Land Acknowledgement

Please join me in acknowledgement and respect of all Indigenous peoples. May we respect and honour the many connections, relationships and life journeys of Indigenous peoples and our Indigeneity to the lands, sky and waters across all of Canada since time immemorial to this very day. May their wisdom always guide our own paths forward with open hands, open hearts and open minds for the mutual success and benefit of all in Canada.

Disclosure

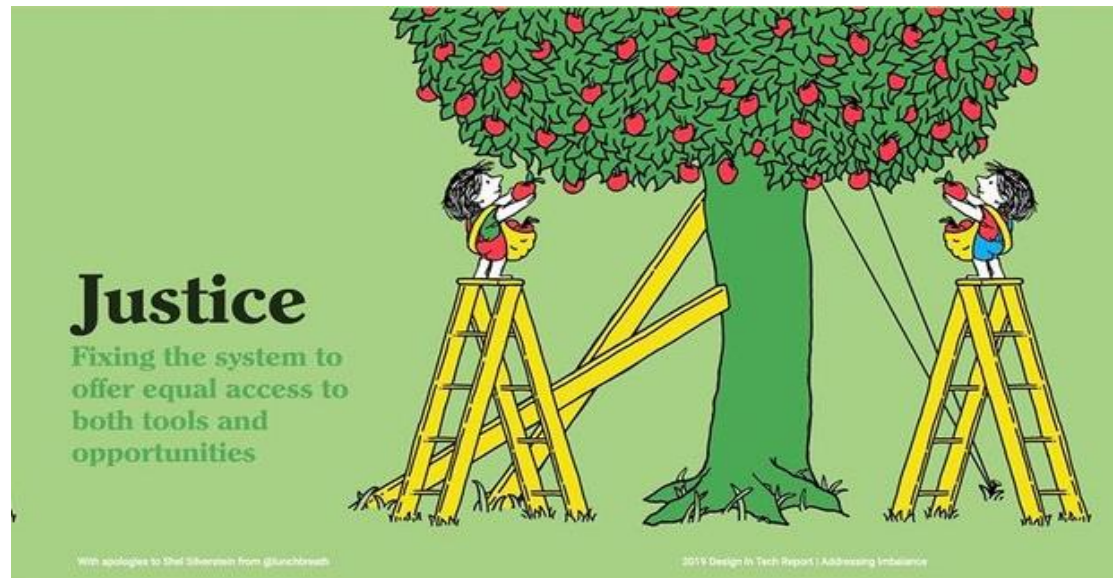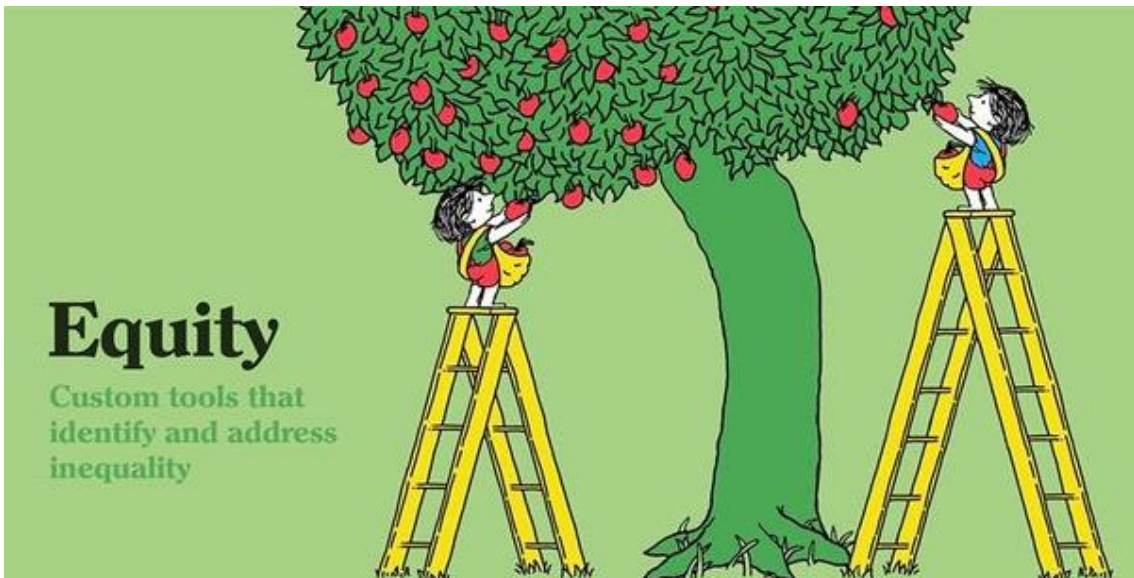No relevant disclosures regarding the presentation material
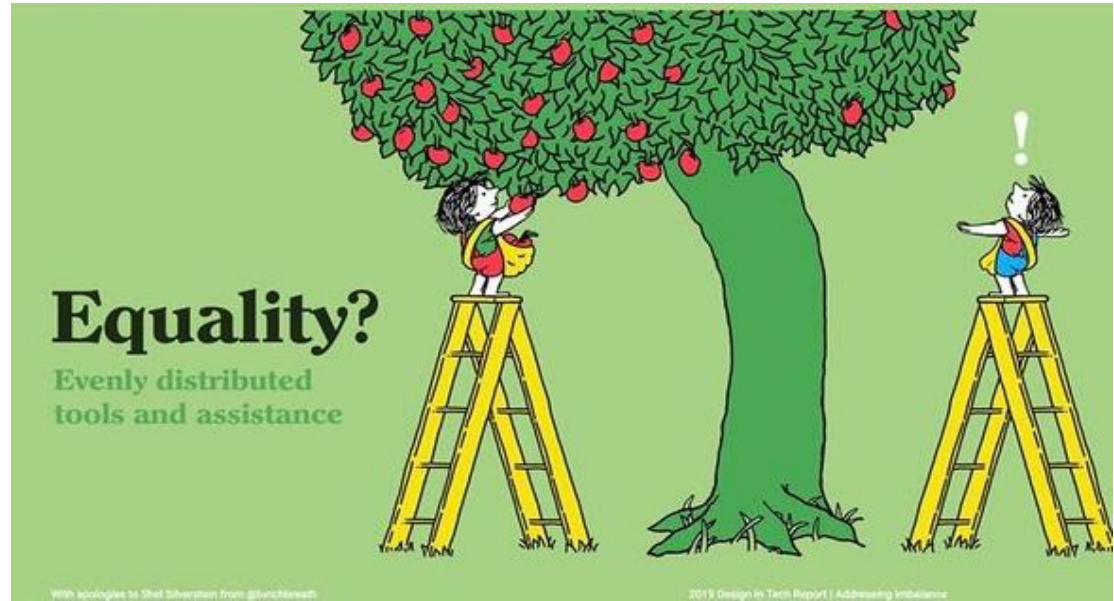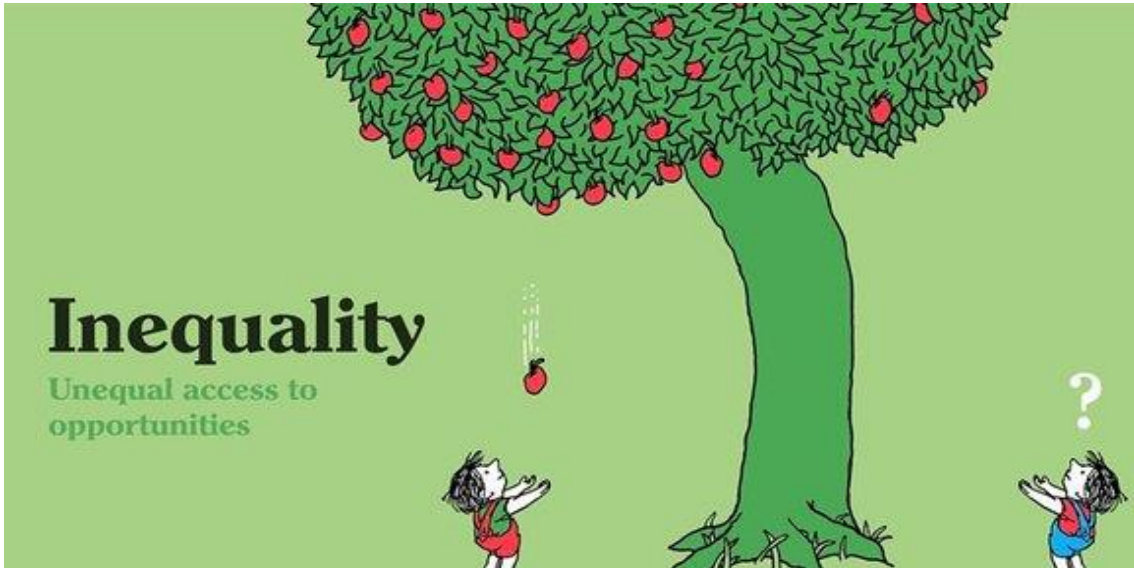
I am not an a subject matter expert in health equity

Objectives

- Understand the importance of health disparities in infection prevention and control

- Recognize challenges in data collection on race, ethnicity and social determinants of health

- Understand how health disparities may contribute to healthcare-associated infections

- Apply an ethical framework to IPAC decision making

Definitions

- **Health Inequalities**: differences in the health status of individuals or groups due to:
  - Genes, life choices (e.g., exercise, alcohol intake)
  - Social determinants of health (e.g. income)

- **Health Inequity:** health inequalities that are unfair or unjust and modifiable.
  - E.g., Canadians who live in remote regions do not have the same access to fruits/vegetables

- **Health Equity:** Seeks to reduce inequalities and to increase access to opportunities and conditions for individuals to reach their fullest health potential.

Closing the gap in a generation: health equity through action on the social determinants of health - Final report of the commission on social determinants of health (who.int)

Social and economic influences on health

Determinants of Health:

1. Income and social status
2. Employment and working conditions
3. Education and literacy
4. Childhood experiences
5. Physical environments
6. Social supports and coping skills
7. Healthy behaviours
8. Access to health services
9. Biology and genetic endowment
10. Gender
11. Culture
12. Race/Racism

WHAT MAKES CANADIANS SICK?

50% — YOUR LIFE
- INCOME
- EARLY CHILDHOOD DEVELOPMENT
- DISABILITY
- EDUCATION
- SOCIAL EXCLUSION
- SOCIAL SAFETY NET
- GENDER
- EMPLOYMENT/WORKING CONDITIONS
- RACE
- ABORIGINAL STATUS
- SAFE AND NUTRITIOUS FOOD
- HOUSING/HOMELESSNESS
- COMMUNITY BELONGING

25% — YOUR HEALTH CARE
- ACCESS TO HEALTH CARE
- HEALTH CARE SYSTEM
- WAIT TIMES

15% — YOUR BIOLOGY
- BIOLOGY
- GENETICS

10% — YOUR ENVIRONMENT
- AIR QUALITY
- CIVIC INFRASTRUCTURE

THESE ARE CANADA'S SOCIAL DETERMINANTS OF HEALTH #SDOH

85% of illness risk is linked to social factors!

Socio-demographic data collection

Race, Ethnicity, Language and Nativity

- Race and ethnicity – 80%

- Place of birth – 32%

- Years in country – 17%

- Immigration status – 11%

- Primary language – 10%

- Respondent's parents data – 11%

Sex, Sexual Orientation and Gender Identity

- Sexual orientation – 17.7%

- Gender identity – 5.9%

Rodriguez-Lainz A, McDonald M, Fonseca-Ford M, Penman-Aguilar A, Waterman SH, Truman BI, Cetron MS, Richards CL. Collection of Data on Race, Ethnicity, Language, and Nativity by US Public Health Surveillance and Monitoring Systems: Gaps and Opportunities. Public Health Rep. 2018 Jan/Feb;133(1):45-54. doi: 10.1177/0033354917745503. Epub 2017 Dec 20. PMID: 29262290; PMCID: PMC5805104.

Ontario COVID-19 Vaccination Data

Of the more than **12.7 million** individuals vaccinated:

SOCIO-DEMOGRAPHIC DATA were available for only **4.9%** (621,585) of people

DATA WAS NOT AVAILABLE FOR **95.1% of individuals**

Counts are from data extracted from COVaxON on October 11, 2022 and doses reported up to October 10, 2022. Data includes individuals with a response to one or more socio-demographic variable.

Poll #1:

My organization collects data about a patient/resident/client's race, ethnicity and language in the health record.

1. YES

2. NO

3. I don't know

Understanding your organization's socio-demographic data collection

- Is data being collected?

- What data is being collected?

- How is the data collected?

- Where is the data collected?

- When in the patient/client/resident journey is it being collected?

- Which best practice / standards is the organization following? Is the process standardized?

- What is the organization doing with the data?

- Why is the organization collecting socio-demographic data?

- How can IPAC use this data for action?

> ⚠ Evidence from across health-care organizations in Toronto, Canada, and the US has shown that patients and clients are comfortable with responding to demographic questions. The discomfort with data collection is more likely to originate and persist with health-care workers.

Disparities and Infectious Diseases

Unequal exposure

Unequal transmission

Unequal susceptibility

Unequal treatment
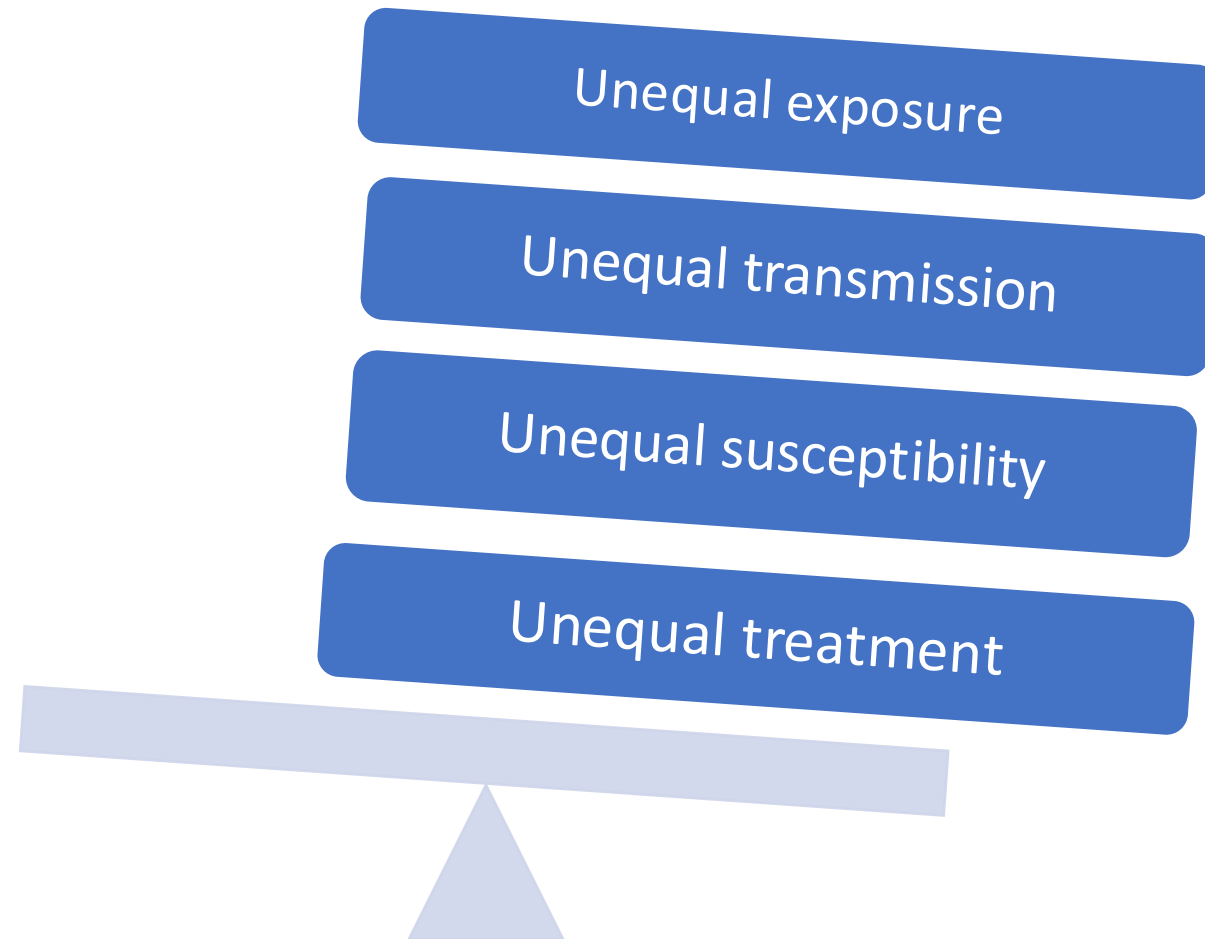
Leach, R. (2023, February 20). Health Equity and the Impact on Infectious Disease. Contagion Live, Volume 08(1). https://www.contagionlive.com/view/health-equity-and-the-impact-on-infectious-disease

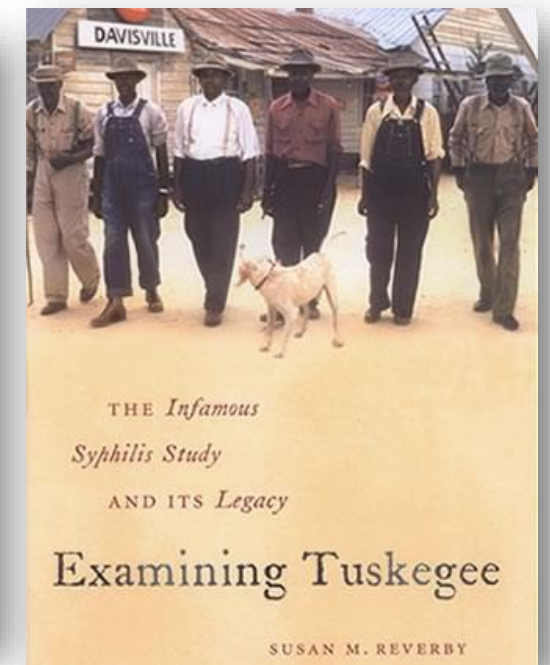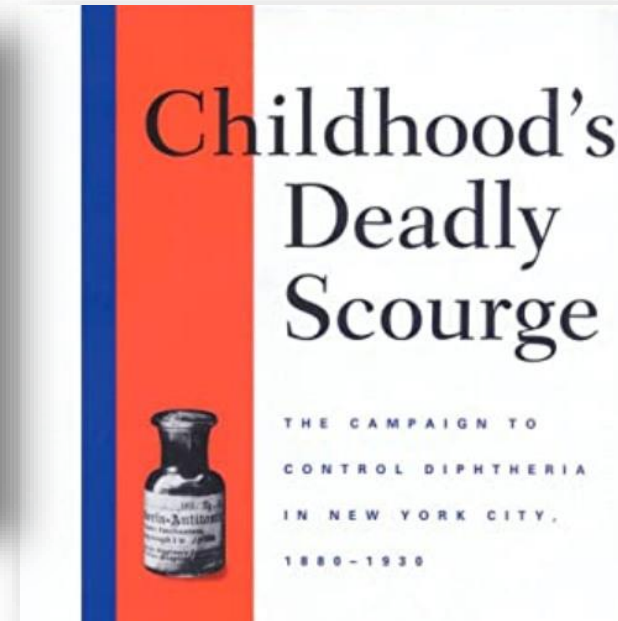Am Surg. 2023 Feb;89(2):173-177. doi: 10.1177/00031348221093633. Epub 2022 May 12.

Racial Disparity, Social Determinates of Health, and Slavery During the Boston Smallpox Epidemics of the Eighteenth Century

Don K Nakayama [1]

Affililions + expand
PMID: 35549459   DOI: 10.1177/00031348221093633
Free article

Childhood's Deadly Scourge

THE CAMPAIGN TO CONTROL DIPHTHERIA IN NEW YORK CITY, 1880-1930

THE Infamous Syphilis Study AND ITS Legacy Examining Tuskegee

SUSAN M. REVERBY

| 1700 | 1880-1930 | 1972 |

J Epidemiol Glob Health. 2019 Jun; 9(2): 89–92.   PMCID: PMC7310753
Published online 2019 Jun. doi: 10.2991/jegh.k.190314.002   PMID: 31241864

The Enduring Plague: How Tuberculosis in Canadian Indigenous Communities is Emblematic of a Greater Failure in Healthcare Equality

Sarah Hick*

Français

Government   Gouvernement
of Canada   du Canada

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MENU ▾

Canada.ca > Coronavirus disease (COVID-19) > COVID-19 data trends

Social inequalities in COVID-19 deaths in Canada

| Highlights | Technical report | Data tool | Technical notes |

| 2024 |

Identifying disparities in infectious diseases

34X
Higher incidence rate of active TB in Canadian-born aboriginal population than Canadian-born non-aboriginal population

7.1X
Higher incidence of COVID-19 infections in **Latino-Ontarians** than white Ontarians with **9.1X** higher rates of hospitalizations and **10.4X** higher ICU admissions and **7.6X** higher fatalities

4.4X
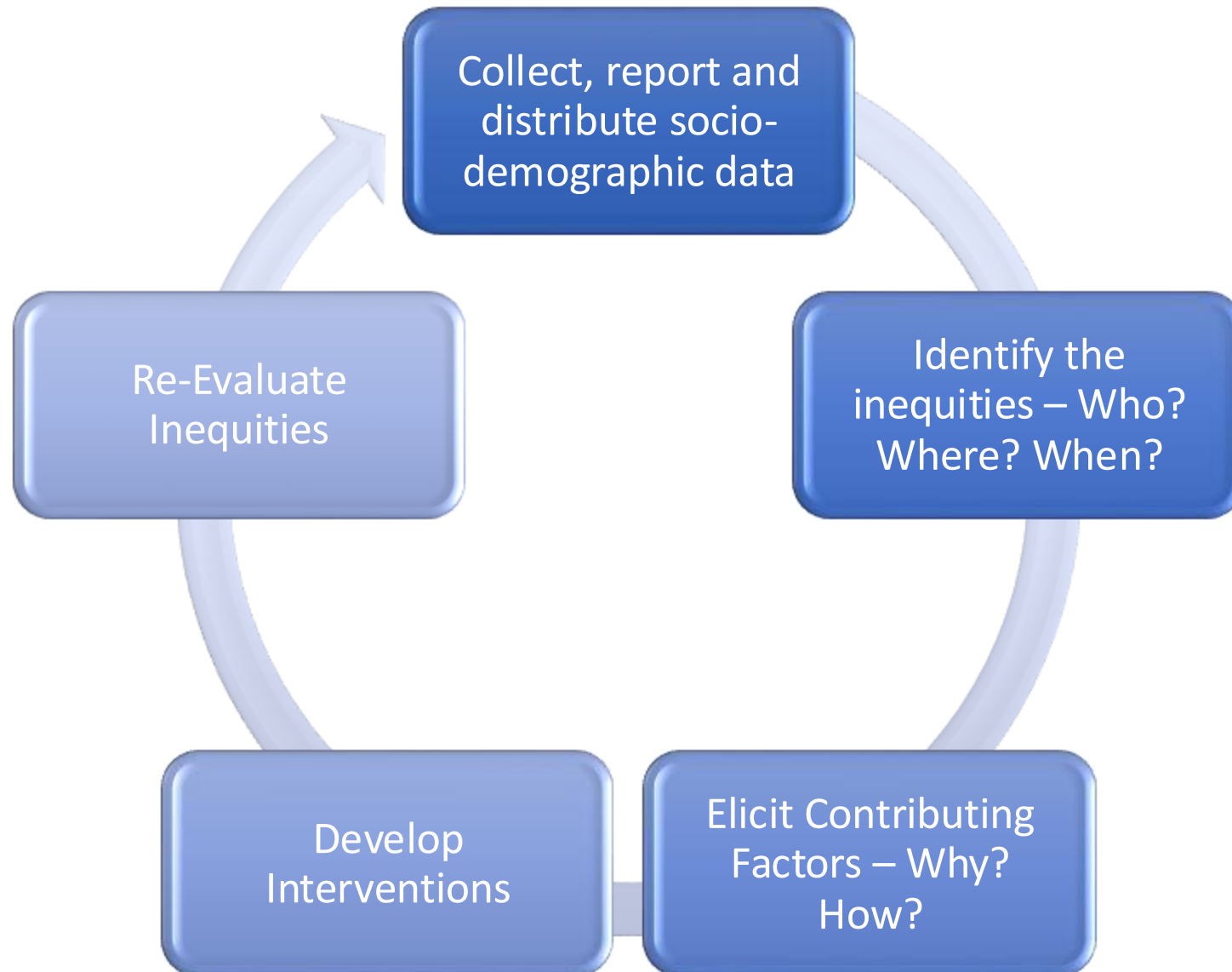Higher HIV Incidence in First **Nations/Inuit/ Metis than** other ethnicities

2.5X
Higher rates of severe outcomes from COVID-19 in those living in neighbourhoods with the highest level **of material deprivation** in Ontario

Tracking COVID-19 Through Race-Based Data (ontariohealth.ca)

Health Inequalities Data Tool (canada.ca) The Enduring Plague: How Tuberculosis in Canadian Indigenous Communities is Emblematic of a Greater Failure in Healthcare Equality - PMC (nih.gov)

Ontario Agency for Health Protection and Promotion (Public Health Ontario). COVID-19 in Ontario: a focus on neighbourhood material deprivation, February 26, 2020 to December 31, 2022. Toronto, ON: King's Printer for Ontario; 2023

An approach to disparities and Healthcare-Associated Infections (HAI)

Collect, report and distribute socio-demographic data

Identify the inequities – Who? Where? When?

Elicit Contributing Factors – Why? How?

Develop Interventions

Re-Evaluate Inequities

Poll #2

At our organization, we have reviewed our socio-demographic data for potential disparities in Healthcare Associated Infections.

1. **YES**

2. **NO**

3. **I don't know**
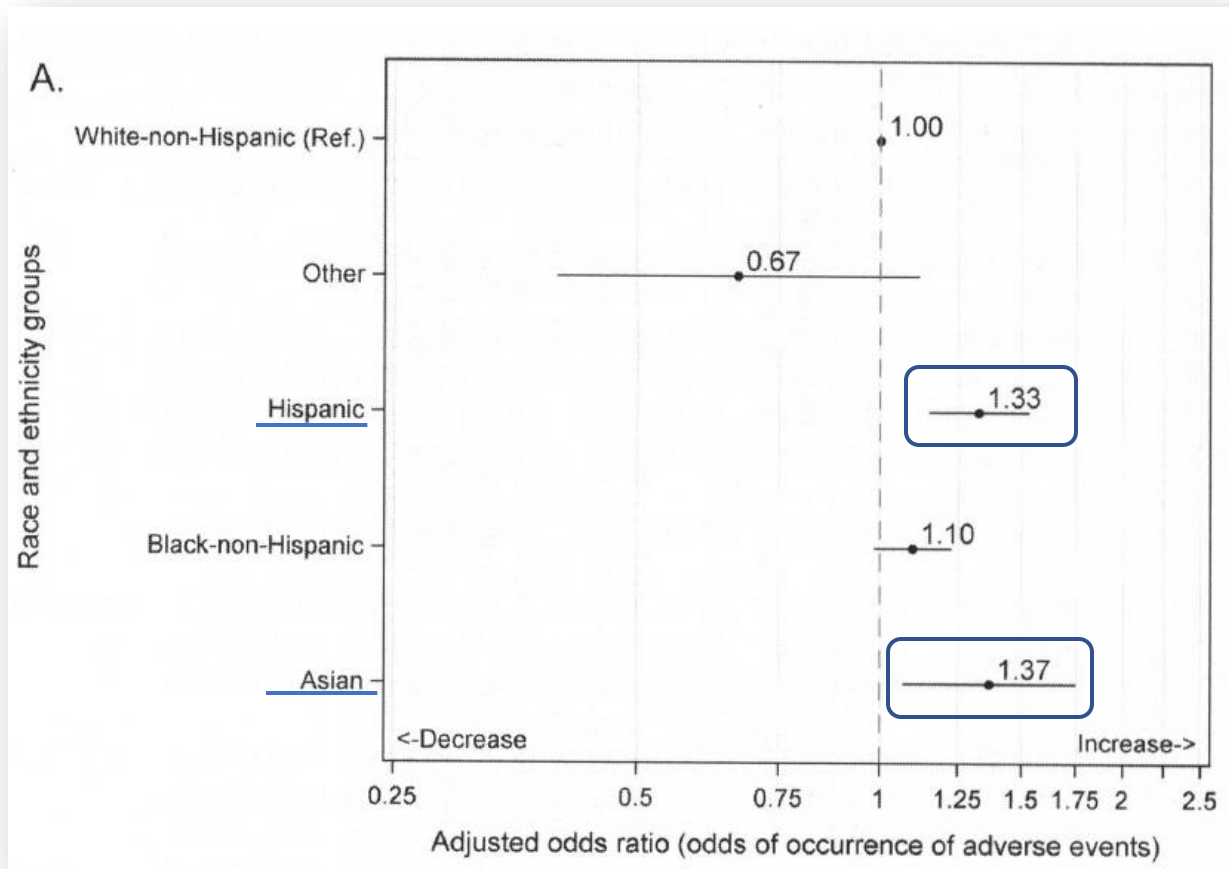
Disparities in HAI

Racial and Ethnic Disparities in Healthcare-Associated Infections in the United States, 2009–2011

Anila Bakullari, BS;[1] Mark L. Metersky, MD;[1,2] Yun Wang, PhD;[3] Noel Eldridge, MS;[4] Sheila Eckenrode, RN;[1] Michelle M. Pandolfi, MSW, MBA;[1] Lisa Jaser, PharmD;[1,5] Deron Galusha, MS;[1,6] Ernest Moy, MD, MPH[4]
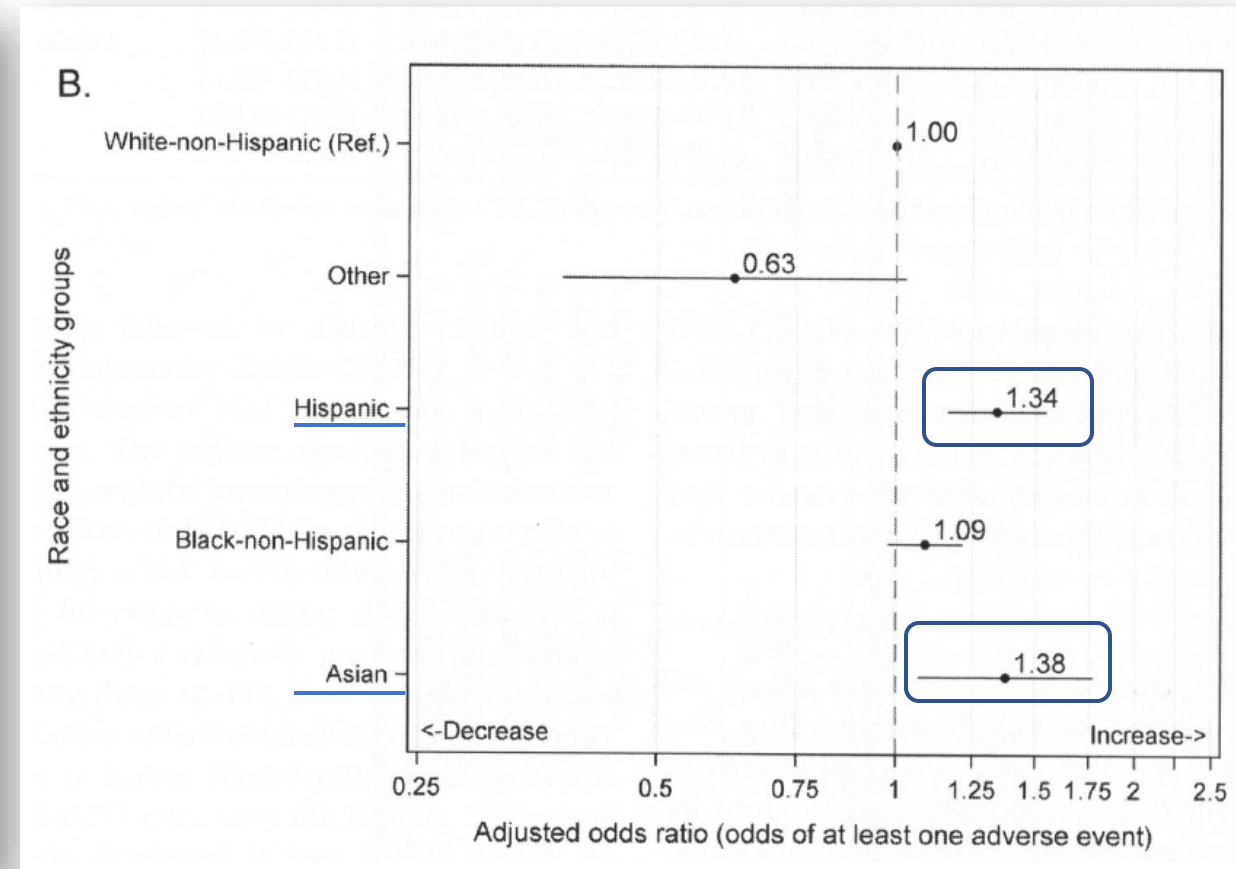
- **Objective:** To determine whether racial/ethnic disparities exist in the rate of occurrence of HAIs captured in the Medicare Patient Safety Monitoring System (MPSMS)

- **Methods:** Chart abstraction from randomly selected discharges of adult patients.

- **Outcomes:**
  - Rate of 6 HAI measures (*C.difficile*, CLABSIs, Post-op pneumonia, CAUTI, HA-MRSA and VAP);
  - Rate of occurrence of patient with >1 HAI

Bakullari A, Metersky ML, Wang Y, Eldridge N, Eckenrode S, Pandolfi MM, Jaser L, Galusha D, Moy E. Racial and ethnic disparities in healthcare-associated infections in the United States, 2009-2011. Infect Control Hosp Epidemiol. 2014 Oct;35 Suppl 3:S10-6. doi: 10.1086/677827. PMID: 25222888.

Ethnic/Racial disparities and HAI

Adjusted odds ratio of occurrence of HAI

Adjust odds ratio of at least 1 HAI

Bakullari A, Metersky ML, Wang Y, Eldridge N, Eckenrode S, Pandolfi MM, Jaser L, Galusha D, Moy E. Racial and ethnic disparities in healthcare-associated infections in the United States, 2009-2011. Infect Control Hosp Epidemiol. 2014 Oct;35 Suppl 3:S10-6. doi: 10.1086/677827. PMID: 25222888.

Vital Signs: Health Disparities in Hemodialysis-Associated *Staphylococcus aureus* Bloodstream Infections — United States, 2017–2020

Brian Rha, MD[1]; Isaac See, MD[1]; Lindsay Dunham, MPH, MSDA[1]; Preeta K. Kutty, MD[1]; Lauren Moccia, MA[1]; Ibironke W. Apata, MD[1,2]; Jennifer Ahern, PhD[3]; Shelley Jung, PhD[3]; Rongxia Li, PhD[1]; Joelle Nadle, MPH[4]; Susan Petit, MPH[5]; Susan M. Ray, MD[6]; Lee H. Harrison, MD[7,8]; Carmen Bernu, MPH[9]; Ruth Lynfield, MD[9]; Ghinwa Dumyati, MD[10]; Marissa Tracy, MPH[10]; William Schaffner, MD[11]; D. Cal Ham, MD[1]; Shelley S. Magill, MD, PhD[1]; Erin N. O'Leary, MPH[1]; Jeneita Bell, MD[1]; Arjun Srinivasan, MD[1]; L. Clifford McDonald, MD[1]; Jonathan R. Edwards, MStat[1]; Shannon Novosad, MD[1]

- **Objective:** To understand disparities in the risk for *S. aureus* bloodstream infections in hemodialysis patients.

- **Methods:** Surveillance data from National Healthcare Safety Network (NHSN) and Emerging Infections Program (EIP) were used to describe bloodstream infections and linked to population-based data sources.

- **Outcomes**: Relationship of *S. aureus* bloodstream infections and disparities

Disparities in hemodialysis-associated *S.aureus* bloodstream infection

FIGURE 2. *Staphylococcus aureus* bloodstream infection rates* per 100,000 hemodialysis person-years, by race and ethnicity† — Emerging Infections Program, United States, 2017–2020
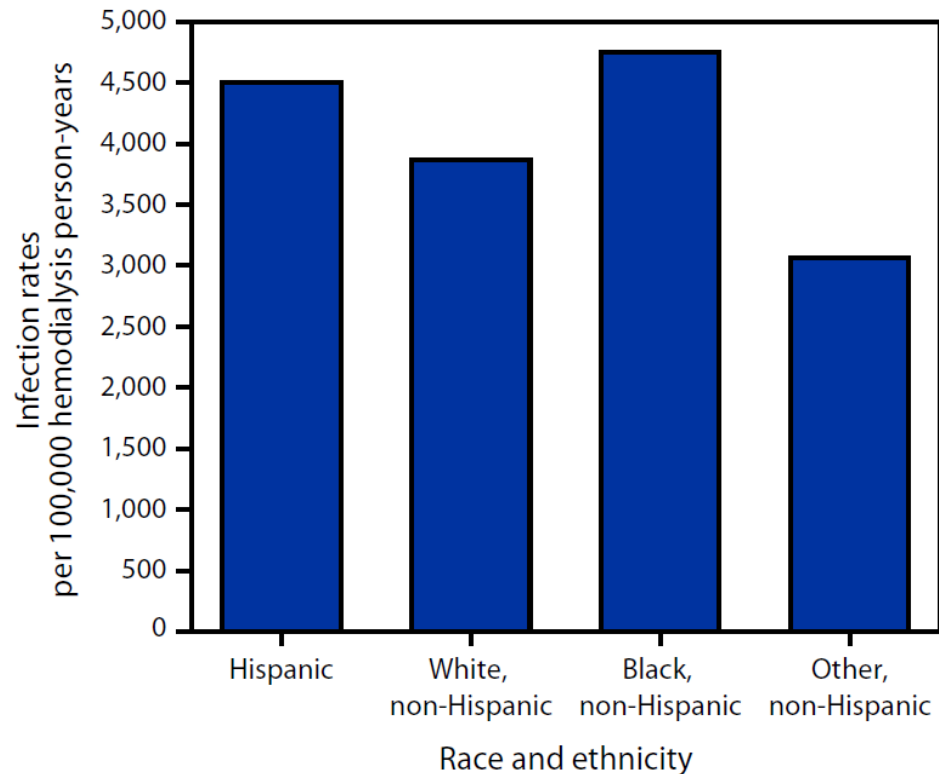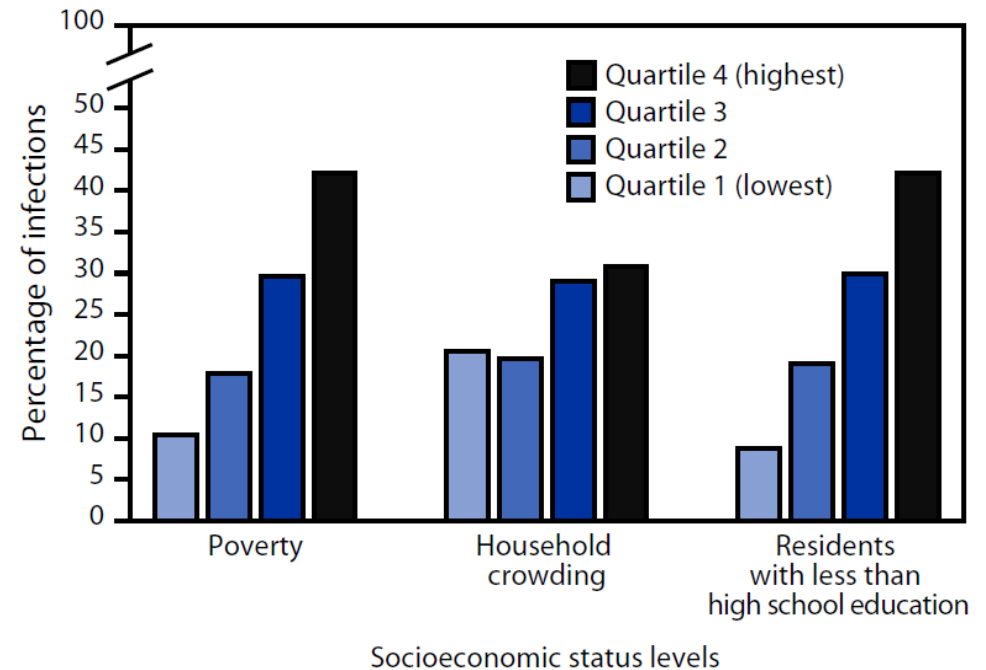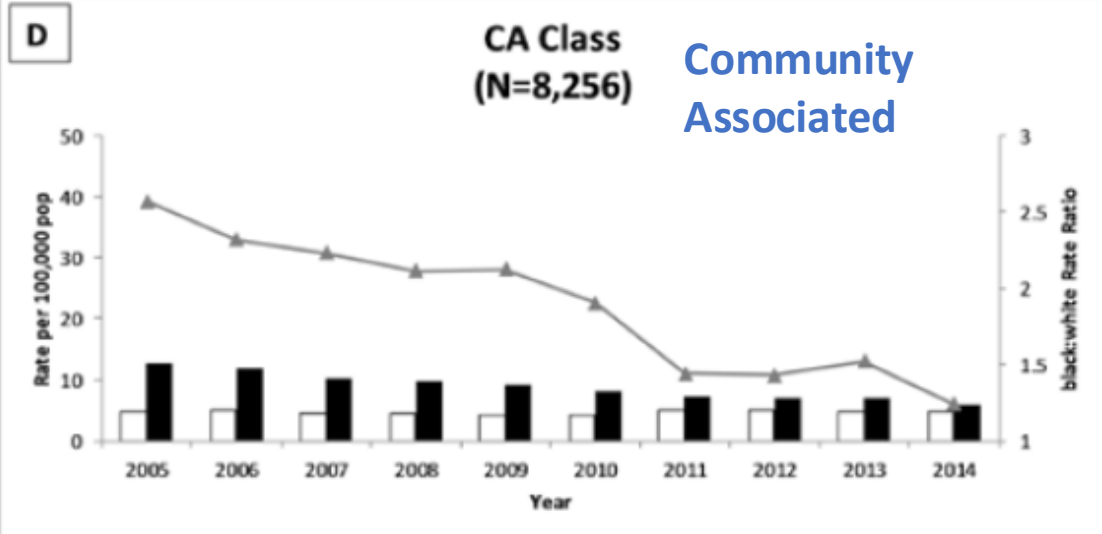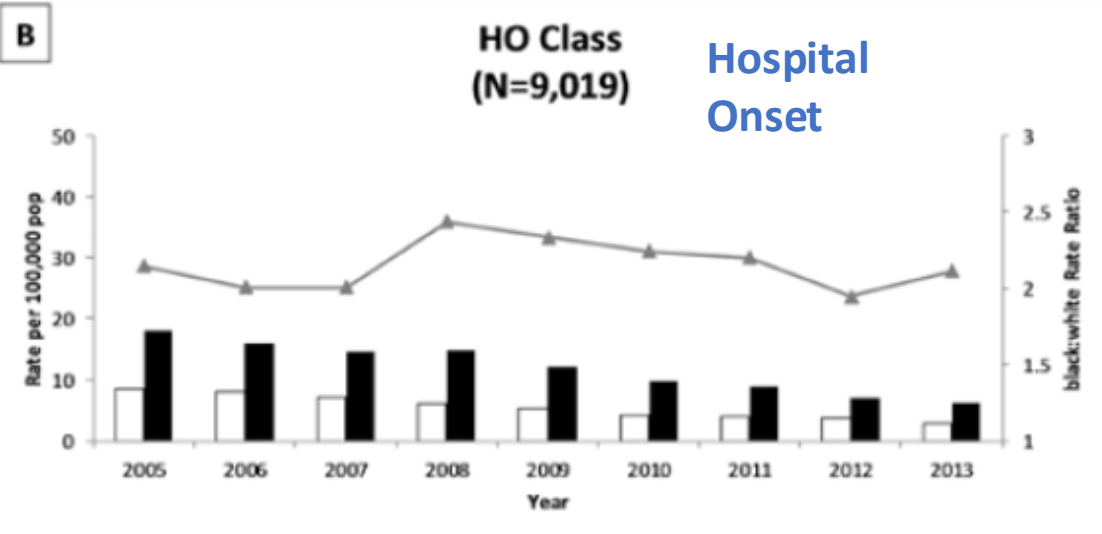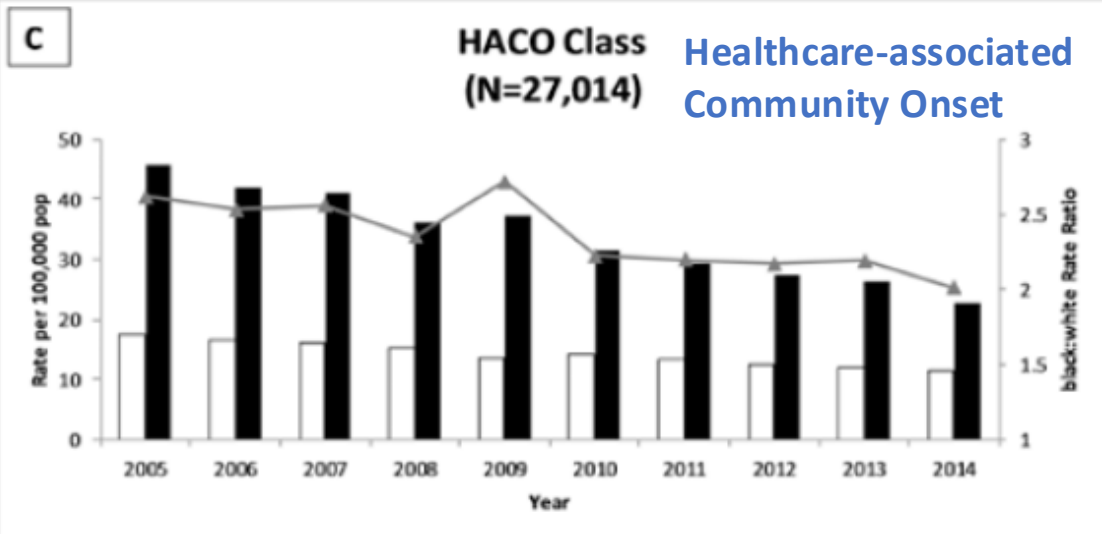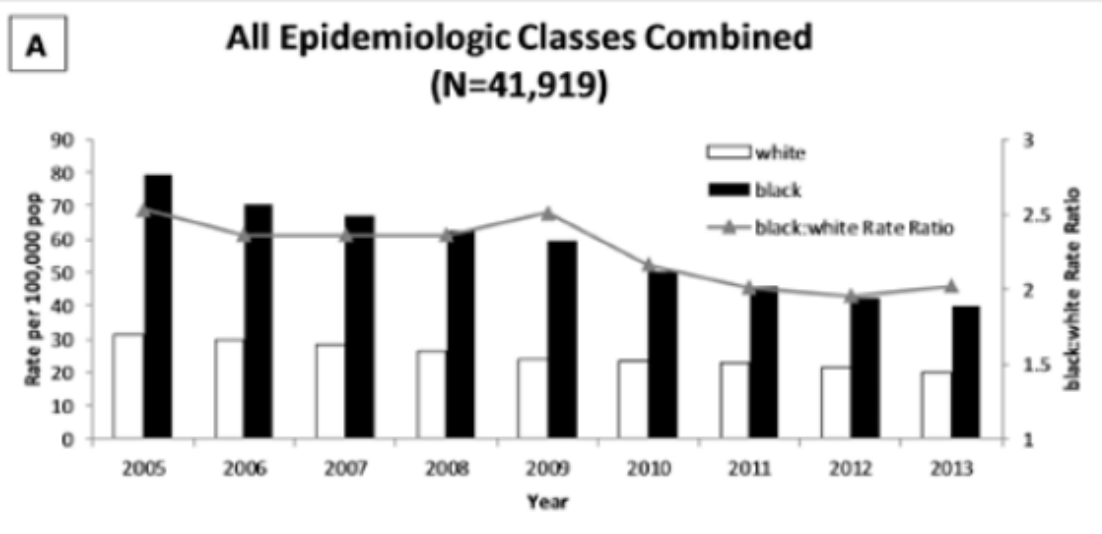
FIGURE 1. Percentage distribution of *Staphylococcus aureus* hemodialysis bloodstream infections among adult hemodialysis patients, by socioeconomic status levels of U.S. Census Bureau tracts of residence — Emerging Infections Program, United States, 2017–2020

**Racial Disparities in Invasive Methicillin-resistant *Staphylococcus aureus* Infections, 2005–2014**

Nicole Gualandi[1], Yi Mu[1], Wendy M. Bamberg[2], Ghinwa Dumyati[3], Lee H. Harrison[4], Lindsey Lesher[5], Joelle Nadle[6], Sue Petit[7], Susan M. Ray[8], William Schaffner[9], John Townes[10], Mariana McDonald[11], and Isaac See[1]

- **Objective**: To determine whether reductions in invasive MRSA incidence affected racial disparities in rates.

- **Methods**: Chart abstraction from EIP database.

- **Outcomes**: Hospital-onset, Healthcare-associated community onset, Community-associated

A — All Epidemiologic Classes Combined (N=41,919)

B — HO Class (N=9,019) · Hospital Onset

C — HACO Class (N=27,014) · Healthcare-associated Community Onset

D — CA Class (N=8,256) · Community Associated

Clostridium difficile infection health disparities by race among hospitalized adults in the United States, 2001 to 2010

Jacqueline R. Argamany[1,2], Andrew Delgado[1,2] and Kelly R. Reveles[1,2*]
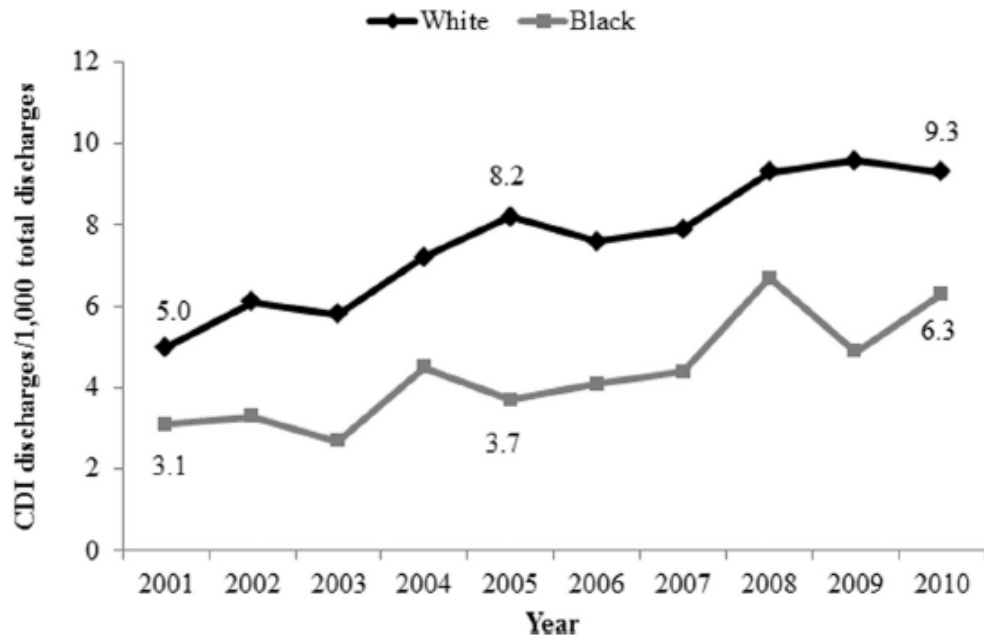
Outcome	Overall	White	Black	P-value
CDI incidence	7.3	7.7 ↑	4.9 ↓	<0.0001
Mortality, %	7.3	7.2 ↓	7.4 ↑	<0.0001
Any Severe CDI, (%)	20	19 ↓	24 ↑	<0.0001
Sepsis	13	12 ↓	16 ↑	
Renal Failure	16	15 ↓	21 ↑	

Argamany JR, Delgado A, Reveles KR. Clostridium difficile infection health disparities by race among hospitalized adults in the United States, 2001 to 2010. BMC Infect Dis. 2016 Aug 27;16(1):454. doi: 10.1186/s12879-016-1788-4. PMID: 27568176; PMCID: PMC5002147.

Racial disparities in *Clostridioides difficile* testing in three southeastern US hospitals

Bobby G. Warren MPS[1,2], Christopher D. Burch MPH[3], Aaron Barrett BS[1,2], Amanda Graves MPH[1,2],
Erin Gettler MD[1,2], Nicholas A. Turner MD, MHSc[1,2], Rebekah W. Moehring MD, MPH[1,2] and
Deverick J. Anderson MD, MPH[1,2]

- **Objective:** To determine the number of *C. difficile* tests/1000 patient days in 3 hospitals and stratify by race.

Markham Stouffville Hospital

Identifying and Mitigating Disparities in Central Line–Associated Bloodstream Infections in Minoritized Racial, Ethnic, and Language Groups

Caitlin L. McGrath, MD; Brendan Bettinger, PhD; Megan Stimpson, DNP, RN; Shaquita L. Bell, MD; Tumaini R. Coker, MD, MBA; Matthew P. Kronman, MD, MSCE; Danielle M. Zerr, MD, MPH

- **Objective:** To determine disparities in first CLABSI rates for paediatric patients of minoritized racial, ethnic and language groups and to evaluate the outcomes associated with equity initiatives.

- **Methods**:
  - 8260 inpatients with central catheters Oct 1 2012-Sep 30 2019
  - CLABSI rates based on race and ethnicity and language
  - Instituted interventions designed to improve equity in CLABSI in summer 2019
  - Evaluated for reduced CLABSI rates to September 2022

Interventions to improve equity

- Concurrent hospital-wide equity work (including increase in interpreter services)
- Transparency
  - discussed drivers of disparities on clinical units
  - added race, ethnicity and language to stratify catheter maintenance bundle compliance and CLABSI rates on hospital quality dashboards
- Patient/family feedback
- Addition of equity focus to CLABSI event reviews

Figure 1. Run Chart of Central Line–Associated Bloodstream Infection (CLABSI) Rates, 2012-2022, Stratified by Subgroups Experiencing the Highest Rates
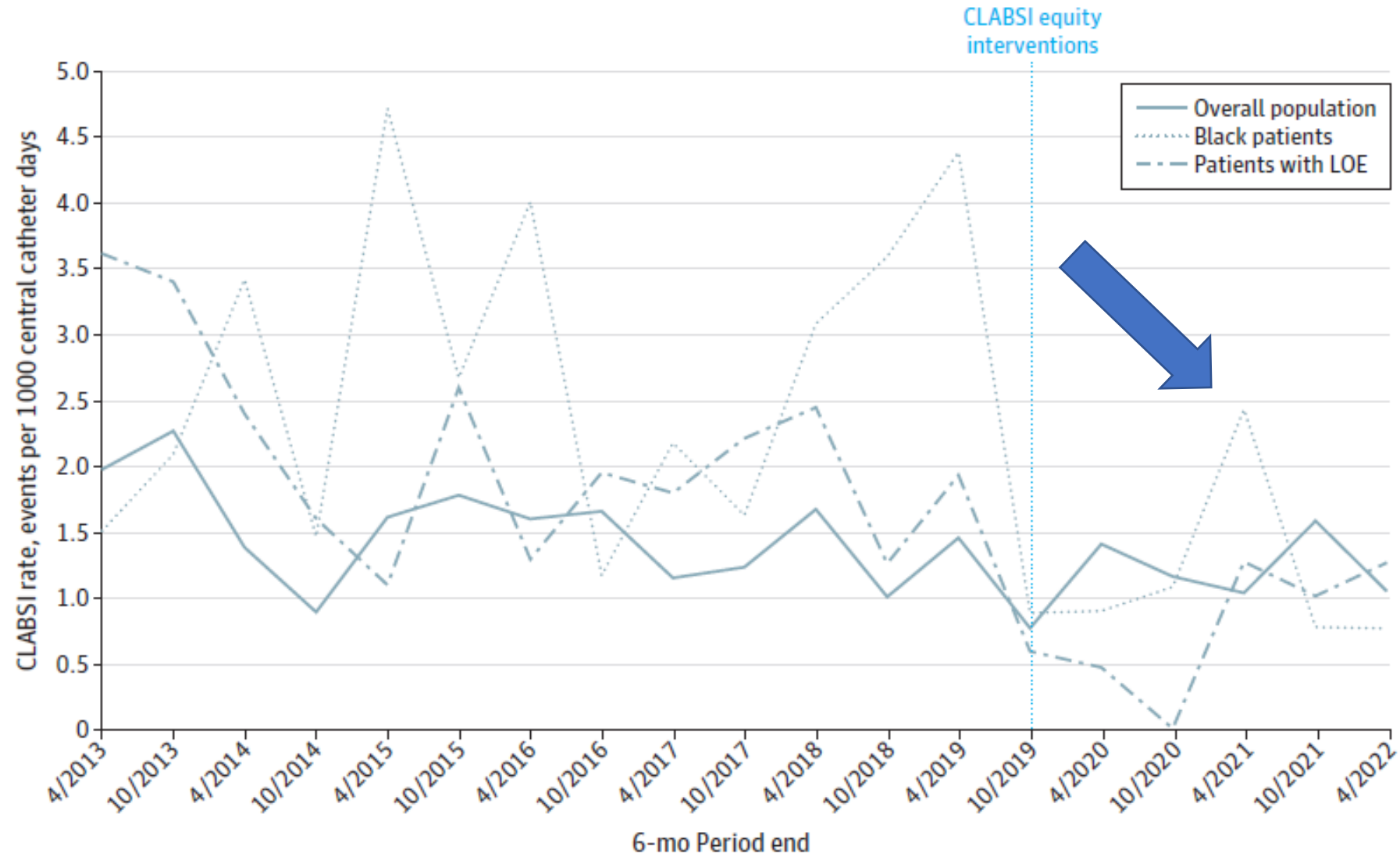
Data to policy

Association Between Nursing Home Crowding and COVID-19 Infection and Mortality in Ontario, Canada

Kevin A. Brown, PhD; Aaron Jones, MSc; Nick Daneman, MD, MSc; Adrienne K. Chan, MD, MPH; Kevin L. Schwartz, MD, MSc; Gary E. Garber, MD; Andrew P. Costa, PhD; Nathan M. Stall, MD

Figure 3. Association Between Nursing Home Crowding Index and the Incidence of COVID-19 Cases and Deaths in Ontario, Canada
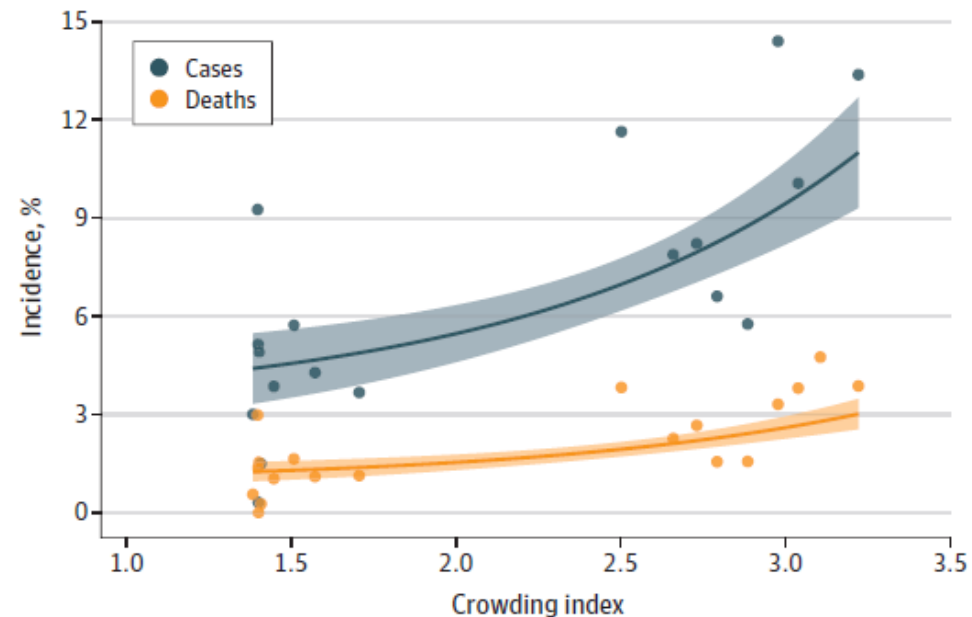
Data:

Converting 4-bed → 2-bed occupancy would have averted 19% of cases and 18% of deaths.

Policy:

Ontario directive prohibits placing a resident with more than one other roommate in a long term care home.

SHEA

Original Article

An ethical framework adapted for infection prevention and control

Charlie Tan MD[1,2] (iD), Marianna Ofner PhD[1,3], Heather L. Candon MSc, MHM[1], Kevin Ree
Adrienne K. Chan MD, MPH[1,2,3] and Jerome A. Leis MD, MSc[1,2,3] (iD)

[1]Infection Prevention and Control, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada, [2]Division of Infec
University of Toronto, Toronto, Ontario, Canada, [3]Dalla Lana School of Public Health, University of Toronto, Toront
Bioethics, University of Toronto, Toronto, Ontario, Canada and [5]Department of Occupational Science and Occupati
Canada
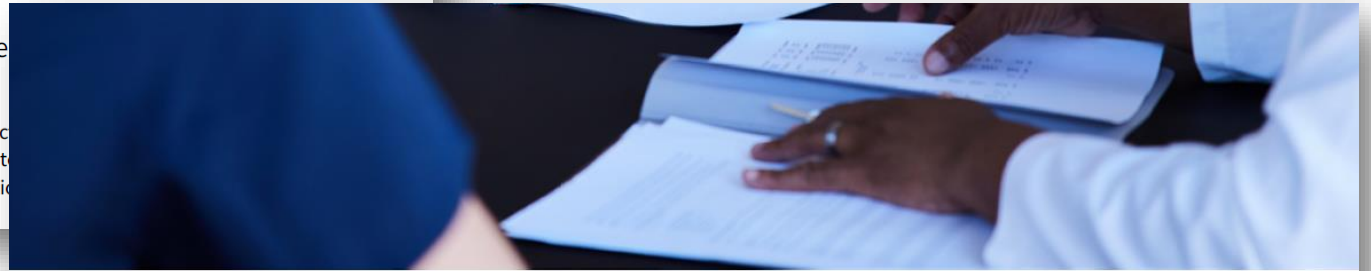
Ethical Infection Prevention and Control (EIPAC) Decision-Making Framework

A partnership between The Association for Professionals in Infection Control and Epidemiology (APIC) and Infection Prevention and Control (IPC)—Canada

APIC Association for Professionals in Infection Control and Epidemiology

ipac Infection Prevention and Control Canada

pci Prévention et contrôle des infections Canada

Situations in infection prevention and control when an ethical framework is indicated:

- No established standard or policy exists, or deviation from established standard or policy is being considered
- Decisions with substantial impacts on involved parties
- Decisions that compromise ≥1 relevant ethical principles
- Involving complexity best documented in structured format
- Decision will be revisited in light of new information

Visitor Policies
Use of private and multi-bedded rooms
Cohorting protocols
Outbreak management
Gatherings
IPAC lapses
Patient disclosures
Stewardship (PPE, Vaccines)

Markham Stouffville Hospital

Process conditions

Compliance

Empowerment

1. Identify the information
- Existing policies and standards
- Best available evidence
- Viewpoints and priorities of involved parties and institutions

4. Act
- Identify the best option
- Create a plan for implementation
- Evaluate impacts and alignment with ethical principles
- Create opportunities to revisit and revise the decision based on new information

Ethical Infection Prevention and Control (EIPAC) Framework

2. Determine the relevant ethical principles
- Review the ethical principles and identify the ones most pertinent to the ethical problem

3. Explore the options
- Brainstorm options to address the ethical problem
- Consider alignment with ethical principles, policies and standards, existing evidence
- Consider impacts on stakeholders through equity lens

Revisions and appeals

Relevance

Publicity

Visitor Policy Case Study

- 329-bed acute care facility with regional birthing program
- Neonatal Intensive Care Unit has an unrestricted visitor policy (outside of symptomatic visitors) by the summer of 2022
- In light of the significant early increase in respiratory activity in the fall of 2022, the staff and some families have requested to have restricted visitation
- IPAC has been consulted for guidance

Step 1: Identify the Information

- Existing policies and standards
- Best available evidence
- Viewpoints and priorities of involved parties

What is the IPC evidence?

- Symptom screening in NICU is an important measure to reduce transmission
- No good evidence on best approach to visitor screening in general or based on age
- In general, children under <5 are more likely to be transmission sources

What are the relevant infection prevention and control indications?

- Best practice is to screen for symptoms and educate visitors
- Practically difficult to educate, enforce and screen children < age 5

What are the patient/resident/staff/visitor/family preferences?

- Families and staff prefer symptom-based screening
- Shared understanding of harm from respiratory viruses and also critical role of family members and visitors
- Shared concern around visitors age <5 as high risk

What is the presenting ethical issue?

Restriction to visitation in the NICU during periods of high viral transmission.

Value/principle	Relevance/application in this situation
IPC ethical values: *Trust, Fairness (equity and justice)* **IPC ethical principles:** *Demonstrating respect, Promoting well-being, Minimizing harm, Working together* • Fairness (equity and justice) • Demonstrating respect • Promoting well-being • Minimizing harm	• Needs and concerns of families with children < age 5, e.g, childcare • Vulnerability of neonates • Acknowledging family role in care • Responsibility to minimize risk of transmission • Visitor restrictions are in Proportion to risk of neonatal viral infection • Will there be families disproportionately affected based on disparities?

Step 2: **Determine** the ethical values and principles
• Who is affected?
• Have the ethical values/principles been considered from all viewpoints?
• Do all decision makers agree on what is most important?
• What are the most pertinent ethical principles?

The Health Equity Impact Assessment: A Case Study in COVID-19 Visitor Policy

Aleksandra E. Olszewski,[a] Alicia Adiele,[b] Arika Patneaude,[c] Danielle M. Zerr,[d] Jennifer C. Kett[c]

TABLE 1 Applying an Equity Framework to the COVID-19 Visitor Restriction Policy

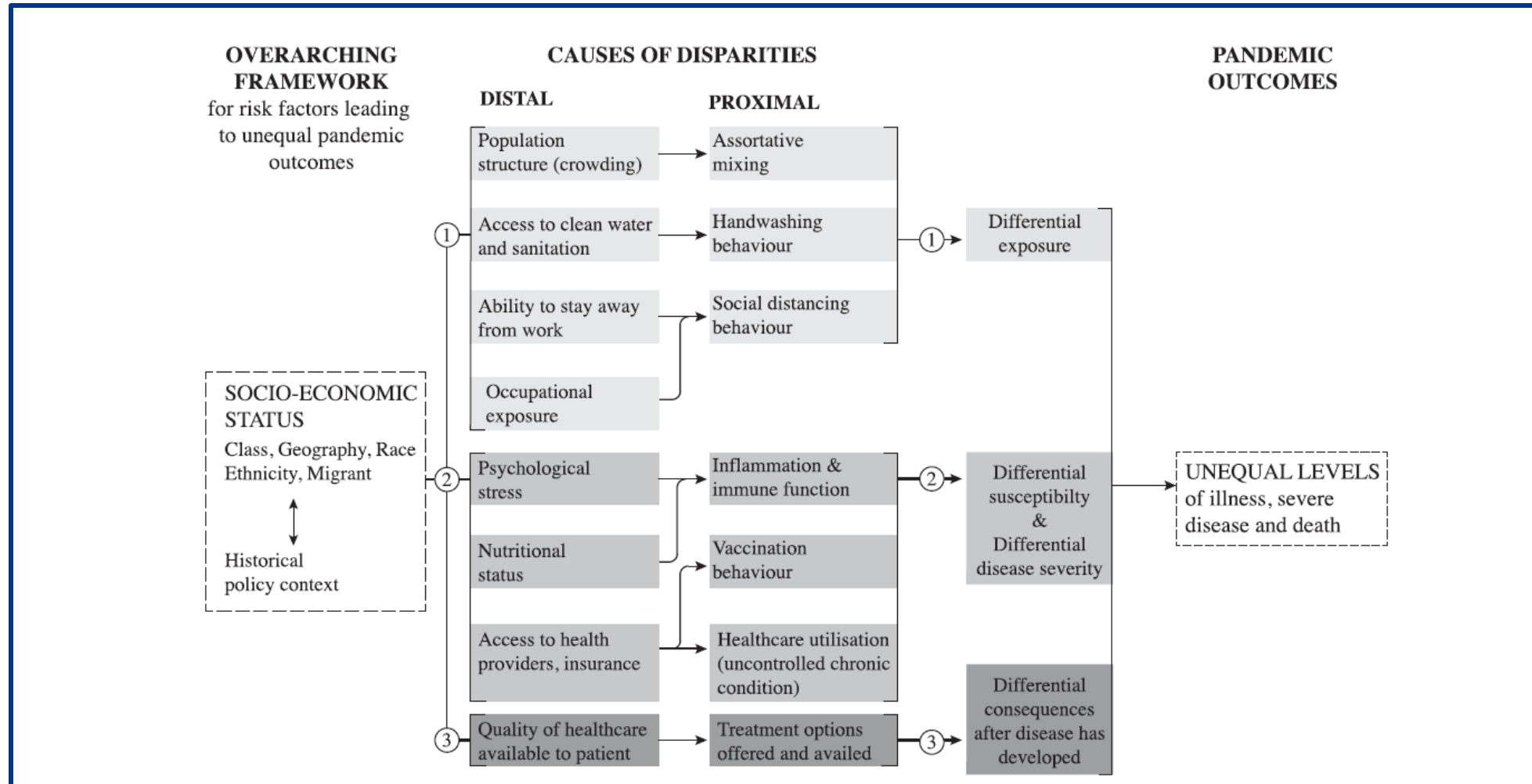| EIA Step	Questions to Consider	Applied Example
Identify and engage diverse multidisciplinary stakeholders	How will you identify the groups that will be impacted by this proposal?	A diverse multidisciplinary committee will be established; members will include front-line staff, leaders, and a family representative. The committee members will elicit ongoing feedback from families and staff regarding the impact of the COVID-19 visitor restriction policy.
Identify and document inequities	Which groups are currently most advantaged and most disadvantaged by the issues this proposal seeks to address?	Groups most disadvantaged by the visitor restriction policy include those who are impacted by systemic racism or other biases, families with fewer financial or other resources, families who speak a language other than English for care, single-caregiver families, and working families with inflexible jobs.
	How are they affected differently?	Families may be less able to easily access exceptions to the visitor restriction policy. They may be less able to adjust to the stressors of the policy. For example, they may be unable to access child care for their other children to attend an ambulatory appointment.

Step 3: **Explore** the options.
- What can be done and how will each option affect patients, families, staff?
- Alignment with ethical values, principles and evidence
- Equity impact assessment

	Option 1	Option 2	Option 3
	Open visitation, no restrictions	Restrict children age < 5 No exceptions	Restrict children Age < 5 with specific exceptions case by case (with added IPAC risk reduction measures)
	☐ Consistent with IPC ethical values and principles identified ☐ Consistent with IPC standards	☐ Consistent with IPC ethical values and principles identified ☐ Consistent with IPC standards	☐ Consistent with IPC ethical values and principles identified ☐ Consistent with IPC standards
	Weighing pros and cons	*Weighing pros and cons*	*Weighing pros and cons*
	Equality to all visitors Risk to neonates, esp from visitors age < 5	Risk reduction in NICU Burden on families Disproportionate effect	Equity Justice (i.e. childcare provision) Resource intensive

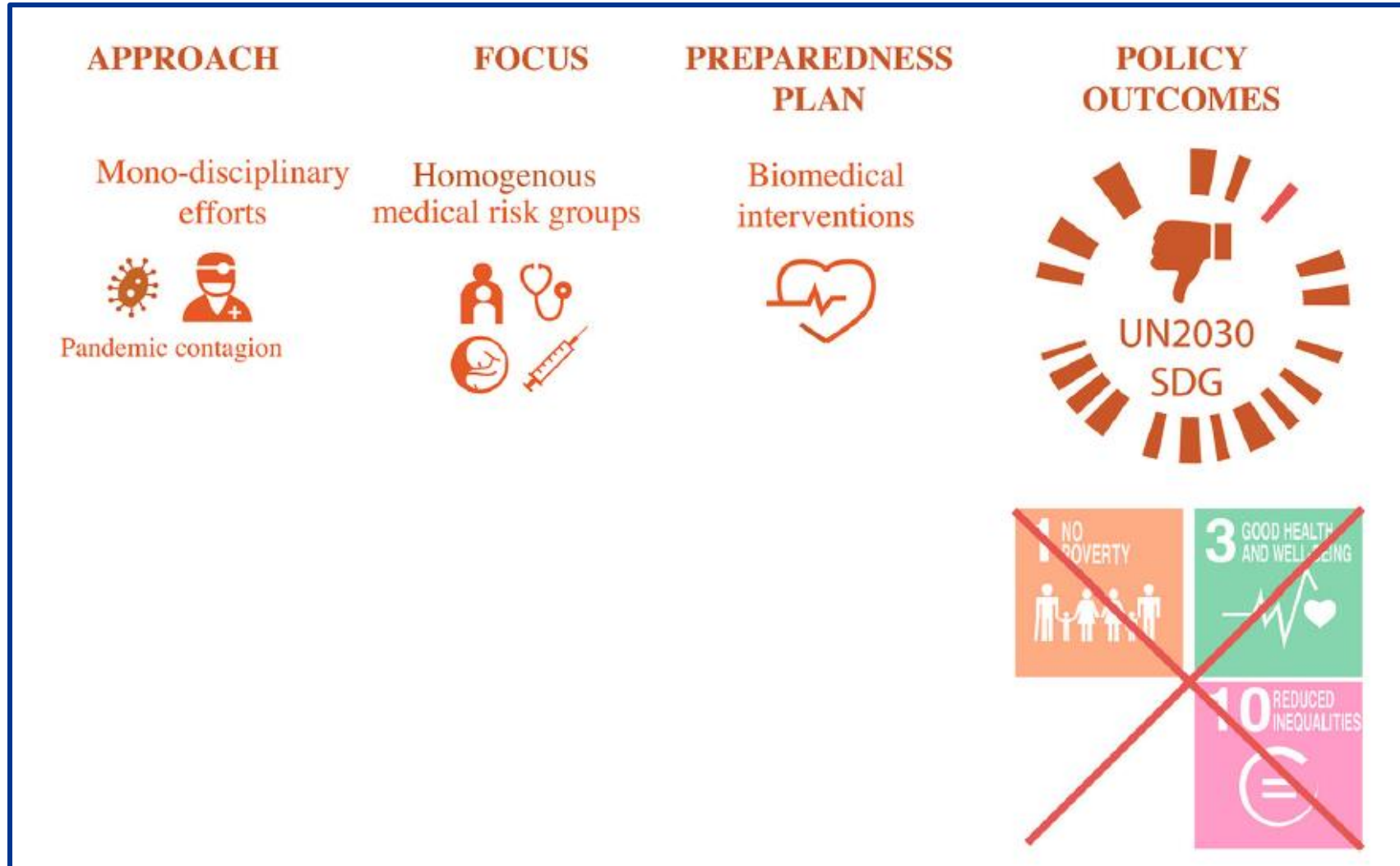**What is the most ethically justifiable option?**

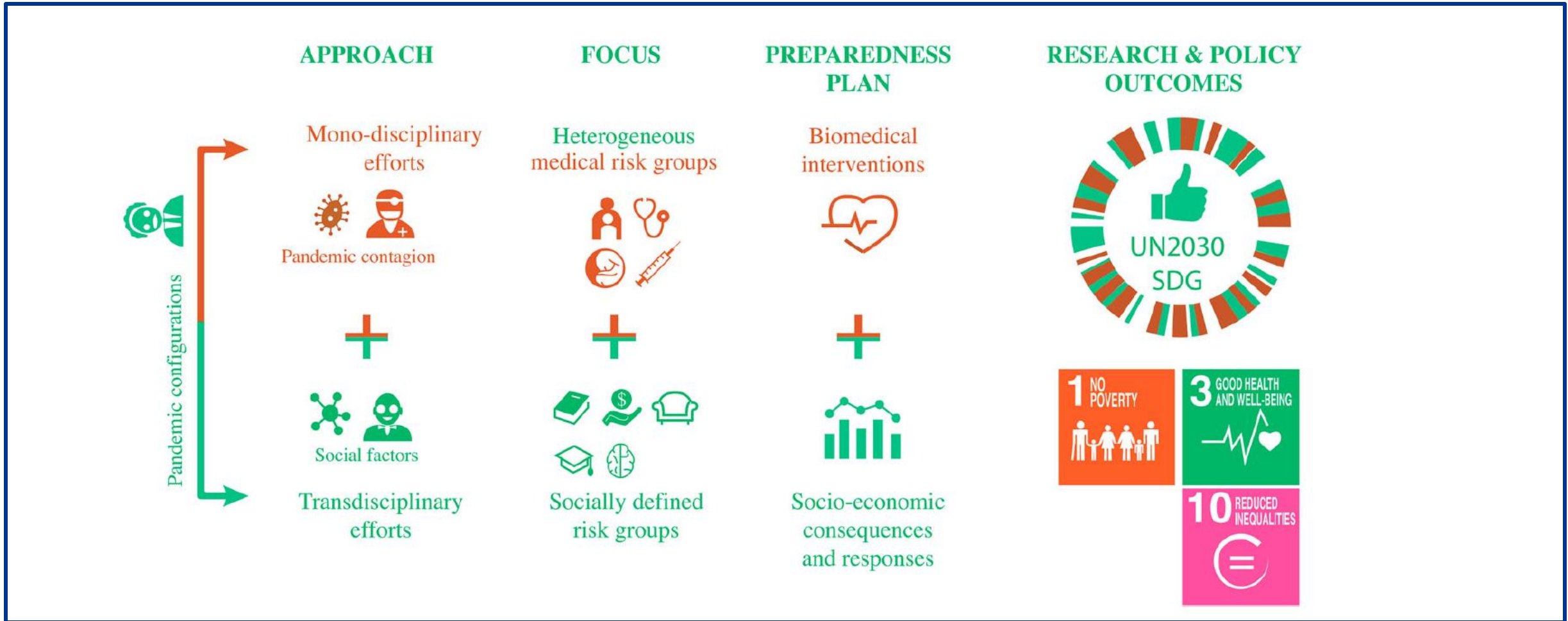# Framework for risk factors leading to unequal pandemic outcomes

Ref: https://doi.org/10.1080/00324728.2021.1959630

Current state of pandemic preparedness

APPROACH	FOCUS	PREPAREDNESS PLAN	POLICY OUTCOMES
Mono-disciplinary efforts	Homogenous medical risk groups	Biomedical interventions	UN2030 SDG
Pandemic contagion			

Ref: https://doi.org/10.1080/00324728.2021.1959630

Trans-disciplinary pandemic preparedness for the twenty-first century

Paradigm shift in global health governance

"IF YOU ARE NOT COUNTED YOU CANNOT COUNT ON THE PANDEMIC RESPONSE"

SPECIFIC REACTIONAL UNIVERSAL PARADIGM → SYSTEMIC, COORDINATED PREVENTIVE TAILORED PARADIGM

Markham Stouffville Hospital

Race and ethnicity data collection during covid-19 in canada: if you are not counted you cannot count on the pandemic response Kwame McKenzie, CEO, Wellesley Institute | November 12, 2020

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