Gasping for Air and Grasping Air in Medicine

Equity, Diversity, and Inclusion on the Medical Frontlines

Edited by

Mariam Abdurrahman, Ana Hategan and Caroline Giroux

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Dedication

There are still chapters that cannot be read aloud for fear, for shame, for keeping the peace. Yet they sit heavy like an albatross. So heavy, it stifles the breath. This book is dedicated to those unable to tell that story but who know it well, and will someday read it out loud. And for those listening, learning, unlearning and quietly applauding- speak up! And for those hearing and deliberating- please ask. And for those talking loudly from the first space- yield the floor.

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Foreword

Achieving equity, diversity and inclusion is critical in achieving optimal health – both for us as medical professionals as well as for our patients. In recent years, with growing awareness of social justice, this issue has received increasing attention. The more we address this, the more we recognize there remains progress to be made.

We are increasingly recognizing the need to diversify our medical workforce, reduce healthcare disparity and improve patient outcomes. Our patients experience barriers to inclusion, leading to disparities in access and outcome. Providing patient-centered care includes ensuring that care providers understand the unique needs of the patient, which is enhanced when the healthcare professional looks, prays, speaks or loves like them. Research shows that such commonality between the healthcare providers and their patients leads to improved communication, decision-making, adherence with care plans, patient satisfaction and patient outcomes.

The value of diversity in healthcare is also noted by learners, educators, researchers and clinicians. Diverse training environments have been shown to improve learning outcomes, such as empathy, critical thinking, motivation, and comfort and effectiveness in working in diverse communities. Increasing the diversity of researchers in medicine may enhance clinical trial enrollment within underrepresented communities. Healthcare providers could also enjoy a greater quality of life as part of a more diverse workforce. Thus, diversity offers a richness of experience and an opportunity to learn from each other, and can foster a greater sense of identity, appreciation and belonging.

This book is a much-needed resource. *Gasping for Air and Grasping Air in Medicine: Equity, Diversity, and Inclusion on the Medical Frontlines* offers us an opportunity to understand the importance of enhancing equity, diversity and inclusion in medicine. The editors have collaborated with a team of co-authors to share knowledge and expertise collectively in order to comprehensively address the issue. They have added much-needed context to help us fully understand the crucial aspects of medical history that have led to discrimination, trauma and medical mistrust, and to the current gaps in equity, diversity and inclusion in medicine.

Exploring our past will be important in assisting us in dismantling the structural barriers that persist. Each chapter focuses on a specific aspect of structural discrimination, including minorities of race, gender, disability, sexual orientation and gender identity. Expert knowledge about the issues is balanced with practical guidance for reflection, with rich clinical vignettes, opportunities to pause and reflect, glossaries of terms, and summaries of key takeaways.

While this book courageously tackles overt discrimination that must be addressed, it also identifies and discusses more insidious forms of bias that occur. The chapter, Smokescreens: Sanitized Racism through Race Correction, Tolerance and Privilege, hit particularly close to home. Compared to many of my colleagues from a minority background, I had always felt grateful that, as an immigrant, I grew up in a supportive community with no discrimination. While there was no overt racism, I now realize that the racism was sanitized. As the only racialized family in this small community, there were rules and norms that we had to satisfy in order to participate. Being bright and highly capable, we were tolerated, and felt indebted to the community. We strove to fit in and be liked. We gave up our linguistic culture, holidays, dress and food to be more like our new neighbors.

I recall being a young, brown woman in my first year of medical school. The message was very clear: "Be grateful to be here and fit in". As a bright person, I learned this lesson well. I learned to hide my identity so as not to offend anyone. I now recognize that what I thought was generosity was actually tolerance that perpetuates a feeling of being less than, not measuring up, and being othered. Not surprisingly, I have devoted my career in medicine to supporting and uplifting those with less privilege – treating colleagues with burnout and mental illness, advocating for racial and ethnic minorities, and developing women leaders in medicine.

I am truly grateful to the editors for their insights and wisdom. This book serves to inspire us all to be leaders and change-makers, working together towards a future healthcare system that is inclusive of all people.

Mamta Gautam, MD, MBA, FRCPC

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Prologue

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Sure, there is a problem, but I'm not the problem,
society is the problem, society needs to fix the problem.

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The authors and editors of this volume are delighted to share this work on equity, diversity, and inclusion (EDI), issues that are much discussed yet paradoxically also a source of silence, discomfort and sensitivity - the proverbial elephant in the room. The COVID-19 Pandemic has cast a spotlight on long-standing issues of structural discrimination and systematized brands of propagating othering as evident in the highly publicized deaths of unarmed racialized men, the repeat incidents of civilian casualty during police response to mental health calls and the repeat incidents of shocking fatal healthcare outcomes for minorities. These events have triggered mass reckoning, with effects ricocheting through the clinical microcosm, including calls for critical examination of equity, diversity and inclusion in healthcare delivery, and more internally in terms of applying the same core principles amongst our own peers.

In the creed to save lives, clinicians euphemistically aim to deliver a lifesaving breath, yet some of us charged with the very task cannot ourselves "breathe." The issue is magnified given our role in the care of the most vulnerable and the long-standing history of the othering of minority groups in medicine, both staff and patients alike. This book is designed to elicit reflection, facilitate conversation and promote critical dialogue on what remains an uncomfortable issue for many.

Although the formal publication of this book occurs now, its genesis started years before for each contributor. The seeds were likely sown quietly as we each progressed through our journey in medicine, recognized instances of being othered or oppressed, questioned the fact of our legitimacy as physicians when questioned by peers and patients alike whilst also paradoxically inhabiting the cloak of the impostor syndrome, likely in response to the body checking that still occurs too often in the culture of medicine.

Once we decided to commit to this book, the editor team began workshopping proposals with publishers and the experience proved to be both instrumental and reaffirming of the need to increase the dialogue on EDI in medicine. The proposal to publishers was largely met with excitement and interest. Our desire was to create something with a narrative lens that not only drew from contributing authors' experiences as physicians but was also shaped by current events such as those that pushed this book from the ideas stage to the tangible stage. We wished to avoid replicating the contemporary EDI "problem" in medicine, namely, that of sanitizing the discourse and making it palatable by presenting it in the familiar academic language and format. Given that much has been written about EDI with the patient lens and EDI within the realm of academic medicine, our goal was to avoid a purely academic treatise and engage readers in an accessible dialogue with an experiential lens. Presenting it in a different format would essentially stifle the conversation and thus engage us in an inauthentic dialogue about the issue.

Why now and why in this format? Contemporary events have been instrumental in directing attention to seminal EDI issues and health equity. In choosing to utilize pivotal events as a backdrop in examining each EDI topic, we wish to utilize the captive moment to engage readers in further reflection, interprofessional discussion and ultimately a more EDI-informed practice. The rationale for this book also stems in part from our observation of the role of EDI matters in discussions about burnout amongst physicians and more broadly in the healthcare profession.

Many of the authors and editors of this volume had done some work on physician burnout and through some of our discussions recognized a quiet but important theme around equity, bias and burnout. Not surprisingly, burnout and EDI both came up as concurrent issues when potential chapter topics were canvassed, and we discussed the experiential lens to this book. Some of the imagery relayed included that of being stifled, suppressed and relegated to restricted roles because of inbuilt biases within the medical system. Being stifled has the twin effect of limiting our efficacy as patient advocates while also impinging on wellbeing and self-efficacy. Thus, the problem is two-fold: struggling to stay afloat whilst also trying to hold patients afloat with our limited breath.

The growing prevalence of burnout concurrent with increasing recognition of deeply rooted structural bias in the medical field signaled a loud and clear message to us: time is of the essence, act now. The COVID-19 Pandemic has emphasized this message and we are now in crisis as the systematized inequity in clinical care is also mirrored on the physician workforce side. Our motivation in formulating this book is to provide a venue for examining an essential topic that shapes both the process and the outcome of care delivery.

The editors are psychiatrists working in different clinical academic settings in North America. This is perhaps fitting given that historically, psychiatry has had to battle for its legitimacy as a medical specialty. From this origin and the continued experience of being professionally othered, comes a genuine interest in fostering a dialogue about the ways in which diversity, equity and inclusivity constitute determinants of health, resilience and wellness for both healthcare providers and their patients alike.

As female physicians of varying backgrounds, united in a specialty that leans heavily on narrative, the editors have often occupied the voyeur and advocacy seat interchangeably with respect to the impact of systemic bias in shaping opportunity and health outcomes. We have had many a conversation about our roles as agents, silent witnesses and casualties of the status quo in medicine. Nonetheless we recognize our various levels of privilege including the privilege to gather a community of peers on this project. Over the past few years we reflected on the societal biases replicated in medicine, particularly within our ranks as physicians and not just in regard to patient care. We discussed the influence of ethnoracial and socioeconomic bias on the dynamics amongst our healthcare teams and recognized that it was not productive to expect change to start from the top and percolate through the ranks.

While the power structures in medical leadership can orchestrate institutional and cultural changes, the momentum at the frontline level can be even more potent. As we became increasingly uncomfortable with the

EDI “elephant in the room”, we contemplated various ways of contributing to the dialogue. The book materialized out of these discussions. We were jolted beyond musings with the occurrence of parallel seminal events in medicine and society, including a series of fatal police encounters with persons in psychiatric crisis, adverse medical outcomes for racialized patients, recurring questions about our debt as colonial settlers, and the indelible impacts of personal events in our journey as physicians charting the COVID-19 Pandemic.

As we continue to liaise with contributing authors, all from various medical specialties, we recognize that the conversation is even more critical and our very survival as an ecosystem depends on taking action on inequity. If the life jackets for the medical workforce are battered, how can we extend intact life jackets to patients and peers?

Mariam Abdurrahman

Toronto ON, Canada

Preface

In this book, we explore the issues associated with equity, diversity and inclusion (EDI), examine the gaps and opportunities for growth, and then we explore the exciting possibilities for inclusion strategies that can help propel forward momentum, including those that are already unfolding.

The book is organized into three parts, with the first section dedicated to introducing the topic and exploring how we got here. The second part is devoted to exploring the issues as they stand today. The third part focuses on exploring the opportunities to lead with an EDI-informed practice and practical considerations of the way forward. The recommendations and reflections may not be practical for every setting, but certainly the intent and the principles remain true as guideposts to gaining momentum towards a more inclusive professional practice. An EDI Lexicon is included to facilitate a mutual understanding starting with a common language. The lexicon is not exhaustive, nor is it static as the EDI conversation is rich with new ideas, new insights and nuances.

Along with each EDI topic explored is a combination of reflective exercises and vignettes. Through the exercises, vignettes, and a closing creative corner, we hope to increase attention to the less salubrious messaging in the silent curriculum of medicine, whilst concurrently improving the recognition of bias, inequity, microaggressions and options to intervene with microaffirmations and allyship.

The "Pause and Reflect" exercises are designed to engage readers in a reflection of their experiences with the issue and facilitate consideration of equity-bridging possibilities. Ideally, the reflective exercises stimulate dialogue with colleagues, peers and learners as many of these topics remain unaddressed or continue to masquerade in plain sight. Continued silence on these palpable issues promotes a form of violence that moderates further oppression in the culture of medicine, particularly the silent curriculum which has powerful reach in the development of physicians' professional identity.

The professional vignettes are vignettes about physician experiences of inequity in the trenches, so to speak. The professional vignette presents an experiential perspective with a view towards stimulating more explicit discussion of the salient points, particularly as they affect our interactions in the medical microcosm and in effect, sort our medical community into echelons that mirror the societal fabric of bias. Although there is growing discussion, there is still a wealth of silence, with many harboring a quiet belief that "other people are biased, not me", "I'm not the problem, it's others who are". The issue of silence is one of structural violence, and violence need not be overt or physical to diminish the soul or obstruct the breath. We use the analogy of breathing as identity differences are as fundamental to life as a vital sign that results in a metaphorical death when oppressed or suppressed.

The clinical (i.e., patient level) vignettes are designed to enhance increased attendance to the fifth Quintuple Aim of healthcare improvement- health equity. In contrast, the professional vignettes and personal reflections are designed to capture the physician experience of EDI issues. The vignettes are designed as patient and professional level vignettes as the two are closely intertwined. For full disclosure, the clinical vignettes contained in this book have been specifically composed for the publication and are not based on real cases. Any similarity to actual clinical cases in the clinical vignettes presented in this volume is purely coincidental. The professional vignettes represent a combination of both personal experiences and composites of professional encounters, current events and historical events that shape the profession.

In summary, without recognition of the EDI issues that chart a patient's course, we cannot truly be effective care providers, nor will we be able to recognize the same equity issues as they affect our colleagues from equity-deprived groups. These colleagues will continue to grasp for air in a profession that prides itself on administering the lifesaving breath. We hope this book remains on bookshelves during medical training, professional medical practice, and beyond.

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Part 1.

How Did We Get Here?

Chapter 1

Medicine: Yesterday, Today and the Lingering Shadow of Yesterday

Mariam Abdurrahman, MD, Ana Hategan, MD, Muri Abdurrahman, MD

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Hark, who goes there?
Tis I the physic come to balance ye humours.
I bring the leech and the trepan.
What manner of quackery is that?
Away with your chicanery, lest you purloin my soul!
For there is nary a physic to be trusted
—Mariam Abdurrahman, 2023

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Abstract: This chapter examines key aspects of medical history that have shaped the practice of medicine today and concurrently explores the historical residue that manifests as contemporaneous equity, diversity and inclusion gaps. Diversity-related demographic changes in the field are examined against their historic origins, with a focus on the presence of women and ethnoracial minorities in medicine. The chapter considers the ways in which history has shaped our view of various populations and the paradoxical persistence of primacy in medicine despite the vow to do no harm and treat all patients equally. The origins of enduring patient distrust of the establishment are examined in order to better understand the relevance in today's social justice discourse.

Keywords: *equity, diversity, history of medicine, inclusion, medical history, medical mistrust*

Introduction

Indeed today's physician has journeyed far from the ancient ways of medicine offered in the days of balancing humours, bloodletting, trepanation and mechano-stimulatory treatments of hysteria. Medicine began its historical journey as an apprenticeship, with practicing physicians teaching the art and science to acolytes. Training was not restricted to the corporeal tract of knowledge as the process also inculcated apprentices in the ways of seeing the world. In the modern era, the formal organization of medical education and training has significantly altered the training process. Nonetheless, despite the modernization of medical education and clinical practice, the ways of past remain a palpable influence to varying degrees today.

It is often said that one cannot move forward without understanding the past and this certainly rings true in medicine. In this context, history is instructive in demonstrating the ways in which culture, institutions, knowledge, society and power intersect to perpetuate primacy and inequity in medicine. Without knowledge of the origins of historical medical artifacts and their influences on today's medical establishment, attempts to gauge current purpose and level of relevance are unlikely to be fruitful. How do we gauge historical cultural residues and sort the good from the bad if we do not even recognize the origins of current perceptions and practices in medicine?

The practice of medicine has been present in various forms since the dawn of time. As the practice of medicine became more formalized as a profession, so too did a uniting creed focused on the principle to do no harm, and in contemporary times, a commitment to provide all patients with the same quality and standard of care. However, the reality is that the clinical climate is not neutral and the culture of science has never been apolitical or color blind. In fact the very concept of medicine and science being color blind and noble is itself a troublesome fallacy that casts a curtain over key accountabilities in social justice. Continued amaurosis detracts from meaningful and sustained action on creating equity-responsive environments in Western medical settings where colonialism and racism constitute systemic issues. The concept of color-blindness and other identity-blindness is also dangerous as it disregards the contextual factors that shape health, thus allowing equity gaps to continue and potentially deepen further.

Science served colonialism primarily by codifying race, with the sequelae continuing to reverberate in academic and clinical spaces (Amster, 2022). The specter of colonialism in medicine is receiving increased attention. However, attempts to decolonize medicine may have paradoxically driven racism "underground, to continue invisibly in medical structures and cause misdiagnosis, poor patient care, dysfunction, abuse and public backlash" (Amster, 2022).

Society and the prevailing culture have always exerted a strong influence on the practice of medicine and healthcare delivery, with seismic contributions from colonialism, genderism and slavery (Amster, 2022; Daffe et al., 2021; Fraser et al., 2021; Jensen and Carmen-Lopez, 2022; Tilley, 2016). The residual effects of imperialism and the history of medical racism are instructive in attempts to dually understand the underrepresentation of physicians from minority groups and the experiences of minoritized physicians in medicine. The literature shows improved access, care experiences and outcomes for minoritized patients who receive care from physicians of similar backgrounds, added to which minority physicians provide a disproportionate share of care to underserved populations (Greenwood et al., 2020; Marrast et al., 2014; Shen et al., 2018). This speaks to the power of diversity in the physician workforce.

The science and practice of medicine are strongly influenced by historical artifacts that shape the role of physicians, the diversity of the medical establishment and the differential treatment that patients of varying backgrounds receive. As such, cultural imperialism is not restricted to society and continues to shape the agenda in clinical practice (Amster, 2022; Tilley, 2016). These influences have shaped medicine today in a variety of key areas, of which the following will be examined: (i) perspectives on diseases and populations, (ii) minority groups in medicine, (iii) the acquisition and dissemination of knowledge, (iv) gender and medicine, and (v) generational shifts and the future of medicine.

Perspectives on Diseases and Populations

Medical evaluation, diagnosis and treatment are strongly affected by the surrounding culture, society and norms of the time. This closely intertwined relationship is exemplified by the evolution of clinical approaches and diagnostic entities over time, with societal biases conspicuously reflected in the classification of gender, sexuality and race, including the practice of race-based correction. Whilst this close dance with society can be positive when society exerts pressure on medicine to adapt to the changing face of society, the converse is also true in that medicine also shapes society to adapt and shift viewpoints about diseases, populations and treatments. However, medicine has not always been successful in attempts to exert pressure on society to reduce the denigration and ostracism of patients and populations that bear the burden of certain conditions.

The history of leprosy, syphilis and HIV/AIDS provide classic examples of medical complicity in devising and perpetuating discrimination. For example, HIV/AIDS was initially classified as a gay-related immunodeficiency (GRID) syndrome by the medical establishment during the early days of the disease (Singer, 1994). In spite of very early indications that HIV/AIDS appeared to be evolving amongst multiple socially disadvantaged groups rather than being a "GRID condition" as it had been characterized, there was reluctance to shed the notion of HIV/AIDS as a "gay disease" (Singer, 1994), largely driven by the subtext of sexuality-based discrimination. In labelling HIV/AIDS a "GRID condition", the wages of sin rhetoric quickly branded men who have sex with men as being an inferior patient group with no expectation of equitable or inclusive access to care. While there has been much growth in the care of people living with HIV/AIDS in Western settings, the specter of stigma and discrimination persist for the non-heteronormative non-cis gender White male as explored in Chapters 5-12.

Historical views on what were then described as the venereal diseases were very much affected by perceptions of excess and wages of sin in non-European races. One only needs to consider the early views of syphilis to understand the ways in which disease is used to demonize non-European races and once more, underscore prevailing beliefs of racial superiority.

The concept of "exotic syphilis" was coined by Bertherand, a French colonial era physician in North Africa in the mid to late 1800s. He devised a theory of Arab hypersexuality causing a form of hereditary syphilis and constitutional differences including underdeveloped brains and primitive nervous systems (Amster, 2016; Amster, 2022). The observations were also seen with the lens of Islam-as-pathology, a medico-social framework that continued to influence scientific inquiry even after Pasteur's contributions to germ theory (Amster, 2016). This spawned a view of syphilitic endemicity and racial inferiority that was widely disseminated globally about non-White races. In fact, the egregious Tuskegee Study was intended to test the theory of "exotic syphilis" and observe the natural course of disease amongst African Americans who were seen as being promiscuous, lacking in moral fibre and inferior to White Americans (Cartwright, 1851; Park, 2017); we explore the Tuskegee Trial in greater detail with the discussion on medical mistrust. The Tuskegee Trial is of particular relevance given its juxtaposition against the Hippocratic oath and its continuation to 1972, well beyond the development of the Nuremberg Code in 1947.

The originating observations that resulted in the theory of "exotic syphilis" were based on a physician's incidental observations of syphilis amongst prostitutes and soldiers while he was in North Africa. There was no systematic examination of disease prevalence before drawing a conclusion of endemicity at "80%" prevalence (Colombani, 1924 as cited in Amster 2016 p. 322). Nonetheless, these flawed observations were retained and perpetuated throughout the medical field globally in an all-too-common pattern that has been replicated throughout the history of medicine. The same sequence of events unfolded within nephrology and respirology, with unsubstantiated observations being used to devise and perpetuate algorithm-based bias through the use of race correction factors.

Algorithm bias is prevalent across the medical field, with varying degrees of recognition and examination of the provenance of the bias. Structural competence applies an understanding of structural inequities and social determinants including race to clinical care (Hansen and Metzl, 2017; Metzl and Hansen, 2014) rather than inaccurate conflations of race with biology as occurs in algorithm bias which inevitably perpetuates medical racism. The Human Genome Project (1990-2003) illustrated that human beings are 99.9% identical genetically, thus reiterating that race has no genetic basis (USDE, 2019). Given that "how we think about disease pathologies affects how we design policies and deliver care to those most affected by social and economic inequities" (Mendenhall, 2017), the role of socio-pathological factors like racism as a determinant of health cannot be underscored enough. Racism shapes health, race does not; so, why does medicine continue to tie race to biology?

The continued conflation of race and biology is highly problematic as the effects of noxious social conditions are reported as racial differences which in effect redirect the focus from investment in structural solutions. Thus, race insidiously became the reason for disease rather than racism, and the perception of a noble apolitical profession has remained uncontested for much of the history of medicine. It is now recognized that upstream social, political, and structural determinants contribute more to health inequities than factors such as biology, race, and personal choices (Willen et al., 2017). The recent discourse on race correction has forced a moment of reckoning upon the profession, raising questions about the relevance of the process and the moral implications of overlooking the role of racism on health equity (Opara et al., 2021). Is race correction just another form of maintaining health inequity?

Although it is recognized that lower forced vital capacity is associated with social conditions, notably poverty, historic observations of reduced respiratory capacity in Black slaves were reported as a *deficit of the pulmonary apparatus* (Cartwright, 1851; Jefferson, 1832) which was then modified into a correction factor that was embedded in the standard spirometry equipment that is in continued use today (Braun et al., 2013; Braun, 2014; Lujan and DiCarlo, 2018). In nephrology, this is seen in the race correction factor applied to estimates of glomerular filtration rates for Blacks. The origin of race correction factors is covered later in this chapter and the concept of race correction is explored in detail in Chapter 11.

Although many advances have been made in germ theory, ethics and the understanding of diseases, the damage done by historical "experiments" and views such as “exotic syphilis” and “the deficit of the pulmonary apparatus” illustrate how medicine can perpetuate racist ideas in pathology, research, conferences, journals, institutions, grants and medical careers (Amster, 2022). Fast forward to modern day, and the residues of racialized medicine and healthcare persist, although “driven underground” into the fabric of medical institutions and the silent medical curriculum, manifesting in misdiagnosis, poor patient care, and disproportionate rates of diseases and deaths amongst various groups (Amster, 2022), as evident with the COVID-19 Pandemic.

The Pandemic had initially been thought to be the great equalizer, but this notion was quickly dispelled as it became evident that older adults and ethnoracial minorities had a significantly increased risk of infection and mortality (Bowleg, 2020; Marmot and Allen, 2020; Sandset, 2021). In fact, the Pandemic precipitated further racial reckoning alongside the publicized deaths of Joyce Eshaquan and George Floyd. Their deaths highlighted systemic racism that was deeply entrenched in medicine, policing and other key infrastructures. The Pandemic revealed health infrastructure predilections for what they are: healthcare for all, modified by the underpinnings of racialized and class-based health disparities and vulnerabilities (Parker and Ferraz, 2021; Sandset, 2021).

The *necropolitics* (Mbembe, 2003) of COVID-19 are such that certain minoritized groups disproportionately bear the brunt of morbidity and mortality (Sandset, 2021). However, the racialized morbidity and mortality rates of the COVID-19 Pandemic are not unique to this disease or the patient realm. While infected patients are gasping for breath, so too are some of their providers. In particular, minoritized healthcare professionals are similarly fighting for breath in the inequitable infrastructure of the Western healthcare system.

The physician workforce does not resemble the diversity seen in the general populations served, particularly in cosmopolitan settings (Boynton-Jarrett et al., 2021; Rodriguez et al., 2015a/2015b). Historically, many were explicitly excluded from medical careers, for example women and racialized minorities. These groups were relegated to the role of patients and unwitting or unwilling research subjects exposed to much structural violence, through which arises a long memory of medical mistrust as subsequently discussed (Alsan et al., 2020; Amster, 2022; Jaiswal and Halkitis, 2019; Shen et al., 2018).

Minority Groups: Immortality, Elephant-like Memories, and Medical Mistrust

The history of medical mistrust is deeply rooted for certain minority groups and serves as an intergenerational memory, underpinning continued racial trauma and medical mistrust (Alsan et al., 2020; Boynton-Jarrett et al., 2021; Breault et al., 2021; Freimuth et al., 2001; Shen et al., 2018; Wasserman et al., 2007). The gaze cast on minorities is shaped by historical valuation of their very humanity, their entitlements as patients and societally imposed limitations on their level of self-actualization. In addition, knowledge of the health differences across ethnoracial groups is still influenced by flawed historic information, liberally laced with the conflation of race and biology which perpetuate continued structural violence (see Chapter 10 and 11).

The dangers of conflating race and biology are profound and wide ranging; in fact, the conflation has historically allowed the pathologization of attempts to fight oppression on the gender and racial front. Samuel Cartwright's work serves as a case in point, as attempts to flee slavery were pathologized as a diagnosis of *drapetomania* while "lazy" slaves were diagnosed with an ailment "peculiar to negroes" termed *dyaesthenia aethiopica*.

Cartwright (1793-1863) was an American physician and a slave owner who observed a 20% difference in spirometry results between Whites and enslaved Blacks; he concluded that this was a racial deficit of Blacks which gave credence to the idea that forced labor was a form of exercise that improved the pulmonary function of slaves (Cartwright, 1851). Prior to this, an American president (Jefferson) had reported similar observations (Jefferson, 1832; Lujan and DiCarlo, 2018). Together, this slavery era work, which was entirely without any scientific rigour, spawned the widespread practice of race-correction in pulmonary function tests (Braun et al., 2013; Braun, 2014; Lujan and DiCarlo, 2018). The prototype for the modern-day spirometer arose from this slavery era work.

Many pulmonary function studies followed Jefferson and Cartwright's work, reporting the same findings in journals and reiterating an observed difference as a racial deficit or dysfunction. These findings were used to promulgate the idea of racial inferiority through medical establishments, medical symposia and journal publications. Thus, racist publications that were accepted as fact gained uptake into normative practices, constituting one of the most egregious ways in which the history of medicine persists in today's practice of medicine. Are budding respirologists taught the origins of the spirometer? Do they understand the racial connotations of the correction factor? Or are they like most, who trust their medical education and would be in disbelief about the 1700's slavery era origins of a correction that persists to current day scientific practice?

The historical spirometry findings form the basis of modern-day spirometry, yet the level of scientific rigour exercised in the index studies would almost certainly fail the mark today. The index studies on which today's spirometers are built do not appear to recognize context, in that there is no acknowledgment that social factors such as poverty and environmental exposures likely play a greater role in pulmonary capacity despite clear evidence that the social determinants of health and biosocial context exert a far greater influence on health status than do race, culture, ethnicity and behavioural factors (Braun et al., 2013; Braun, 2014; Lujan and DiCarlo, 2018; Singer and Clair, 2003; Singer et al., 2017). In the 226 articles included in Braun, Wolfgang and Dickersin's systematic review (2013) of publications comparing lung function between races, 94% of articles published between 1922 and 2008 did not examine race in the context of socioeconomic status.

In addition to the spirometry contributions described above, Cartwright made other contributions that cast a long shadow to present day. He proposed the term, drapetomania, as a diagnostic entity to describe the "disease of the mind" which "induces the negro to run away" (Cartwright, 1851; AMS Press, 1851; Pilgrim, 2005). He believed that escape attempts were a clear manifestation of mental illness as autonomy and freedom were contrary to God's will for slaves. He declared that "the Creator's will in regards to the negro [declares] him to be a submissive knee-bender" and proposed the diagnostic entity, drapetomania, to capture this mental defect of slaves who attempted to escape (Cartwright, 1851). Cartwright expressed concern about a failure of medical attention to mental diseases of slaves, stating "that it should have escaped the attention of the medical profession, can only be accounted for because its attention has not been sufficiently directed to the maladies of the negro race" (Cartwright, 1851). As with any medical condition, signs, symptoms, prevention and treatment were examined, with Cartwright recommending to "whip the devil out" of slaves who displayed warning signs of drapetomania, while other medical authorities endorsed the removal of both big toes to prevent escape (Cartwright, 1851; Pilgrim, 2005).

The disorder of "rascality" (*dysaesthesia aethiopica*) was also proposed with drapetomania and although debunked, its residue persists to present in the form of the rhetoric about the work ethic of Blacks. This likely shaped the societal framework of withheld opportunities on a supposition of a lack of internal drive. The drapetomania paper was published in a reputable medical journal, *The New Orleans Medical and Surgical Journal,* demonstrating yet again how academic publications have historically provided a powerful conduit for the dissemination of racist propaganda under the guise of medicine and science.

Drapetomania has long since been debunked as junk science, however its connotations certainly linger. Although no longer enslaved by shackles, members of the Black, Indigenous and people of color (BIPOC) community are still attempting to flee the modern-day shackles imposed on them by society and exercised on them in institutions such as medicine. The impact of oppression is not restricted to a social experience, but rather permeates through the skin and into biology as explicated in the Minority Stress Model (Flentje, 2020; Meyer, 2003). Social adversity is transmitted biologically and becomes embodied within individuals and populations, which in turn perpetuates further vulnerability to poor health and disease (Singer, 1994). Thus, structural conditions come to be embodied at the biological level and foster further synergistic interactions that drive poor health status and an increased burden of disease (Singer, 1994).

Disease clusters and differences in health status arise from the complex interplay of structural and systemic factors with biology (Abdurrahman et al., 2022; Bulled et al., 2022; Singer et al., 2017). In turning a blind eye to vectors such as systemic bias, we disregard the clear impacts of inequity on health status and thus allow privilege to supersede patient outcomes. In choosing to overlook the structural drapetomania that oppresses our minoritized peers in medicine, we accept the status quo that limits their wellbeing, professional inclusion and self-actualization, which in turn limits the collective strength of our medical establishments.

The health of members of the BIPOC community consistently reflects the impact of structural myopia and inequity. This is further exacerbated by inequitable access to health and social services, misdiagnosis, poorer outcomes, and appropriation of the racialized body for medical use (Amster, 2022; Browne et al., 2016; Fraser et al., 2021; Jensen and Carmen-Lopez, 2022; Nuriddin et al., 2020; Rouse, 2021; Tilley, 2016; USPHS, 2023). There have been recurring instances of bodily appropriation of minorities over the course of the history of medicine to present. These include medical experimentation, the deliberate infliction of disease to cull populations, forced or withheld treatment and the appropriation of biological material without knowledge and/or consent (Alsan and Wanamaker, 2018; Alsan et al., 2020; Park, 2017; Skloot, 2010; Leason, 2021; Nuriddin et al., 2020; Zingel, 2019).

The medical establishment has been complicit in these unethical actions, at times leading the charge, in parallel with the broader racist structures of society that permitted and justified these actions (Wasserman et al., 2007). For example, James Marion Sims, a renowned gynecologist, made most of his discoveries through vicious experimentation on enslaved women in the 19th century (Amster, 2022; Nuriddin et al., 2020). Sims' ethics reflected the prevailing racist social structure of his time, and the fact that he experimented without anaesthesia was unremarkable of his era (Wasserman et al., 2007). Although abhorrent, it is important to note the context in which many of these events occur, rather than judging them solely on present day outlooks as this precludes the learnings gained over time, particularly in medical and research ethics (Wasserman et al., 2007).

One of the most egregious instances of forced treatment occurred with the implementation of early 20th century eugenics laws which overwhelmingly targeted Native American, African American, and Puerto Rican women for involuntary, coercive, and compulsory sterilisation