

PEDIATRIC NURSING IN THE PANDEMIC: WHAT IS BEYOND OUR SCOPE OF PRACTICE?

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DATE: May 5th

Roadmap

- Intro
 - Expected challenges and what happened
- Part 1: Challenges made worse by the pandemic
- Part 2: Challenges that were improved by the pandemic
- Part 3: What this means for pediatric nursing

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Objectives

- Examine the changing landscape of pediatric hospital admissions during the pandemic
- Identify ethical challenges faced by pediatric nurses caring for children in sub-optimal therapeutic conditions stemming from the COVID-19 pandemic
- Develop insights into how effects from the pandemic might influence or change pediatric nursing

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Caring for Critically Ill Adults With Coronavirus Disease 2019 in a PICU: Recommendations by Dual Trained Intensivists*

Kenneth E. Remo, MD, MHSC, FCCM^{1,2}; Philip A. Verboet, MD, PhD, FAAP, FACP, ATSF^{3,4};
Jay R. Malone, MD, PhD¹; Michael D. Ruppel, MD⁵; Timothy B. Kaselitz, MD, MPH⁶;
Frank Lodeserto, MD^{7,8}; Eliotte L. Hirschberg, MD, MS, FCCM, FAAP, ATSF, FASE⁹;
Anthony Slonim, MD, DrPH¹⁰; Cameron Dziffluan, MD, FAHA⁸

Children's Hospital ICU Resource Allocation in an Adult Pandemic

See D. KAN, PhD, BA, EDRN; Jeremy N. Sarnoff, PhD; Brian S. Carter, MD; John D. Lantos, MD

THE NEW ENGLAND JOURNAL OF MEDICINE

CORRESPONDENCE

To rapidly communicate short reports of innovative responses to Covid-19 around the world, along with a range of current thinking on policy and strategy relevant to the pandemic, the Journal has initiated the Covid-19 Notes series.

Repurposing a Pediatric ICU for Adults

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The Ethics of Creating a Resource Allocation Strategy During the COVID-19 Pandemic

Naomi Laveenthal, MD, MA, FAAP¹; Ritna Basak, MD, FRCPCH (UK), FAAP²; Mary Lynn Dell, MD, DMSc³;
Douglas Diekema, MD, MPH, FAAP⁴; Nanette Elster, JD, MPH⁵; Gina Gers, MD, MS, FAAP⁶; Mark Mercurio, MD, MA, FAAP⁷;
Douglas Opel, MD, MPH, FAAP⁸; David Shalowitz, MD, MSHSP⁹; Mindy Stutler, MD, MBE, FACS, FAAP¹⁰; Robert Macaulay, MD, FAAP¹¹

Should Pediatric Patients Be Prioritized When Rationing Life-Saving Treatments During COVID-19 Pandemic

Pagan M. Antiel, MD, MSCE¹; Ryan A. Curtis, MD²; Gwendolyn Pineda, JD, PhD³; Douglas B. White, MD, MMS⁴; Cathy Zhang, BA⁵;
Aaron Blockman, MPA⁶; Ezekiel J. Emanuel, MD, PhD⁷; John D. Lantos, MD⁸

Regional Planning for Extracorporeal Membrane Oxygenation Allocation During Coronavirus Disease 2019

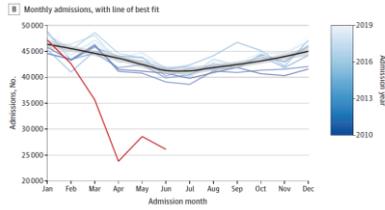
Matthew E. Prekker, MD, MPH¹; Melissa E. Brunsvold, MD²; J. Kyle Bohman, MD³; Gwyneth Fischer, MD⁴;
Kendra L. Gram, MD⁵; John M. Litell, DO⁶; Ramiro Sasvedra-Romero, MD⁷; and John L. Hick, MD⁸

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So what did happen?



Pelletier, J. H., Rakkar, J., Au, A. K., Fuhman, D., Clark, R. S., & Horvat, C. M. (2021). Trends in US Pediatric Hospital Admissions in 2020 Compared With the Decade Before the COVID-19 Pandemic. *JAMA network open*, 4(2), e2037221-e2037227.

Change in ED visits

DeLaroché, A. M., Rodean, J., Aronson, P. L., Fleegler, E. W., Florin, T. A., Goyal, M., ... & Neuman, M. I. (2021). Pediatric Emergency Department Visits at US Children's Hospitals During the COVID-19 Pandemic. *Pediatrics*.

- 27 US EDs, 2020 compared with 2017-2019
- 36-70% decline in volumes across sites
- Demographic changes
 - 15-18 y/o increased 2.6%
 - >19 y/o increased 2.2%
 - CCC increased 4.1%
 - Low-resource intensity visits declined- delayed care?
- Visits for otitis media and URI decreased 75.1% and 69.6%, while visits for suicidal ideation or attempts only decline 4%, diabetes mellitus with complication only decreased 11.1%.

Visitation polices

- Vance, A.J, et al. Visitor Guidelines in US Children's Hospitals During COVID-19. *Hosp Pediatr*. 2021; doi: 10.1542/hpeds.2020-005772

- n=211
 - Two adult visitors= 5%
 - Two parents or caregivers= 36%
 - One parent or caregiver at a time= 49%
 - One designated parent or caregiver= 5%
 - No visitation= 3%
- 41%
54%

The free labor of hospitals



PART 1: ACUTE ON CHRONIC AT THE BEDSIDE

Impact to bedside care

- 20-27.7% reduction in charges
 - DeLaroché et al and Pelletier et al
- Reduced finances led to furloughs, layoffs, reduced services
- Reduction of in-person rounds
- Complex patients must be managed with less

Jason: pre-COVID



- 8 y/o with heart failure r/t myocarditis, on BIVAD, listed for transplant, 1A
- Also with some mobility needs related to stroke
- Single mother with limited other family availability
- Daily schedule with many different psychosocial services (teacher, music therapy, volunteers, etc)
- Even getting outside!



Jason: during COVID



- Visitor restrictions, no volunteers
- Reduced multidisciplinary presence
- Often a paired assignment
- Nursing assistants tied up with 1:1s
- Jason sits alone in between nursing care
- Online school provides some outlet
- New behavioral problems emerge



- When is it harmful to limit developmental/psychosocial care?

Jamal: pre-COVID



- 15 m/o born at 22 weeks gestation, lung disease r/t prematurity, trach/vent dependent, several other chronic conditions
- 15 specialists involved in care
- Parents with work during daytime
- Volunteers during the day to hold and interact with
- Up in exersaucer and tumbleform throughout the day
- Music therapy with OT and PT



Jamal: during COVID



- No volunteers, psychosocial supports
- Less interaction
- No music therapy
- Spends most of day in bed
- Nurse has other patients with high needs as well
- Less in person coordination and communication between specialties
- More medical device issues – vent disconnects, decannulations....
- Miscommunications between teams lead to set backs
- This is sub-optimal, but when is it harmful?

Alicia: pre-COVID



- 15 y/o high school student with ongoing mental health issues
- Supportive school with psychosocial support structures
- Parents work during the day but home with her in evening
- In-person therapy



Alicia



- School closes, no in home supports, family essential workers
- Isolation and loneliness
- Mental health declines admitted for suicidal ideation
- Long wait for mental health inpatient
- Concerns for worsening in hospital while on a med/surg floor not equipped to provide adequate psych care
- No in person psychological supports
- Alternate d/c plan to home with grandmothers
- Which is better, hospital or home?

Acute

- There is a clear association between loneliness and mental health problems in children and adolescents
- Hospitalizations at children's hospitals significantly increased during the pandemic
- 20% increase in suicide attempts and more than 40% in disruptive behavior disorders

From April to October 2020, hospitals across the U.S. saw a:

24% increase in the proportion of mental health emergency department visits for kids ages 5 to 11

31% increase for kids and teens ages 12 to 17

Loeber, M. E., Chaburn, E., Higson-Sweeney, N., Reynolds, S., Shelton, R., Jendrya, A., Linney, C., McMorris, M. N., Borwick, C., & Crowley, E. (2020). Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19. *Journal of the American Academy of Child and Adolescent Psychiatry*, 59(11), 1218-1228. doi:10.1093/aacp/59/11/1218

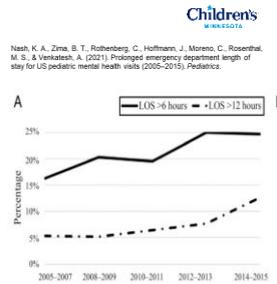
<https://www.childrenshospitals.org/Quality-and-Performance/Behavioral-Health/Resources/Focusing-on-Childrens-Mental-Health>

Impacts

- Increased demand for inpatient psych
- Increase in "boarding" patients waiting for inpatient mental health
- Nursing assistants (and nurses) being utilized for 1:1 safety assistants instead of being available on the floors
- Increase in children with severe autism and violent behaviors admitted to the hospital due to lack of community supports

Chronic

- Hospital admissions and emergency room visits for suicide attempts doubled at children's hospitals from 2008 to 2015
- 60% increase in the rate of suicide among ages 10-24 from 2007-2018, second leading cause of death
 - Children's Hospital Association
- 2005-2015 study period, the odds of prolonged LOS for mental health ED visits were threefold greater and increased over time



Pre-pandemic increases

- Chronic illnesses, such as asthma and autism, and comorbid disabilities associated with neonatal illnesses, such as prematurity, are on the rise.
- Approximately 20% of children younger than 18 years of age now have at least one special healthcare need

Harrison, T. M., Steward, D., Tucker, S., Fortney, C. A., Mittello, L. K., Smith, L. H., ... & Pickler, R. H. (2020). The future of pediatric nursing science. *Nursing outlook*, 68(1), 73-82.

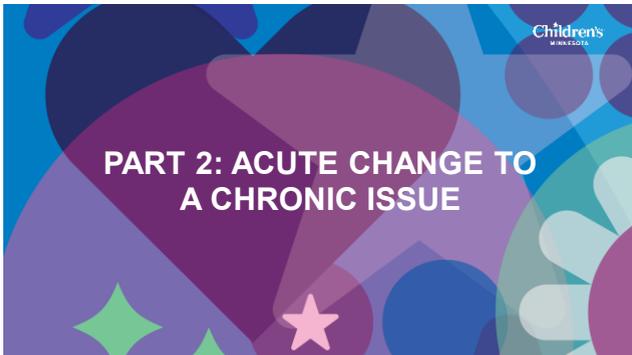
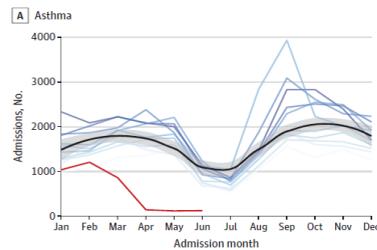


Figure 2. Diagnosis-Specific Monthly Admissions in Pediatric Health Informa



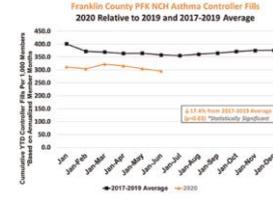
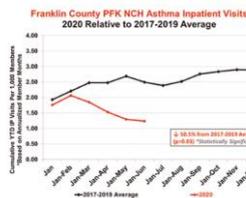
Pelletier, J. H., Rakkar, J., Au, A. K., Fuhrman, D., Clark, R. S., & Horvat, C. M. (2021). Trends in US Pediatric Hospital Admissions in 2020 Compared With the Decade Before the COVID-19 Pandemic. *JAMA network open*, 4(2), e2037221-2037227.

Philadelphia, 2020 vs 2015-2019

RESULTS: After March 17, 2020, in-person asthma encounters decreased by 87% (outpatient) and 84% (emergency + inpatient). Video telemedicine, which was not previously available, became the most highly used asthma encounter modality (61% of all visits), and telephone encounters increased by 19%. Concurrently, asthma-related systemic steroid prescriptions and frequency of rhinovirus test positivity decreased, although air

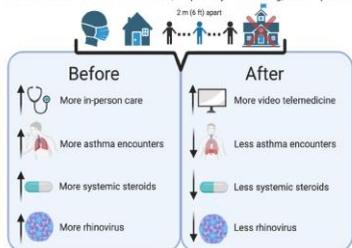
Taquechel, K., Divedkar, A. R., Sayed, S., Dudley, J. W., Grundmeier, R. W., Kenyon, C. C., ... & Hill, D. A. (2020). Pediatric asthma health care utilization, viral testing, and air pollution changes during the COVID-19 pandemic. *The Journal of Allergy and Clinical Immunology: In Practice*, 8(10), 3378-3387.

Inpatient visits and medication refills



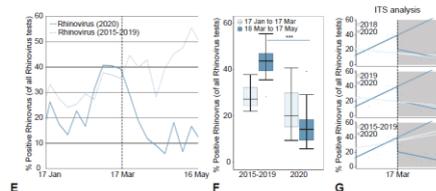
Ulrich, L., Macias, C., George, A., Bai, S., & Allen, E. (2021). Unexpected decline in pediatric asthma morbidity during the coronavirus pandemic. *Pediatric Pulmonology*.

Effects of COVID-19 public health interventions on pediatric asthma-related healthcare utilization, respiratory viral testing, and air pollution



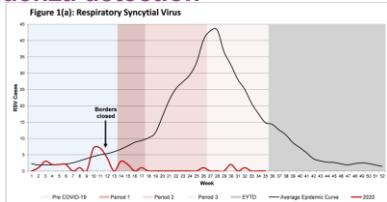
Taquechel, K., Divedkar, A. R., Sayed, S., Dudley, J. W., Grundmeier, R. W., Kenyon, C. C., ... & Hill, D. A. (2020). Pediatric asthma health care utilization, viral testing, and air pollution changes during the COVID-19 pandemic. *The Journal of Allergy and Clinical Immunology: In Practice*, 8(10), 3378-3387.

Rhinovirus



Taquechel et al. 2020

98%-99% reduction in RSV and influenza detection



Title: Figure 1 - (a) Respiratory syncytial virus detections in children from metropolitan Western Australian to the end of winter 2020 in the context of COVID-19 restrictions compared to average epidemic curve (2012-2019)

Yeoh, D.K., Foley, D.A., Minney-Smith, C.A., et al. The impact of COVID-19 public health measures on detections of influenza and respiratory syncytial virus in children during the 2020 Australian winter. *Clin Infect Dis*. 2020;ciab1475.

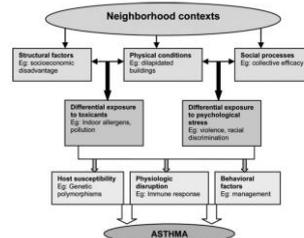


FIGURE 1. A multilevel approach including an ecological perspective to explain heterogeneity in asthma expression across environments and geographic localities.

Wright, R. J., & Subramanian, S. V. (2007). Advancing a multilevel framework for epidemiologic research on asthma disparities. *Chest*, 132(5), 757S-766S.

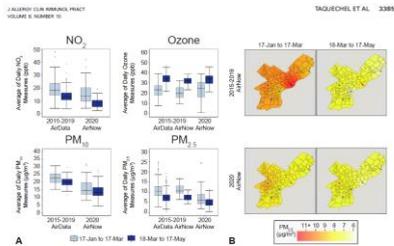


FIGURE 4. Levels of 4 criteria air pollutants in Philadelphia before and after COVID-19 public health interventions were enacted. (A) Boxplots of averages of daily NO_2 , ozone, PM_{10} , and $\text{PM}_{2.5}$ measures corresponding to years 2020 and 2019 sourced from AirData and AirFlow for the 60-day time period before and after March 17, the day in 2020 when COVID-19 public health interventions were enacted in Philadelphia. None of the changes across March 17 were significantly different in the year 2020 compared with historical years. (B) Philadelphia color layer maps showing daily average $\text{PM}_{2.5}$ levels before and after the COVID-19 public health interventions were enacted for the year 2020 and the average of years 2015 to 2019 using AirFlow data. The blue circles denote available air monitoring sites only. Parks are hollow.

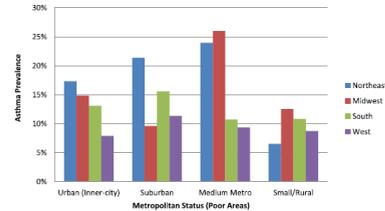


FIG 1. Asthma prevalence according to metropolitan status and region among children living in poor areas (defined as neighborhoods with $\geq 20\%$ of households below the poverty line).

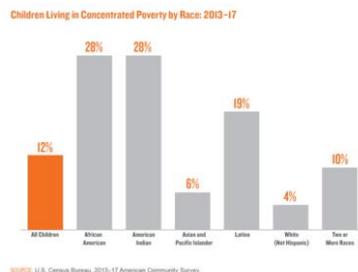
Keet, C. A., McCormack, M. C., Pallick, C. E., Peng, R. D., McGowan, E., & Matsui, E. C. (2015). Neighborhood poverty, urban residence, race/ethnicity, and asthma: rethinking the inner-city asthma epidemic. *Journal of Allergy and Clinical Immunology*, 135(3), 655-662.

Race and asthma

Among children enrolled in Medicaid, residence in inner-city...was associated with significantly more asthma-related ED visits and hospitalizations among those with asthma in crude analyses (risk ratio, 1.48; 95% CI, 1.24-1.36; and 1.97; 95% CI, 1.50-1.72, respectively)

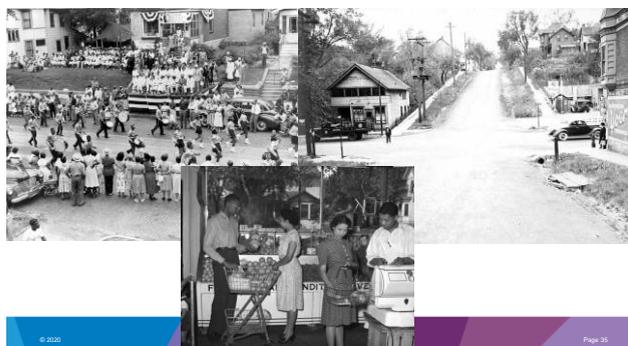
Residence in urban or poor areas and non-Hispanic black race/ethnicity were all independently associated with increased risk of asthma-related ED visits and hospitalizations.

Keet, C. A., Matsui, E. C., McCormack, M. C., & Peng, R. D. (2017). Urban residence, neighborhood poverty, race/ethnicity, and asthma morbidity among children on Medicaid. *Journal of Allergy and Clinical Immunology*, 140(3), 822-827.



SOURCE: U.S. Census Bureau, 2013-17 American Community Survey.

<https://www.aecf.org/blog/percentage-of-kids-in-concentrated-poverty-worsens-in-10-states-and-puerto/>



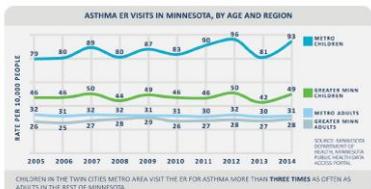
Rondo neighborhood in St Paul, MN 1940 2020



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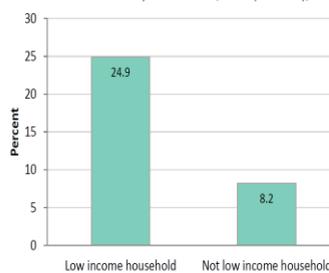
2017 Statewide Health Assessment



<https://www.health.state.mn.us/statewidehealthassessment>

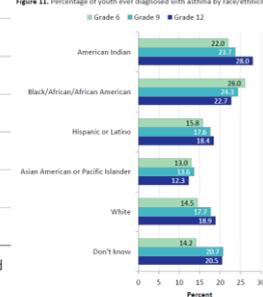
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Figure 35. Percentage of children with asthma who went to emergency room or urgent care because of an asthma attack by income status, Hennepin County, Minnesota



Source: Hennepin County SHAPE, 2010

Figure 11. Percentage of youth ever diagnosed with asthma by race/ethnicity, 1



Source: Minnesota Student Survey, 2010

In the Twin Cities, asthma hospitalization rate highest along I-94: Here's why

Lena Benson St. Paul, Minn., July 8, 2014 9:00 a.m.



During afternoon sports, Keshawn Seabris, 13, and his fellow campers at Camp SuperKids, decide which games to play over curbs, lanes, all the overnight camps, kids with asthma learn to manage and control it while still having fun outdoors. Photo: Christine LPR News

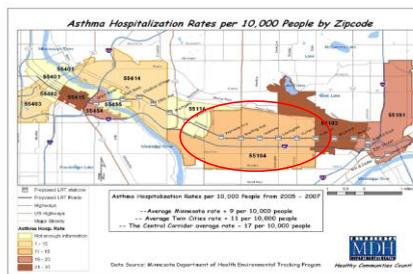
Message:
 • Schools play major role in well-being of kids with asthma
 "If you come off my front porch and walk 10, 15 feet, you're at the corner and across the wall in the freeway," Seabris said. "The only thing that's blocking my house from the freeway is the wall. And the wind is blowing it all back up here."

Editor's note: This story is part of a series that explores health disparities among certain groups of Minnesotans and the growing importance of data to understand the causes. The report was done in collaboration with the [Healthy Communities](#) project, American Public Studies' focus on information, insight and experiences in health.

Over the past few decades asthma has surged around the globe. It is the most common chronic disease of childhood in the United States.

In Minnesota, an estimated 90,000 children have asthma, and a disproportionate number of them are African American and American Indian. Greater still, the number of asthma cases in

MPRnews



<https://www.health.state.mn.us/communities/environment/hazardous/docs/cclrh.pdf>

Children's
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PART 3: WHAT DOES THIS HAVE TO DO WITH PEDIATRIC NURSING?



Impacts to nursing

- Barriers to providing "best" care
 - Increases in complex care
 - Less value in care vs treatment
- Social failures
 - Lack of supports for children with autism
 - Lack of mental health resources
- Structural causation of preventable acute needs
 - Lack of focus on prevention
 - Environmental impacts
 - injustice

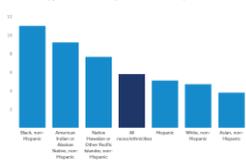


Structural causation

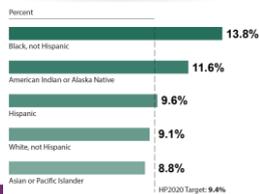
Racial Segregation and Intraventricular Hemorrhage in Preterm Infants

Daria Mursaki, MD, MPH¹ Mily Passarella, MD² Scott Lorch, MD, MSc³

Infant mortality per 1,000 live births, by maternal race/ethnicity, 2017

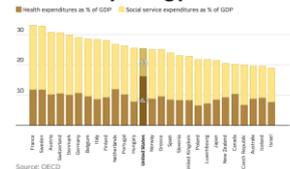


The rate of preterm live births delivered to non-Hispanic black mothers was 27.1% higher than that for Asian or Pacific Islander mothers.



Conditions

The U.S. is an anomaly in health and social spending patterns



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Social dichotomy



Gil Scott-Heron, 1970

A rat done bit my sister Nell.
(with Whitey on the moon)
Her face and arms began to swell.
(and Whitey's on the moon)

I can't pay no doctor bill.
(but Whitey's on the moon)
Ten years from now I'll be payin' still.
(while Whitey's on the moon)

Bearing Witness

- Bearing Witness
 - Moral responsibility that legitimizes and authenticates the experience of others, either through visualization, being with, or receiving testimony. Responsibility to respond.
 - Receiving testimony and bearing witness results in a responsibility to respond to injustice in society.
 - "It requires critical examination of one's own values and beliefs and an understanding of how these are produced and sustained in an inequitable social world." Ceci et al (2020), p. 80

- Cody, W. K. (2001). The ethics of bearing witness in healthcare: a beginning exploration. *Nursing Science Quarterly*, 14(4), 288-296.
- Cody, W. K. (2007). Bearing witness to suffering: participating in cotranscendence. *International Journal of Human-Centered Computing*, 11(2), 17-21.
- Djokovic, M., Ceci, C., & Petrovskaya, O. (2019). Bearing witness in nursing practice: More than a moral obligation? *Nursing Philosophy*, 20(1), e12232.
- Ceci, C., Djokovic, M., & Petrovskaya, O. (2020). Bearing Witness and Testimony in Nursing: An Ethical-Political Practice. In *Nursing Ethics: Feminist Perspectives* (pp. 67-81). Springer, Cham.

Code of Ethics

- Nursing Code of Ethics Provision 9.3
 - "...professional responsibility to address unjust systems and structures, modeling the profession's commitment to social justice and health through content, clinical and field experiences, and critical thought."
- Bearing witness to patterned inequalities call for more than just examining one's own personal position, it has an ethical-political obligation to take action

Fowler, M. D. M. (2008). *Guide to the code of ethics for nurses: Interpretation and application*. Nursebooks.org.

Ceci, C., Djokovic, M., & Petrovskaya, O. (2020). Bearing Witness and Testimony in Nursing: An Ethical-Political Practice. In *Nursing Ethics: Feminist Perspectives* (pp. 67-81). Springer, Cham.

The larger question

Our Next Pandemic Ethics Challenge? *Allocating "Normal" Health Care Services*

by JEREMY R. GARRETT, LESLIE ANN MCNOLTY, IAN D. WOLFE, and JOHN D. LANTOS

Future pediatric nursing

- Children's health is our scope of practice:
 - At the bedside we need to be conscious of when sub-optimal may become harmful, when hospital policies are out of balance with what is essential care
 - When we see increases in preventable admissions due to disproportionate social conditions we have a responsibility to advocate
- What are our research priorities in pediatrics?
- Where are our interventions and care focused?

