once the containers have been wiped down
- Resume usual protocol

Note. Adapted from Centers for Disease Control and Prevention (2020); Kampf et al. (2020); Ong et al. (2020); van Doremalen et al. (2020); and.

COVID moms (1)



COVID moms (2)



Delivery in NYC hospital



First delivery of a COVID mom in Michigan, US

What do we lose when fear, not evidence, guides practice?



Implications of the COVID-19 Pandemic Response for Breastfeeding, Maternal Caregiving Capacity and Infant Mental Health

<https://journals.sagepub.com/doi/full/10.1177/0890334420949514>

Check for updates

Insights into Practice and Policy

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Implications of the COVID-19 Pandemic Response for Breastfeeding, Maternal Caregiving Capacity and Infant Mental Health

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Keywords
attachment, breastfeeding, child neglect, COVID-19, infant and young child feeding in emergencies, infant mental health, maternal proximity, maternal caregiving capacity, milk expression, pandemic, rooming-in, SARS-CoV-2, skin-to-skin contact, vertical transmission

Background
The COVID-19 pandemic is an emergency the magnitude of which has not been encountered for a century. The World Health Organization (WHO) classified the spread of the novel coronavirus, SARS-CoV-2, as a pandemic on March 11, 2020. It constitutes an emergency because of the widespread morbidity and mortality associated with COVID-19 (the disease caused by the virus) and its accompanying economic and social impact (United Nations Office for Disaster Risk Reduction, 2016). Emergencies are recognized in the United Nations Children's Fund (UNICEF)/WHO *Global Strategy on Infant and Young Child Feeding* as one of the "exceptionally difficult circumstances" (UNICEF & WHO, 2003, p. 11) where special attention should be given to sup-

in this review is old, because the findings are so well established that there is no need for repetition, and it would now be unethical to expose infants to the harms of depriving them of skin-to-skin, maternal proximity, and breastfeeding for research purposes.

Current State of the Science About Human Milk and COVID-19
Protective Influences of Breastfeeding on Infant Physical Health During the COVID-19 Pandemic
International recommendations are that infants initiate breastfeeding within an hour of birth, breastfeed exclusively until 6 months, and continue to breastfeed, with the addition

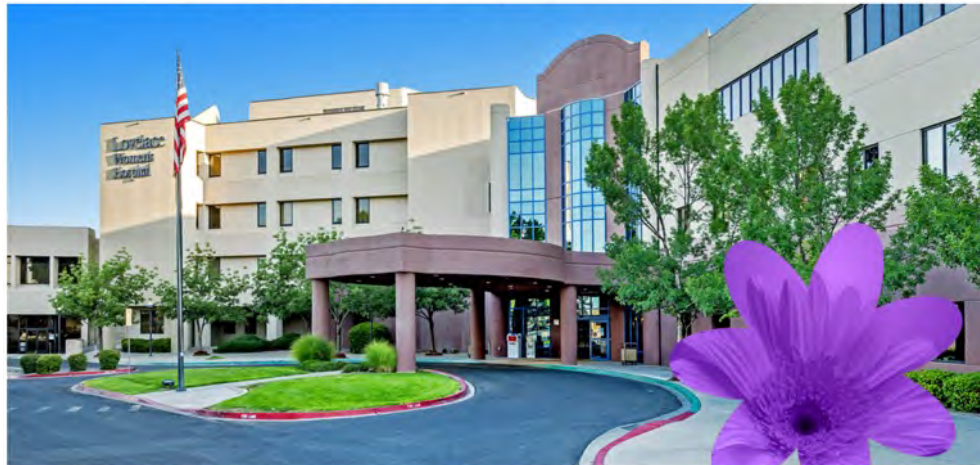
Baby's first pandemic



A Hospital's Secret Coronavirus Policy Separated Native American Mothers From Their Newborns

- Pregnant Native American women were singled out for COVID-19 testing based on their race and ZIP code
- While awaiting results, some mothers were separated from their newborns depriving them of the immediate contact

Lovelace Women's Hospital



Hospital's Secret Coronavirus Policy... (cont.)

- Usually, Lovelace officials announce new policies by emailing links to staff.
 - supervisors read the policy aloud at the beginning of each shift
 - verbal readings didn't mention that Native American mothers had to provide informed consent to be tested or separated from their newborn
 - an important concern for Native American patients
 - newborn separations and delayed breastfeeding
 - Not unlike the HIV/AIDS pandemic in the 1980s



Federal Investigation Finds Hospital Violated Patients' Rights by Profiling, Separating Native Mothers and Newborns

- started late April stopped May 28-one week after ProPublica report
 - racial profiling
 - created stressful birth experience
 - denied early skin-to-skin contact and breastfeeding
 - hospital failed to protect patients' rights
- unclear how many newborns were separated from their mothers
 - some Native American mothers told investigators they felt pressured or misled



USBC

Federal Investigation... 4 stories

- One Native American (NA) mother...having no symptoms or known exposures... labor[ed] in quarantine...test results came back negative before birth...was not separated from her baby
- NA mother... home ZIP code on hospital's list...signed no consent
 - separated from her baby for a day pending test results
- NA mother signed consent form to send baby to NICU, but was groggy from pain meds, could not recall whether she consented
 - She and baby separated 18 hours
- NA mother tested for COVID-19; once labor induced told newborn would be separated from her until test results back...told
 - stop the induction and sleep to await test results, or continue with birth and newborn would be taken away
 - In active labor, “you are not going to take my baby”
 - offered the waiver form

The COVID Pandemic IS an IYCF Emergency.

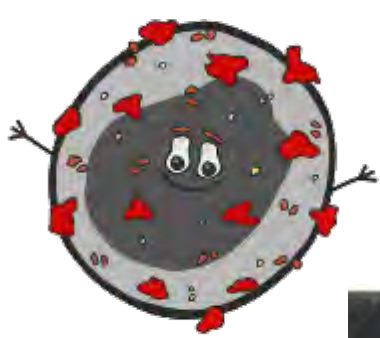


- It must be recognized as one, and we must never again be blindsided like this. Our children, our future, depend on us to act now, cooperatively, as a global voice.
- We haven't even touched on areas already in emergency mode; disparities; refugees, on-going disasters; poorly resourced regions; and more, with COVID on top.

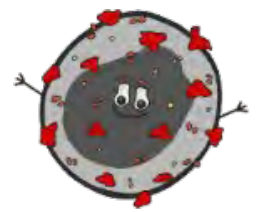
Postscript...



- CDC update 8/3/2020
 - immediate skin-to-skin care
 - SARS-CoV-2 infections in neonates uncommon
 - mothers with suspected or confirmed SARS-CoV-2 infection and their neonates isolated together
(<https://www.cdc.gov/coronavirus/2019-ncov/hcp/caring-for-newborns.html>)
- AAP update 7/22/2020
 - Mothers and newborns may room-in
 - mother should maintain a reasonable distance from her infant when possible
 - Mothers should perform hand hygiene before breastfeeding and wear a mask during breastfeeding
(<https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/faqs-management-of-infants-born-to-covid-19-mothers/>)



Thank you!



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Credit Selu Mothering Project

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