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Examining the Treatment Of Those With Opioid Use Disorder In the Setting Of Xylazine Emergence: A Bioethical Perspective

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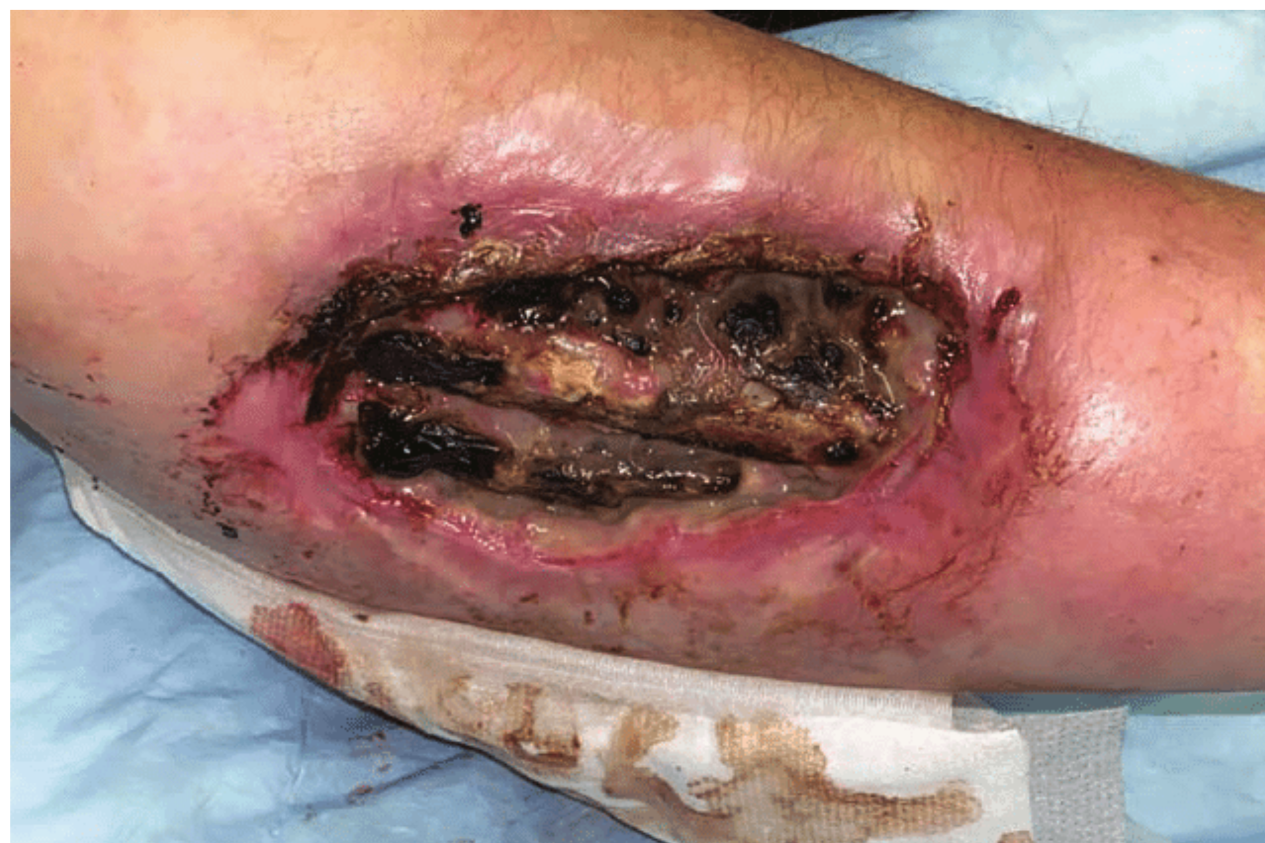

Figure 1) Cheng C, et al. *Right full-thickness chronic forearm wounds with exposed necrotic ulna*. *Reconstruction of Chronic Wounds Secondary to Injectable Drug Use with a Biodegradable Temporizing Matrix*, Plastic and Reconstructive Surgery. Global Open. Published July 12 2021. Accessed 18 Apr. 2024. https://europepmc.org/article/pmc/pmc8274732.

Introduction

- What is Xylazine?
  - Alpha-2 agonist used by veterinarians for animal sedation[1]
  - Effects: bradycardia, hypotension, respiratory depression, hyperglycemia, occasional hypertension, and extreme fatigue/loss of consciousness[1]
  - Decreases the release of norepinephrine and dopamine from neurons in the central nervous system (CNS)[1]
- Ulcerating wounds
  - Occurs with both injection and inhalation[2]
  - Does not always correlate with injection location[3]
  - Philadelphia is the epicenter of xylazine use in the United States[1]

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Literature Review

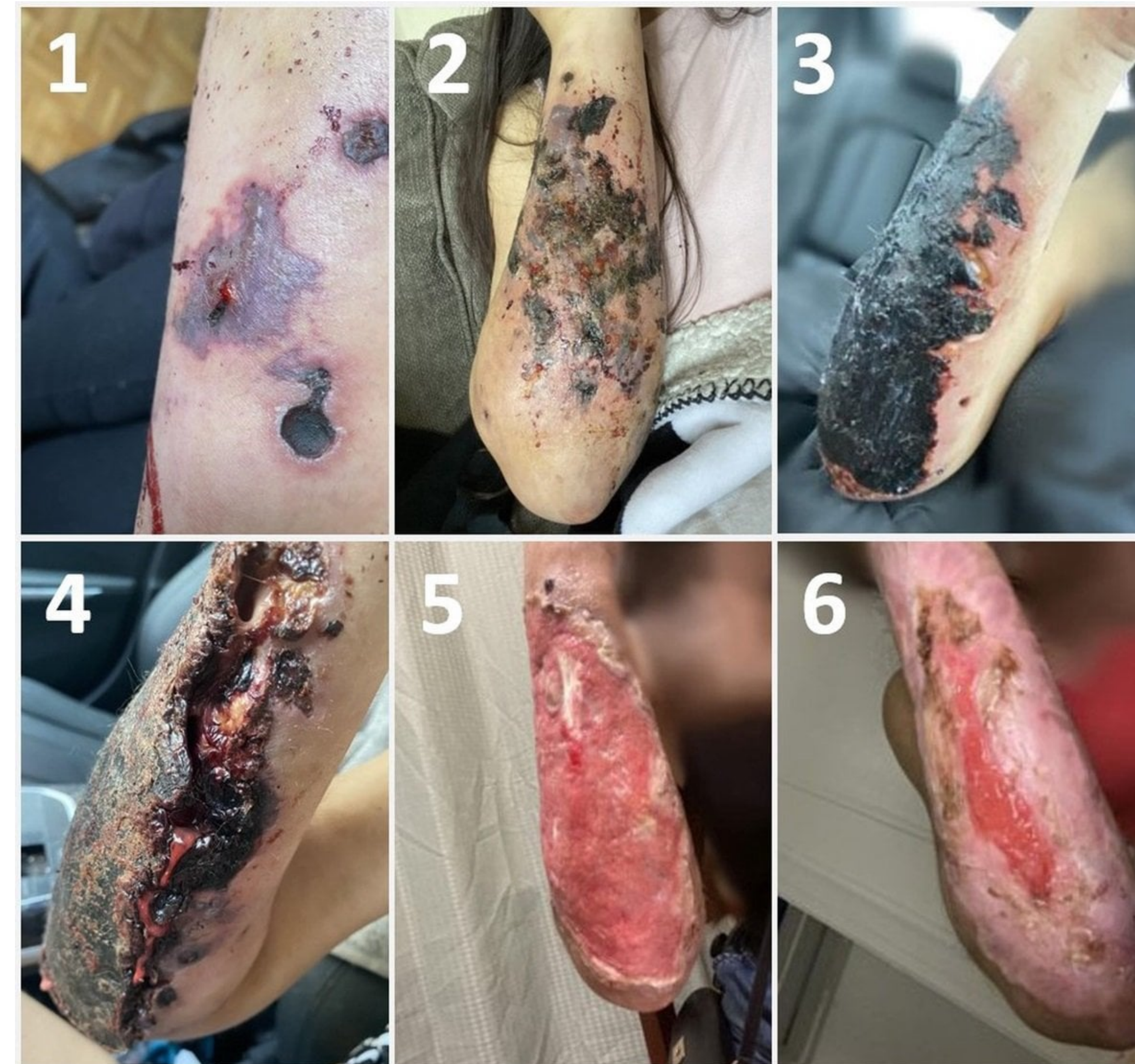

Figure 2) McFadden R, et al. *Progression and healing of a "tranq wound" in a WCC patient*. *Xylazine-Associated Wounds: Clinical Experience From a Low-Barrier Wound Care Clinic in Philadelphia*, Wolters Kluwer Health, Inc. on Behalf of the American Society of Addiction Medicine, Philadelphia. Published May 18, 2023. Accessed April 18, 2024. https://journals-lww-com.libproxy.temple.edu/journaladdictionmedicine/fulltext/2024/01000/xylazine_associated_wounds__clinical_experience.4.aspx.

- Opioid Use Disorder (OUD) & Hospitalization:
  - Patients with OUD leave the hospital PDD more frequently than those without OUD[4]
  - Stigma, withdrawal, and pain cited as major reasons[4]
  - ChristianaCare Health System: more patients in withdrawal leaving PDD from 2017 → 2020[5]
- Xylazine, OUD, and Hospitalization
  - Ulcerating wounds are point of entry for bacterial infections of wounds[6] and osteomyelitis
  - No medications to directly address xylazine withdrawal or xylazine overdose[1,2]

Bioethical Lens

- Autonomy[7]
  - People have the right to make their own decisions based on the information provided
  - It is the patient's decision what they do outside of the hospital; patients must be allowed to make this decision without being penalized or their care compromised
  - Comparable to other diseases and non-adherence
- Beneficence[7]
  - Physicians have a duty to do what will help the patient
  - Patients with OUD who are in withdrawal and in pain must be provided pain medication proportional to their tolerance
- Bioethics and Xylazine
  - Xylazine use generates another situation in which patients must not be denied care and choice because of their drug use
  - Pain from xylazine wounds requires pain medication proportionate to their presumed opioid tolerance
- Providing pain medication to patients with OUD is bioethically necessary in keeping with the principles of autonomy and beneficence

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NAVIGATING THE COMPLEXITIES OF MEDICAL ERROR AND ITS ETHICAL IMPLICATIONS

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Introduction

The discourse surrounding medical error, its ethical implications, and its significant public health burden has become a pivotal focus within healthcare. Thus, it is important to delve into the multifaceted aspects of and influences on medical error and its disclosure through discussions on societal expectations, medical training, error analysis, accountability, systemic influences, patient-provider relationships, legal implications, and bioethics.

My overarching argument posits that despite society's general intolerance for errors and a recognized aim for perfection, error remains an unavoidable and inevitable aspect of the practice of medicine and medical training. There exists an inherent fallibility in healthcare juxtaposed against the gravity of the profession and the consequent medical and legal ramifications when something goes awry.

Recognizing both the ethical imperative of error disclosure and the importance of fostering a balanced approach that acknowledges both the inevitability of errors in healthcare and the significant physical, emotional, and financial burdens caused by medical errors is critical.

Ultimately, we must advocate for a cultural shift towards greater transparency, collective accountability, systemic quality improvement, and support for healthcare professionals to address errors effectively while upholding patient safety and trust.

Background

Medical error is the deviation from the process of care that may or may not cause harm or unintended consequence to the patient

- Planning error: use of a wrong plan to achieve an aim
- Execution error: failure of a planned action to be completed as intended
- Omission error: result of actions not taken
- Commission error: result of the wrong action being taken

Critical Analysis

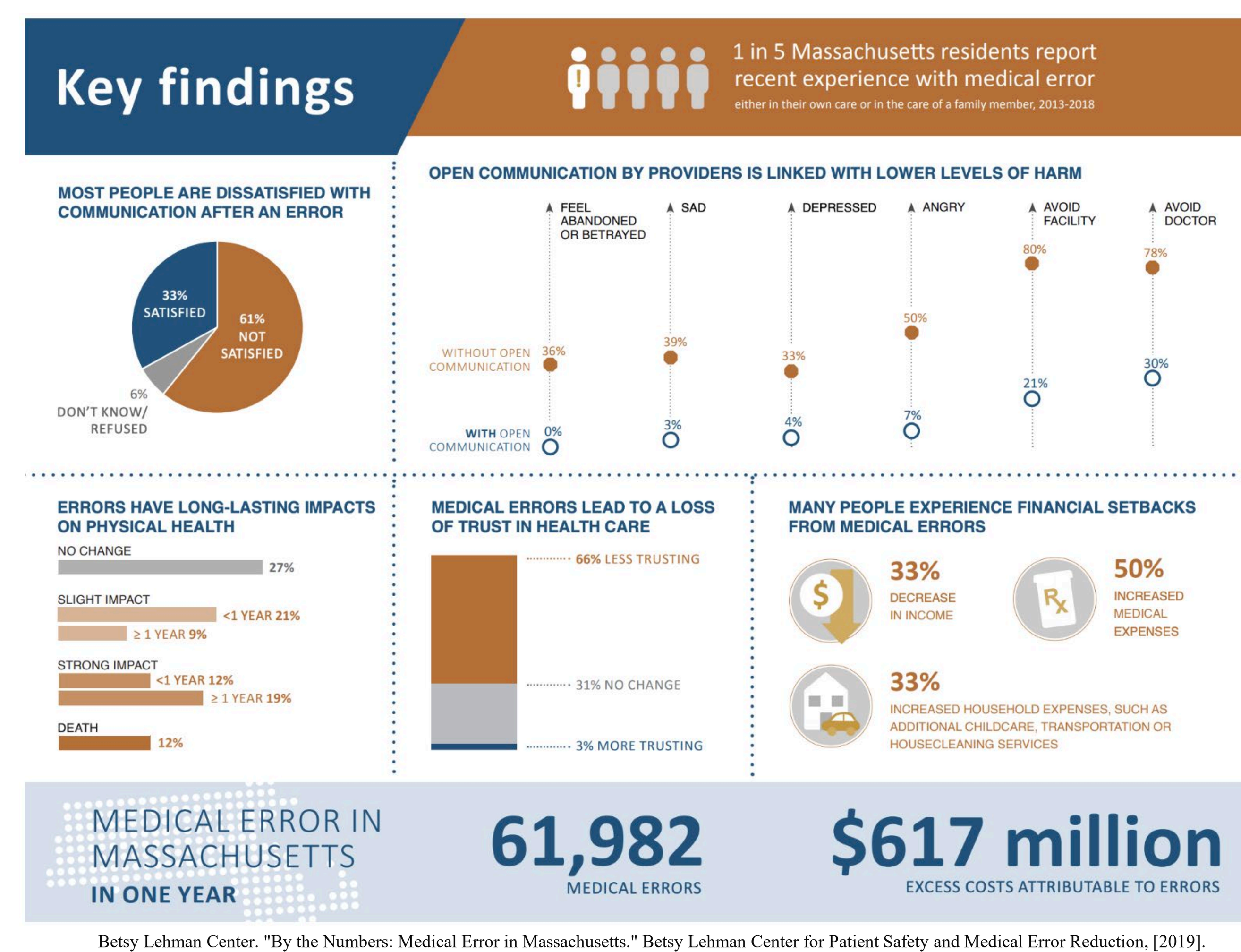
1. There are societal expectations for perfection within healthcare which contradict the fallibility of humans, inherent uncertainties of healthcare, imperfectness of science, and inevitability of errors in the practice of medicine and medical training.

2. There is a balanced need for expertise and training of the next generation of physicians, making it difficult to both provide patients the best care possible and allow trainees to gain autonomy.

3. Morbidity and Mortality (M&M) conferences provide valuable platforms for retrospective analysis, learning, and quality improvement when errors do occur; often highlighting how and why "good" doctors can make mistakes too.

4. Errors can stem from structures larger than the individual; often products of greater system failures contributing to health inequity and injustice.

5. Error has an emotional toll on physicians, underscoring the need for supportive measures and coping mechanisms to preserve professional well-being and the quality of patient care provided.



Betsy Lehman Center. "By the Numbers: Medical Error in Massachusetts." Betsy Lehman Center for Patient Safety and Medical Error Reduction, [2019].

6. Legal ramifications complicate the landscape of medical errors, highlighting the delicate balance between accountability, regulatory measures governing error disclosure, litigation as a means of punitiveness, and working towards the prevention of future errors.

7. Disclosure of error is an ethical imperative that safeguards patient autonomy and upholds the tenets of beneficence and non-maleficence. It can be analyzed through either a consequentialist or deontological lens.

8. The patient-provider relationship is evolving amidst shifts in healthcare and medical philosophy, emphasizing transparency, open communication, and mutual trust. The impact of error on this relationship can be significant.

> "Medicine is, I have found, a strange and in many ways disturbing business. The stakes are high, the liberties taken tremendous […] We look for medicine to be an orderly field of knowledge and procedure. But it is not. It is an imperfect science, an enterprise of constantly changing knowledge, uncertain information, fallible individuals, and at the same time lives are on the line. There is science in what we do, yes, but also habit, intuition, and sometimes plain old guessing. The gap between what we know and what we aim for persists. And this gap complicates everything we do."
>
> -Atul Gawande, MD, MPH

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Health Inequities and Our Social Responsibility for Children with Incarcerated Parents

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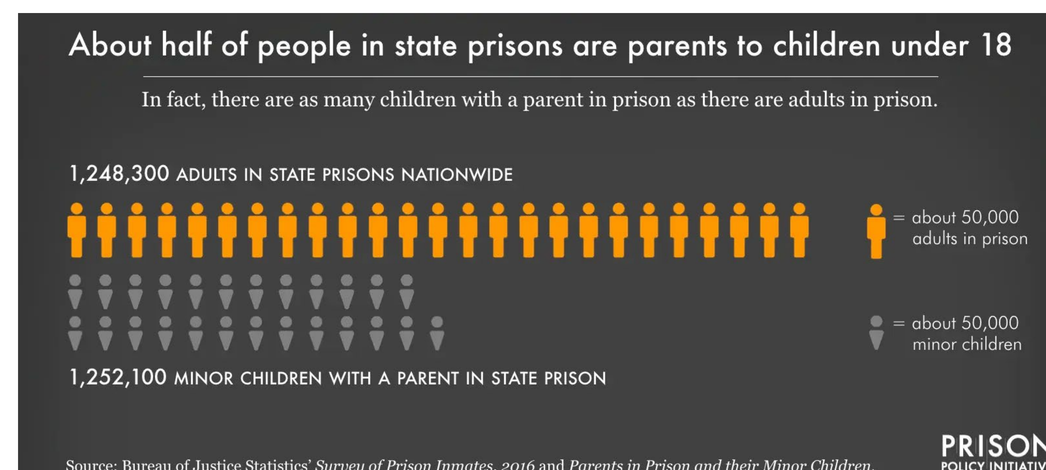
Introduction

There are about 2 million adults incarcerated. Of those, approximately 62% of women and 51% of men have a child less than 18 years old—that is about 4% of the US population. In fact, if parental incarceration was considered a chronic health condition, it would be the second most prevalent childhood chronic condition in the U.S. These children often already live in impoverished areas and the parental incarceration worsens their financial, educational, physical, and mental situations, forcing them to grow up faster and work harder . I did a literature review on the various physical and mental health inequalities these children face. Using that as the foundation, I highlight the social responsibility towards these children.



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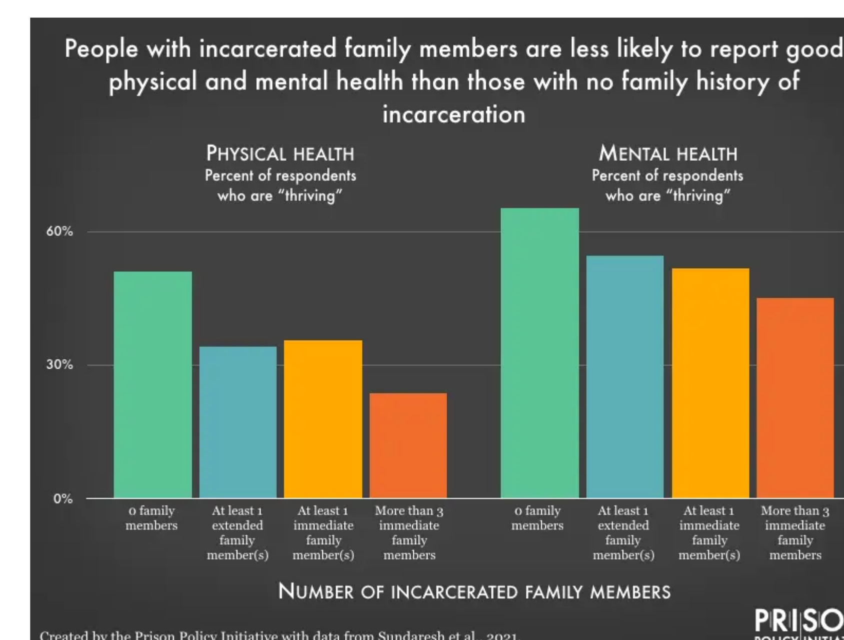
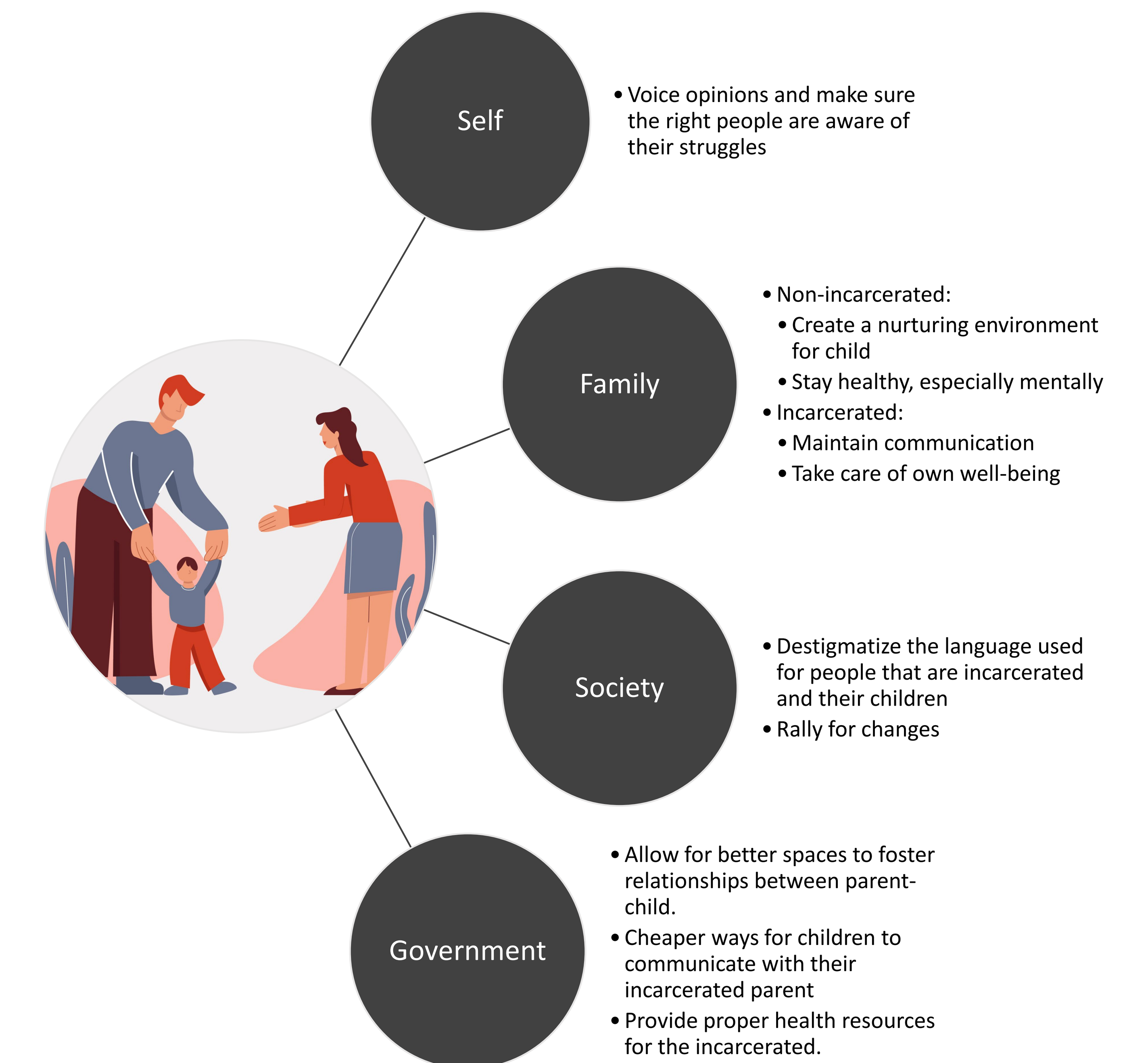
Children with incarcerated parents, in comparison to children without incarcerated parents, face many health inequities.

- ❖ ACES: Increased risk of enduring three times as many adverse childhood events (ACE)
- ❖ Healthcare Use: More likely to delay or forgo medical, dental, and mental healthcare. Less likely to have a consistent location of healthcare
- ❖ Infants: Increased infant mortality, 13% higher incidence ratio of birth < 37 weeks (premature), 10% higher incidence rate ratio of babies <2500g at birth (low birthweight).
- ❖ Lifelong: Increased BMI, hypercholesterolemia, asthma, migraines, hypertension, and high-sensitive CRP (stress marker)
- ❖ Mental Health: Increased diagnoses of ADHA, ODD, Conduct, 1.7x increased odds of anxiety and 6.6x increased odds of substance abuse disorder
- ❖ Mortality: People with an incarcerated family member were predicted to live **2.6 years less** than those who do not.



Who is Responsible?

I believe there are many players responsible for the physical and mental well-being of these children: themselves, family, society, and government. These various agents need to work together to ensure the best health for the children of our future.



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- All graphs are from Prison Policy Initiative: https://www.prisonpolicy.org/

FACTORS THAT INFLUENCE BLACK/AFRICAN AMERICAN APPLICANTS' RANKING OF RESIDENCY PROGRAMS AND HOW THESE FACTORS CAN BE USED TO INFORM DIVERSITY RECRUITMENT EFFORTS

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Introduction

Diversifying the physician workforce is crucial for addressing healthcare disparities. Racial concordance in medicine is associated with better patient outcomes, including adherence to healthcare guidelines[1], understanding of cancer risks[1], and increased life expectancy [2]. Black/African American individuals comprise 14.4% of the United States' population[3] yet account for only 5.2% of active physicians[4]. Despite efforts like holistic review and explicit diversity messaging, Black/African Americans remain underrepresented in residency programs and the physician workforce at large. Focusing on the residency phase, a pivotal step in becoming a physician, this thesis explores the strategies that residency programs use to recruit applicants who are historically underrepresented in medicine (URIM) and ways that they incorporate the perspectives of Black/African American applicants and trainees into the design and evaluation of their diversity recruitment strategies.

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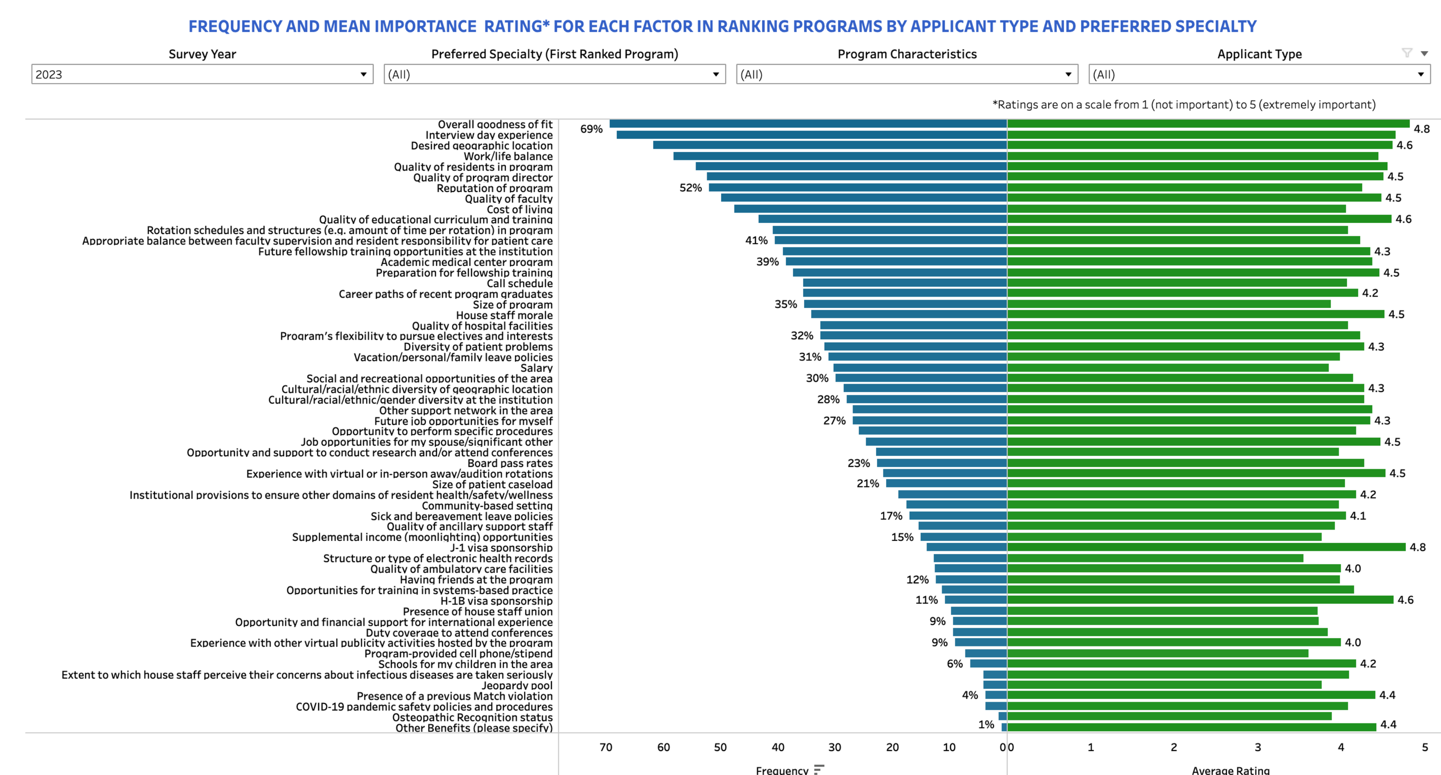
Results

Residency Programs' Perspectives

- Common Pre-Interview Strategies
  - Holistic review
  - Recruitment fairs
  - Implicit bias training
  - Websites highlighting DEI efforts
  - ERAS demographic data to track race/ethnicity
- Common Interview Day Strategies
  - Representation of URIM faculty and residents
  - Standardized interview format
- Common Barriers to Diversifying Residency Programs
  - Limited applicant pool
  - Programs lacking URIM faculty perceived lack of commitment to diversity
  - Apparent increased effort required to do a holistic review

Applicant and Resident Perspectives



Source: Freeman, C. D., Guissé, N. F., Ceasar, D. R., Fakunle, O. P., Fonseca, C. A., Fraz, F., Gillis, R. P., Harris, N. M., Nichols, A. C., Oboh, O., & Henry, T. L. (2022). Reflections From Underrepresented in Medicine Applicants on the 2020 Virtual Interview Season. *Journal of Graduate Medical Education*, *14*(2), 155–157. https://doi.org/10.4300/jgme-d-21-00674.1

URIM Applicant and Resident Perspectives

- Factors that Influence Ranking Decisions
  - Representation of URIM faculty and residents
  - Authenticity of and transparency regarding DEI efforts
  - Racial climate of the institution and geographic location
  - Second look opportunities
- Lack of published research on how programs are using these perspectives to design and evaluate diversity recruitment strategies

Proposed Next Steps

Collection of Data: Program Level

- Quantitatively evaluate changes in:
  - Number of Black/African American applicants
  - Number of Black/African American applicants ranked by the program
  - Number of Black/African American applicants matched at the program
- Consider publishing these evaluations for broader community benefit
- Share descriptions of successful interventions to aid other programs

Collection of Data: Nationwide

- Transcend individual institutions, specialties, and programs
- Utilize NRMP's nationwide reach for extensive data collection
- Gain insights into general challenges faced by Black/African Americans throughout the application process

Institutional Support

- Institutions should actively support diversity initiatives
- Reduce burden on minority faculty (i.e., "minority tax")
- Recognize diversity efforts in faculty promotions
- Provide adequate time and support for URIM residents and faculty in DEI initiatives

Building the Pipeline

- Insufficient amount of Black/African Americans in the physician pipeline
- Issue is further compounded when examining the distribution of Black/African Americans across various specialties
- Must focus on bolstering the pipeline of Black/African American individuals pursuing careers in medicine

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