History of Pandemics: Black Community Response as a Strategy for Overcoming Barriers to Health and Effective Community Engagement

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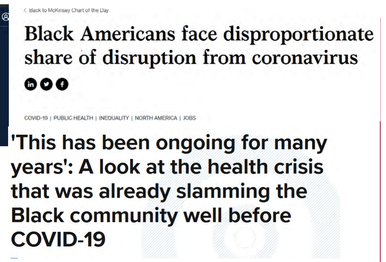

Abstract

The coronavirus pandemic has highlighted the inequities in Black communities and magnified existing disparities in health care access and treatment. By examining the role of Black communities during the 1918 influenza and 2019 COVID pandemic, we understand the resilience and leadership these communities had in promoting black health. Shifting from the context of the pandemic to strategies of community engagement, this paper frames a discussion of Black community response as a strategy for overcoming barriers to health and offers a blueprint for approaching effective community engagement in Black community health post the COVID-19 crisis. Highlighted throughout are the Bioethics principles, non-maleficence, social justice, and solidarity.

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Black nurses played a major role in the caring for the Black community's stricken, despite facing discrimination.

A cartoon that depicts beliefs that African-Americans were responsible for the spread of disease.

Street cleaners during the 1918 Pandemic in Chicago.

The 1918 Pandemic, also known as "America's Forgotten Pandemic," is often ignored in history due to the overshadowing of World War I. Minimal coverage of the 1918 Pandemic left a detrimental effect on the African American community. Misinformation about the influenza virus, racial barriers, and limited access to medical care caused many African Americans to not recover from the pandemic. The little information on how the 1918 Pandemic impacted the Black community created a setback for public health and a missed opportunity to intervene in health equity.

The COVID-19 pandemic has taken the blindfolds off long affecting systemic issues that caused many disparities within the black community. Using community engagement to overcome barriers to health post the COVID-19 pandemic requires coupling efforts to improve interpersonal relationships with broader efforts to change health care institutions. Examining the historical wounds that created disparities in vulnerable communities, recognizing the strength and resilience within those communities, empowering them to participate in healthcare promotion, and producing resolutions alongside those who traditionally hold power. These strategies can help develop a restorative justice framework to acknowledge and correct infrastructures contributing to health disparities within the black community.

COVID-19 Pandemic Oral History

In order to gain a better insight into understanding how Black community organizations have tried to combat particular levels of inequities in health during the COVID-19 Pandemic. Five Oral history interviews were conducted with members and leaders of black community based organizations in Philadelphia and one predominantly Black Philadelphia suburb, to make sure after the pandemic Black voices are not forgotten.

"We try to be very present in the communities that we serve so the community can let us know how to better serve".- Royal Sisters Project

"The pandemic showed us that we can work together and create change and people are more than willing to do that."- Ashley Crum, member of First Baptist Church of Crestmont

"It is everyone's job inside and outside of the community to keep talking about it and keep writing about it."- Dr. Cornelius Pitts, COVID-19 Vaccination Project Director

"The pandemic has taught us that there are important challenges in our system affecting black people that cannot continue to go unaddressed. We have proven that we have the capability to come together during a crisis, but it just can't stop there. We must continue to talk about injustices in our systems so when a pandemic happens again all communities are equipped to fight the virus. But in the meantime, Alpha Kappa Alpha will continue to serve." –Christina Napper, Member of Alpha Kappa Alpha Sorority

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Exploration of Factors Affecting Representation of Minorities in Dermatology

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Introduction

The first discovery of skin disorders is documented in early Hippocratic writing and Egyptian papyrus which included hand hygiene and wound management.

In the 18th and 19th centuries, dermatology became a specific specialty in medical school curriculums with the use of dermoscopy, phototherapy, cryosurgery etc.

In the current 20th and 21st centuries, the field has further evolved with aesthetic procedures and telemedicine.

However, dermatology is the second least diverse medical specialty, after orthopedics.

The Association of American Medical Colleges has defined underrepresented in medicine (UIM) as students of ethnic and racial populations that are underrepresented in the medical profession compared to the numbers within the general population.

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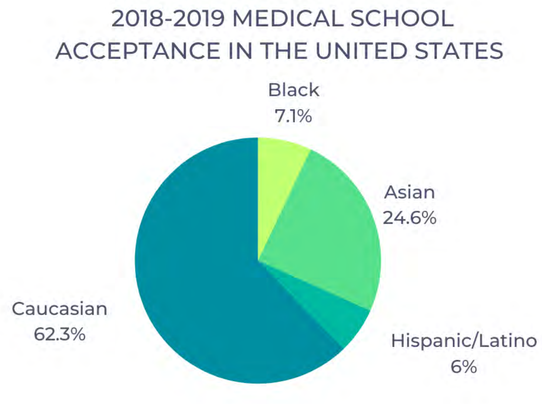

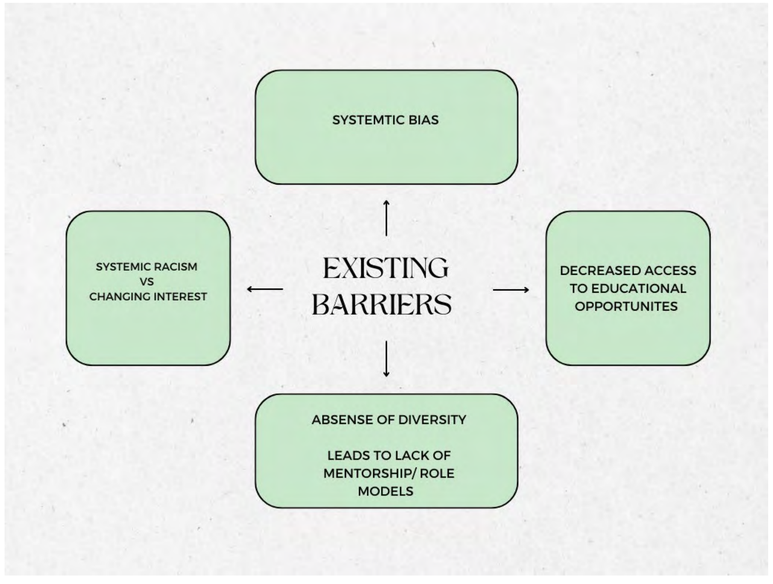

Impact of Population Health

Inequality in treatment

- Delayed diagnosis in the skin of color patients
- 5-year melanoma survival rate for Black patients is 74.1% compared to 92.9% for White patients
- Black segregated patients have a higher diagnosis of pediatric atopic dermatitis

The Skin of Color Clinic

- Black adult patients feel greater respect, trustworthiness, and understanding regarding black skin and hair with Skin of Color Dermatologists

Future of Dermatology

- Diversity tracks reserve spots within their dermatology residency class for UIM students
- Holistic residency application and selection process
- Skin of Color Society
- Community outreach

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ETHICS OF GLOBAL SURGICAL CARE: A FOUR-PART MODEL TO ENHANCE GLOBAL OTOLARYNGOLOGY AND HEAD & NECK SURGERY CARE

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Introduction

Global surgery describes the systematic way to reduce health disparities and realize accessibility and sustainability in surgical care. Nearly five billion individuals lack access to adequate and necessary surgical and peri-surgical care.

Distinct from the rest of global health, global surgery requires multiple layers of infrastructure and safety measures involved in the peri-surgical process including pre-operative evaluation, anesthesia, operating room equipment and staff, and post-surgical support. Given the intense structural requirements of performing surgery globally, a focus has shifted from providing direct care to promoting sustainability and partnership with surgeons around the globe.

The Lancet Commission on Global Surgery, which in 2015 convened experts and produced the Global Surgery 2030 report to define the scope of the global surgical deficit, inaugurated a contemporary movement to recognize global surgery and define its place in global health and international development.

I define my focus in global surgery on one surgical subspecialty called otolaryngology and head & neck surgery (OHNS), also known as ear, nose, and throat (ENT) surgery. Among the many surgical fields, OHNS addresses conditions affecting the head and neck space excluding the brain and eyes.

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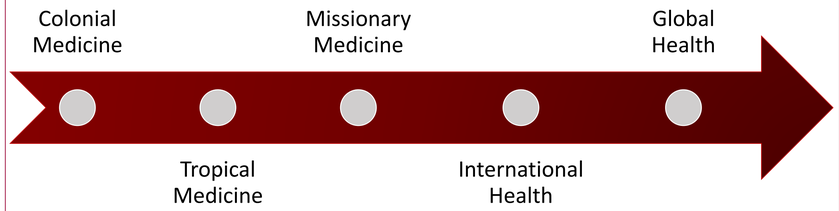
Current State of Global Surgery

The contemporary model of global surgery is that of short-term surgical trips, which have origins in European and North American colonialism.

This describes a group of surgeons and peri-surgical practitioners from HICs traveling to LMICs for several weeks and performing surgeries on patients. Other words used to describe this activity is a 'short-term medical or surgical mission trip.'

Progression to Contemporary Structure of Global Health in 19th and 20th Centuries



The current state of global surgery in the surgical subspecialty of otolaryngology and head & neck surgery (OHNS) care fails to meet an adequate ethical threshold based on traditional bioethical principles.

The traditional bioethical principles of beneficence, non-maleficence, autonomy, and justice are insufficient for the global ethical framework as they focus intimately on the delivery of direct patient care.

There is a shift within global surgical care from a "mission" and short-term service trip model to one that promotes capacity-building and sustainable solutions to address global surgical disparities. Driven by a few factors including global health ethics, the transformation focuses on quality of care provided.

Global Surgery Ethical Framework

Developed by consolidating the literature surrounding global surgical care, this work presents an ethical framework composed of four primary domains.

These four ethical domains to guide global OHNS work were derived by analyzing and consolidating the literature evaluating global surgical and specifically global OHNS programs. This proposed framework aims to guide the development of high quality, sustainable, and long-term impactful global surgical programs in the effort to reduce global surgical disparities.

Future work needs to consider the importance of building a dialogue that explores and discovers shared values, an effort that seeks common moral grounding for interactions with patients, among teams, and within the broader community of stakeholders impacted by global surgery.

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Addressing the Social Determinants of Health: Ways We Can Fulfill Our Ethical Obligation to Pursue Health Equity

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Introduction

- The social determinants of health refers to the mental, physical and socioeconomical conditions in which a person is born, lives, and grows
- It is now being considered that addressing the social determinants of health in medicine can serve as a way to work towards achieving health equity
- Health equity refers to a state in which everyone can achieve their highest level of health, despite their age, sex, race, or socioeconomic status
- Health equity has an inverse relationship with health disparities, which refers to avoidable differences in health and health outcomes
- Health disparities have historical influences and tend to be greatest for minority and marginalized populations
- The historical influences include beliefs that there are biological differences between different races
- When considering the faulty beliefs that have contributed to disparities in healthcare, we are ethically responsible for addressing these disparities and striving to achieve health equity

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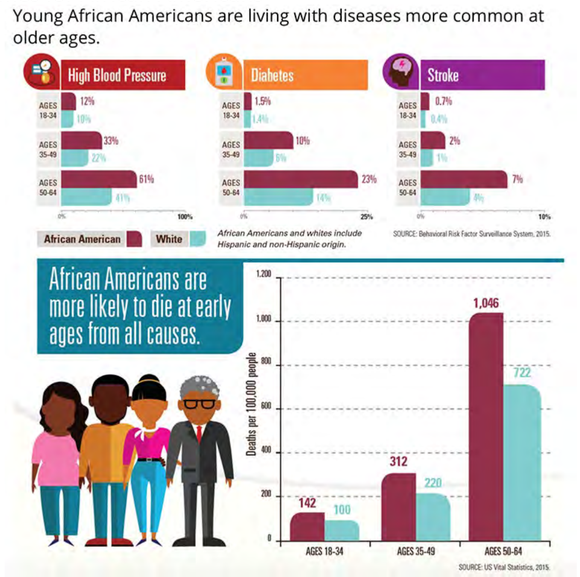
MDRD	$GFR = 175 \times (S_{Cr})^{-1.154} \times (Age)^{-0.203} \times (0.742 \text{ if female}) \times (1.212 \text{ if African American})$
CKD-EPI	$GFR = 141 \times \min(S_{Cr}/\kappa, 1)^{\alpha} \times \max(S_{Cr}/\kappa, 1)^{-1.209} \times 0.993^{Age} \times (1.018 \text{ if female}) \times (1.159 \text{ if African American})$

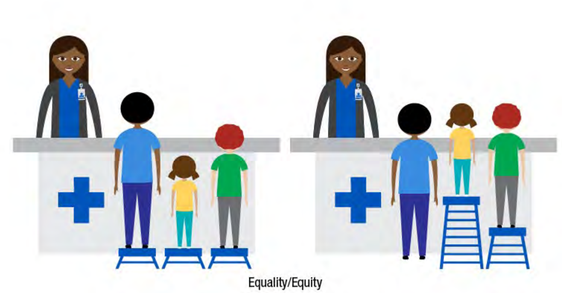
*S_{Cr} is serum creatinine in mg/dL
κ is 0.7 for females and 0.9 for males
α is -0.329 for females and -0.411 for males
min indicates the minimum of S_{Cr}/κ or 1
max indicates the maximum of S_{Cr}/κ or 1

- Several algorithms have been influenced by race based corrections
- The estimated glomerular filtration rate (eGFR), a metric used to estimate kidney function, has historically been systematically inflated for black patients, based on the belief that African Americans generally have higher levels of creatinine in their blood due to greater muscle mass.
- There is a race influenced algorithm seen with the American Heart Association Heart Failure Risk Score in which 3 extra points are given to those who identify as “non Black,” automatically giving them a higher score and therefore placing them in higher risk categories than their Black counterparts.
- These algorithms often lead to a delay in care, and worse health outcomes for African Americans



Conclusion

- Providing resources, including food and transportations vouchers are examples of some of the initiatives taken by medical providers to address the social determinants of health
- However, it is still necessary to complete comprehensive studies to assess the efficacy of these initiatives
- The data gathered from these studies can then be used to advocate for policies that can further contribute to achieving health equity



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Vaccination Hesitancy Through the Ages: The Past, Present, and Future Implications

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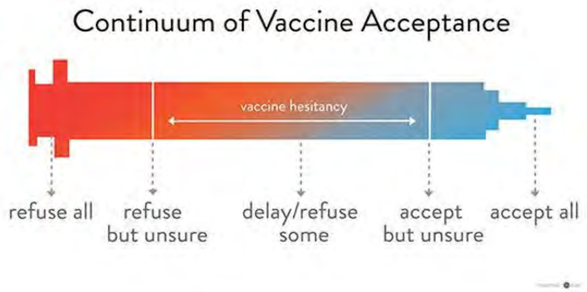

Introduction

- Historically, acceptance of vaccination as a method for disease prevention has been debated since development of the smallpox vaccine
- Vaccine hesitancy historically exists on a spectrum with the advent of each new vaccine but has been amplified in the present day COVID-19 pandemic across the United States
- This thesis seeks to explore, through a bioethical lens, the factors that contribute to the growth of today's vaccine hesitancy movement
  - Public Trust in Healthcare Institutions
  - Race, Gender, & Geography
  - Social Media
  - Healthcare Workers & Hesitancy
  - Personal Narratives & Rhetoric
- Describing a patient as an "Anti-Vaxxer" further ostracizes them from the healthcare institution, politicizes a healthcare issue, and generates inequitable healthcare
- Navigate a complex healthcare ecosystem regarding vaccination and strategies to ensure patient safety while maintaining the bioethical principles of autonomy and agency

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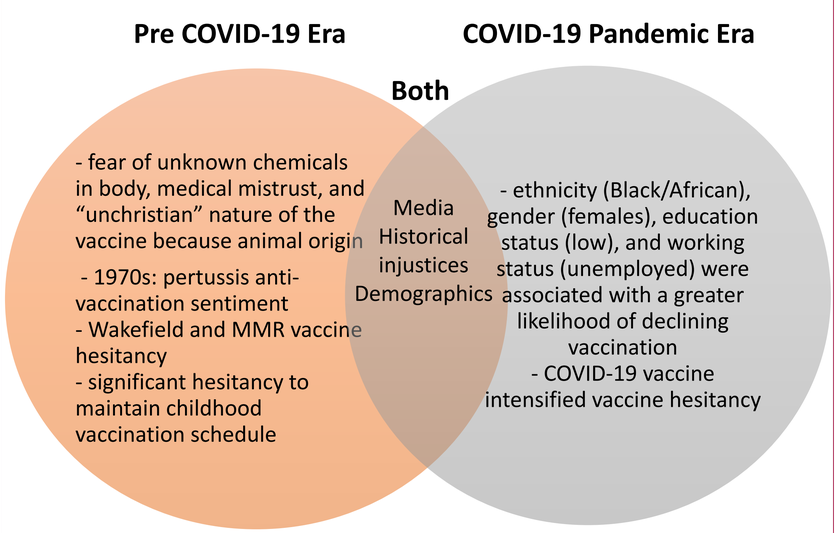
Background & Context



Literature & Community Perspectives

- Public Trust in Healthcare Institutions
  - Historical injustice and gov. involvement
- Race, Gender, & Geography
  - Black/Hispanic, women, rural communities w/ more hesitancy
- Social Media
  - Newspaper headlines, media "echo bubble" w/ targeted ads
- Healthcare Workers & Hesitancy
  - Under pressure to perform their ethical duty to do no harm/deontology "duty"
- Personal Narratives & Rhetoric
  - Hesitancy vs "Anti-Vaxx", inflammatory language "ignorant"

"They [the community] don't like being pushed around, don't have the opportunity to make a lot of choices."

- Dr. Kogen, project partner

- MG, community member

"Let people know early, often, and in a language that they can understand."

Solutions

1. Public Education
   1. Healthcare workers must coordinate with community liaisons to ensure the community's understanding of medical conditions and its consequences
2. Open Communication
   1. Disclose past experiences with vaccines, new scientific advances, or governmental regulations that frighten them
3. Institutional Reform
   1. Hyper-localized clinics, increased clinic visit time, documentation accuracy

Think-Feel-Do Framework for COVID-19 Vaccine Communication Efforts

Stage	Think	Feel	Do
Hierarchy of Effects-based Appeal	Rational	Emotional	Behavioral
Effect on Patient	Cognitive	Affective	Conative
Objective	Awareness and knowledge	Liking, preference, and conviction	Get Vaccinated
Why	Inform and overcome misinformation	Build trust employing trusted sources	Motivate action
How	Multiple media	Word-of-mouth	Go to your market
Who	Need local medical, religious, business, and political leaders to educate	Need "common folks" to reach out to family, friends, and colleagues to build conviction	Need governments and businesses to make it easy to get vaccinated
What	Increase knowledge and directly refute inaccurate claims	Create FOMO, both socially and economically	Incentivize action and facilitate convenience

Conclusion

This thesis serves as a call to action for healthcare workers and community advocates to learn more about barriers to vaccination in their community and change the narrative for vaccine hesitancy

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Nature and Healing in Urban Communities: Bioethical Analysis of Health and Green Spaces

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Introduction

The health benefits of nature are numerous, wide-ranging, and often overlooked. An ever-growing body of research has started to document, substantiate, and even in some cases quantify the significance of interacting with nature and its effect on human health and well-being.

Studies have shown the benefits of contact with nature include:

- Increased physical activity and decreases in obesity
- Improved breathing / respiratory conditions
- Improved cardiovascular health
- Improved pregnancy outcomes
- Decreased stroke mortality
- Decreased risk of diabetes
- Stress reduction
- Improved mental health
- Decreased all-cause mortality

These directly measurable health benefits are also compounded in urban environments by environmental benefits - such as mitigating heat, decreasing air pollution, and minimizing flooding, all of which can impact health. The inclusion of green spaces in urban environments has also been shown to reduce violence – particularly gun violence – and is associated with lower crime rates.

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Green spaces are important for overall health, but also specifically specifically for healing. The concept of healing gardens dates back to back to ancient Greece and Rome. The benefits of natural spaces in spaces in hospitals has been explored in the literature and shown to shown to benefit not only patients – reducing length of hospital stay, stay, improving mood and decreasing stress, lessening painkiller painkiller requirements – but also family and visitors, by creating a creating a healing and restorative environment that helps to reduce reduce stress and alleviate anxiety.

The stress reducing benefits of a hospital garden or outdoor green space are particularly important for hospital staff. The same stressful environment that will affect how well a patient is able to heal can affect how well providers are able to do their job, impacting patient care. Green spaces have been shown to help to decrease provider burnout, thereby improving both patient outcomes and staff well-being.

Urban hospitals are often limited in their ability to include extra space, and particularly green space, in their campus, but it is their patients who need these health benefits the most. Lack of green space in urban communities is creating and exacerbating health disparities. Particularly urban communities of low socioeconomic status are often those with the least access to green spaces, or only have access to low-quality, poorly maintained, unsafe green spaces. Yet they are who will benefit the most from access to nature and a greener environment.

Plans to increase the amount of and quality of green spaces in urban communities must take into account the demographics and preferences of the surrounding populations in order for them to use the space well and truly reap the benefits from it. Similarly, urban hospitals must carefully consider how to incorporate nature into their footprint.

Improving the accessibility, quality, safety, and square footage of natural green spaces in urban environments will help improve health equity by mitigating negative effects of the urban built environment on health and well-being, increasing the agency of these communities to live healthier lives, and allow them to reap the physical, emotional, and social benefits of green spaces.

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An Ethical Analysis of Safe Supply

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Introduction

The United States is experiencing an unprecedented rate of overdose deaths, exacerbated by the proliferation of synthetic opioids, particularly fentanyl, in the illicit drug supply.

The current approach to illicit drug use in the US has been designed to punish and isolate people whose drug use is criminalized. In contrast, harm reduction is a set of practical strategies aimed at reducing negative consequences associated with drug use. Forms of harm reduction currently used in the US include naloxone distribution, syringe exchange programs, and medication for opioid use disorder. These interventions are necessary but not sufficient to prevent overdose death because they do not separate people from the toxic drug supply.

Safe supply is defined as a legal and regulated supply of drugs with mind and body-altering properties that traditionally have only been available through the illicit drug market. This thesis analyzed safe supply using the core bioethical principles of autonomy, non-maleficence, beneficience, and justice.

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Ethical Analysis

Autonomy

- People who rely on the illicit market do not have the necessary information to make informed choices about their drug use
- Studies with fentanyl test strips show that people can alter drug use behavior
- Safe supply keeps people safe when they are not interested in treatment

Non-Maleficence

- Harm reduction practices have not been shown to increase drug use
- Prohibition leads to more harm by making drug use more dangerous and disrupting communities through incarceration
- Safe supply will decrease harm by eliminating the dangerous illicit market

Beneficence

- Harm reduction promotes beneficence by doing what is best for the patient within the confines of what they're willing to do
- Safe supply can protect people from overdose
- Previous studies have shown that safe supply improves the well-being of people who use drugs

Justice

- Despite the need for resources and social support, people who use drugs are often isolated from resources based solely on their drug use
- The War on Drugs has disproportionately targeted marginalized communities
- Dismantling prohibition policies will promote fair and equal treatment among individuals

Safe Supply

There are limited examples of safe supply programs, and larger-scale studies on implementation are needed.

Prescription Opioid Diversion

- Prescription drug diversion is when an individual redirects their prescribed drugs to another person for illicit use
- Buprenorphine diversion is decriminalized in Philadelphia and Chittenden County, Vermont
- There is a strong sense of social responsibility that drives opioid diversion to prevent overdose in this community

Hydromorphone Distribution

- First opened in 2018 in the Downtown Eastside neighborhood of Vancouver
- Participants can receive up to five prescribed doses of hydromorphone per day, and they must be consumed on site.
- Participants report improvements in their health and economic situation as a result of this program

Safer Alternatives for Emergency Response (SAFER)

- SAFER provides substitutes to the illicit drug supply in the form of medications that are prescribed off label
- Enrolled patients can access medications in various formulations including injectable, sublingual, oral, and transdermal
- SAFER provides fentanyl, giving patients a known quantity with no adulterants

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Photo credit: drugpolilcy.org
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THE PUBLIC HEALTH CRISIS OF MEDIA MISINFORMATION, DISINFORMATION, AND CONSPIRACY THEORIES: A CASE FOR BIOETHICAL INTERVENTION

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Introduction

This thesis set out to argue that misinformation, disinformation, and conspiracies, in tandem with today's advanced communication technology/media, pose a dire threat to the future of public health, biotechnological advancement, safe medical procedures, and ethical evidence-based legislation and policy. Each chapter explored different points in public health and medicine that misinformation, disinformation, and conspiracies have already begun to shift or disrupt in ways that are eroding safe and effective care. Misinformation, disinformation, and conspiracy theories should be seen more broadly outside of the spheres of Big Tech and First Amendment discourse, and instead understood as a public health concern of which there are ways to inoculate, treat, and mitigate public spread. Much as we have come to understand that gun violence requires more than a judicial approach, so too must we come to understand misinformation, disinformation, and conspiracy theories as indicators of failing health in a population.

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Quick Definitions

- **Misinformation** - information that is incorrect, most likely by accident, and has been shared in its incorrect form.

- **Disinformation** - the intentional creation of misleading, misrepresenting, or completely malicious information, with the intent of manipulating a consumer.
  - **Malinformation** - specific to disinformation and is created to target and harm a group or individual distinctly.

- **Conspiracy Theories** - the complete ideology that is built around a collection of concepts built off mis/disinformation, usually constructing a siloed community that holds steadfast and unwavering loyalty-centered identities to them.

Erosion Points of Public Health

- **Individual and Communal Physical Safety**
  - Acts of violence in communities
  - Targeting of health and medical professionals
  - Rise in individual and communal aggression
- **Threat to Marginalized, Minoritized, and Vulnerable Populations**
  - Collective scapegoating of a population
  - Neglecting marginalized populations
  - Misleading marginalized populations to make poorer health choices
- **Individual Mental and Emotional Health**
  - Preying on mental illness
  - Creating and exacerbating mental illness
  - Creating collective delusion
  - Eroding communal mental health
- **Access to Effective Information and Information Sharing**
  - Creating infodemics
  - Distracting from and distorting public information
  - Creating information exhaustion during a crisis
- **Health Policies and Legislation**
  - Driving reactionary health legislation
  - Creating false concerns relating to health and freedom
  - Weaponizing public health concepts to target the rights of marginalized groups
- **Consumerism and Monetization Incentivization**

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Distributive Justice and the Management of Orthopaedic Trauma

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Introduction

Distributive justice is a bioethical principle concerned with the fair allocation of resources and benefits in society. In the context of orthopaedic surgery management, distributive justice is an important consideration in ensuring that all patients have equal access to the resources and care in the treatment of their injuries. The literature well documents demographic and socioeconomic factors in the allocation of elective orthopaedic surgeries, but unfortunately a similar analysis is lacking when it comes to orthopaedic trauma surgeries.

This study examines fundamental philosophical perspectives that underly healthcare delivery specifically pertaining to orthopaedic trauma. In doing so, the influence of race, socioeconomic status, insurance status and other factors on access to care and allocation of resources are described.

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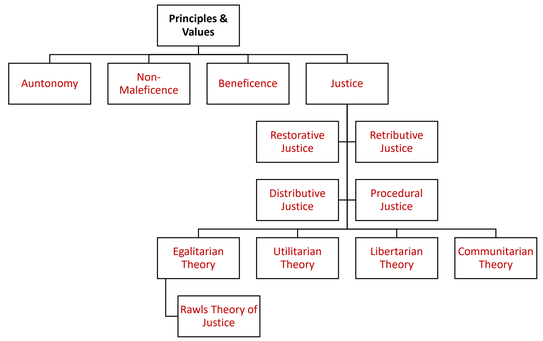
Figure I: Principles and Values



Health Disparities and Orthopaedic Trauma

Orthopaedic trauma is an injury caused by an external force that affects the musculoskeletal system, most often from a fall or car accident. Surgeries to treat trauma are not elective because if not obtained by the patient, the results will surely be detrimental. In the United States, the burden of orthopaedic trauma cases is high. A total of 7,214,915 patients were diagnosed with orthopaedic injury in 2013-2014, resulting in 1,167,656 emergency orthopaedic surgical procedures. With this high volume comes a demand for resources to care for these patients. The disparities in the rationing and availability of these surgical resources are amplified by demand, time limits, scarcity, behavior, and urgency.

Table I: Multivariate Logistic Regression

	Odds ratio	95% confidence interval		*p*
Age	0.994	0.992	0.997	< 0.001
Female	0.692	0.643	0.745	< 0.001
Payer, (*base—Medicare*)				
Medicaid	1.352	1.172	1.559	< 0.001
Private payer	1.746	1.565	1.949	< 0.001
Self-payer	1.224	1.064	1.409	0.005
No charge	1.688	1.296	2.199	< 0.001
Other	1.717	1.509	1.955	< 0.001
Race, (*base—White*)				
African-American	0.807	0.714	0.911	0.001
Hispanic	0.895	0.806	0.993	0.038
Asian	1.296	1.043	1.611	0.019
Native American	0.867	0.566	1.329	0.514
Other	1.160	0.977	1.376	0.089
Income (base—0–24th percentile)				
25–49th percentile	1.106	1.013	1.208	0.025
50–74th percentile	1.137	1.039	1.245	0.005
75–100th percentile	1.233	1.121	1.356	< 0.001
Teaching hospital/location (base—Urban non-teaching)				
Rural	0.657	0.572	0.754	< 0.001
Urban teaching	0.979	0.913	1.050	0.565

A multivariate logistic regression demonstrating that several clinical and socio-demographic variables significantly influenced the management of calcaneus fractures (Zelle et al., 2019).

How to Take Action: Transitioning from Health Disparities to Health Equity

The best way to address this problem is on three levels: local, institutional, and national. Local and national levels with the targeting of professional societies such as the American Academy of Orthopaedic Surgeons and the Orthopaedic Trauma Association. At the national level, there are also groups such as Nth Dimensions and Ruth Jackson Orthopaedic Society that aim to support minority students that are interested in orthopaedic surgery. However, more must be done to support these other communities. An example would be targeting rural communities and having initiatives to keep doctors in those regions. Specifically, regions with high patient volume and average patient-to-provider ratios may be ideal settings for orthopaedic trauma training programs or post-fellowship professional opportunities.

Another initiative is to start early and recruit community members into the health profession and, eventually, the field of orthopaedics. Only 2% of orthopaedic surgeons in the United States are Black or African American. This number does not reflect the population that is treated. Therefore, considering these things above, the goal is to overall mitigate health disparities, improve patient health delivery and curb the effects of misdistribution.

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