Social Emergency Medicine

Principles and Practice

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Foreword

> The tragedy of life is often not in our failure, but rather in our complacency;
> not in our doing too much, but rather in our doing too little;
> not in our living above our ability, but rather in our living below our capacities.
> Benjamin E. Mays, (1894–1984)

I offer a few statements by people whose words and actions helped me understand the meaning of social emergency medicine.

- I know what Rudolf Virchow (1821–1902) meant when he told his father: "I am no longer a partial man but a whole one in that my medical creed merges with my political and social creeds."
- I understood the lack of worker safety and food quality of the Chicago meat industry that Upton Sinclair (1878–1968) described in "The Jungle."
- My eyes were opened by Rachel Carson's (1907–1964) concerns for protecting the environment in the "Silent Spring." She taught us that whatever we do can affect every other human, animal, and plant through destruction of the quality of our air, water, and land.
- I appreciated the transformative thoughts of Gregory Pincus (1903–1967) as he discussed how his creation of the oral contraceptive would give women the right to control when they would become pregnant.
- I worked with Norman Pirie (1907–1997), a British biochemist who led an international team creating leaf protein for human consumption in an attempt to end kwashiorkor and marasmus.
- In the New Yorker, I read Berton Roueché's (1910–1994) monthly column "The Annals of Medicine" where he described people whose new diseases were treated by creative scientists and activist physicians.
- I read William Haddon's (1926–1985) papers on the role of an epidemiologist in searching for the factors that cause injury in the United States and the world. I learned to believe that his epidemiologic triad of the host, the agent, and the environment could be employed to investigate any problem I wished to address in emergency medicine.
- We all began to appreciate the remarkable civil rights advances led by Martin Luther King, Jr. (1929–1968) and the astounding health rights potential of the enactment of Medicaid (1965) and Medicare (1965) legislation.

When many of the earliest physicians in emergency medicine in the United States began caring for patients in "Emergency Rooms," there was little prior education in the field, little prehospital care, little or no graduate or postgraduate EM education, and very mixed opinions, if not outright rejection, of this work in emergency medicine by the leaders of organized academic medicine. I, for example, started my role at Bellevue Hospital with the support of New York City government and health leaders, but without support of the New York University School of Medicine. We worked to ensure that our doors would be open to everyone, under any circumstances, and as a right, independent of finances.

As we began this work, it became obvious that many individuals who were critically ill and injured came to our doors, receiving medical care never before available—often with remarkable results. Like those who arrived at Ellis Island, just a short distance from Bellevue Hospital, all of our patients were welcomed as they had been by Emma Lazarus.

> Give me your tired, your poor, your huddled masses yearning to breathe free,
> The wretched refuse of your teeming shore. Send these, the homeless, tempest-tost to me,
> I lift my lamp beside the golden door!
> Emma Lazarus (1849–1887)

In addition, members of our communities discussed in every chapter of this text—the neglected, discriminated against, abused, and needy—arrived. Those without food and shelter; those injured by domestic violence, industrial activities, traffic crashes, or child abuse; and those suffering from racism or misogyny and substance use or alcoholism came to our doors. We were ill prepared. We did not know enough social policy, public and population health, or human rights. It was obvious that our best efforts should have included writing prescriptions for food, clothing, housing, education, a job, and voter registration. Many hospitals were designed to serve communities that were more enfranchised and had fewer patients with overwhelming social determinant concerns: at the inception of emergency medicine, it had not been clear that addressing such concerns would become a hallmark of our field. It was the belief of some early leaders, particularly those in public hospitals who cared for the most disenfranchised, that emergency medicine might be more effective and better linked to a school of public health than a school of medicine. In the current climate, the bonds to medical centers, schools of medicine, and schools of public health are far stronger and vital, but still often representing complex, frequently incompatible interests.

The environment of the emergency department with our eyes on the community and our feet in the hospital has required us to be "doctors without intellectual or social borders." Emergency physicians must listen to our patients; we must look at them objectively and sympathetically and treat them to the best of our abilities in spite of our inadequacies and societal obstacles.

We must become Virchow's "natural advocates of the poor." We must do the essential scientific and humanistic work that restores public trust in science and medicine which will simultaneously prevent us from "clinician burnout." Our tasks

in addressing the social determinants of our patients' health are enormous, but we have creative, purposeful investigators as demonstrated in this book who need collaborators. We must reimagine actions to address the social determinants of population health that have a strong social, ethical, and humanistic foundation and we must do so in our emergency departments. Precision medicine is the latest catchphrase meant to define the future of our field. We remain focused in this text on a program for creating a culture of precision *prevention* for population health in the ED, which arguably affects many more people on a deeper level. This approach to integrated, creative prevention will dramatically increase the focus on the social determinants as not only a medical but also a societal responsibility. In an ideal world, such an approach would diminish or even eliminate the need for the type of delayed rescue and inadequate stabilization that is often the norm in emergency care. These steps will be the only means of achieving the World Health Organization's (1986) definition of health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity."

Our future will be developed by sensitive, humanistic, observant clinician-investigators who float intellectually between the community and the bedside. This book and these authors and editors have demonstrated the inadequacies in our society and our health education, and the critical deficits in systematically addressing the social forces faced by our patients. This book and the advances that many of the educators, clinicians, and investigators have described show us how we as emergency physicians and many others in society can play roles in improving the population's health and assuring the human rights of all individuals. This book enhances the foundation of social emergency medicine, demonstrates that we do see the injustices in our society, we know how to study these issues, and that we are finding pathways to implement essential changes necessary to overcome the social determinants that limit our patients' personal success and societal safety. We must address the social determinants that define and drive our patients' visits; we must create teams that cross all community, cultural, academic, political, and governmental borders to provide the research and evidence that will facilitate understanding and progress. This fine text demonstrates that precision medicine is an illusion for almost all of our society and how precisely we measure and successfully address the social determinants discussed in the text will determine how we live, the types and severity of illness we have, and how we die.

New York, NY, USA Lewis R. Goldfrank

Preface

Many people who choose to read this book may already be deeply invested in and knowledgeable about social emergency medicine. Others may be skeptical, wondering whether this is truly core content for emergency medicine or "part of our jobs"—especially as our jobs seem to become harder and more complex with each passing year. For anyone in the latter category, we are particularly glad that you have picked up this book. We hope that the chapters within will demonstrate clearly both *why* emergency medicine must concern itself with these issues as well as *how* we can, by incorporating social context, improve our practice of emergency medicine in small and large ways.

The practice of what has recently coalesced as social emergency medicine has been long underway, including at several safety-net institutions across the country. It also has a long historic precedent in fields outside emergency medicine and indeed outside medicine itself. Social emergency medicine has its roots in the concept of social determinants of health, described by *Healthy People 2020* as "conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks." [1] There has been an increasing public and scientific awareness that these conditions have a significant impact on health: experts estimate that while 10% of one's overall health is attributable to medical care and 30% to genetic predisposition (itself influenced by the environment as the growing field of epigenetics teaches us), 60% is related to social, economic, behavioral, and environmental influences [2].

As access to and legislation regarding our healthcare system changes over the years, emergency departments (EDs) consistently serve as our nation's safety net. While EDs cannot and should not be expected to solve all of society's failings, in our EDs we have a unique opportunity to bear witness to those failings. The willingness and skillset needed to address the social needs of our patients—and to understand the larger social and structural contexts in which they come to our doors—comprise a large part of our job, a part that is critical to our patients' well-being. Chapter authors describe how we can account for these factors in our individual patient interactions to provide better patient care. These experts also describe how we can productively collaborate with community organizations and advocate for policies that can more fundamentally remedy the inequities we witness daily in our EDs. We must do this work with humility, not as saviors but as partners and contributors.

The tent of social emergency medicine is wide, and the boundaries are not yet fully defined as the field continues to grow and mature. We struggled to decide what topics should constitute chapters in this inaugural textbook and apologize for any omissions. Some key concepts—such as public health practice and health inequities—are woven across multiple chapters rather than having their own specific chapter. We also acknowledge that we are biased by our own practice locations and therefore this book focuses most of its attention on the United States; we hope that the information it offers will be useful to readers elsewhere as well.

Each chapter follows the same general structure. Chapters begin with an abstract and key points. Next, a *Foundations* section includes background and a brief review of the evidence basis on the topic. The *Bedside and Beyond* section is organized according to the ecological model, with attention first to the level of the patient's bedside, then the hospital and healthcare system, and finally the societal level. We know that readers of this text will range from those practicing in hospitals that have perhaps never before considered addressing patient social needs or are poorly resourced, to those practicing at medical centers that are already well-versed in social emergency medicine. Therefore, in the *Recommendations for Emergency Medicine Practice* section, we asked chapter authors to give actionable recommendations at the basic, intermediate, and advanced levels. *Basic* recommendations are those that chapter authors felt every emergency provider and ED across the country should be doing now as part of providing quality emergency care. *Intermediate* recommendations are the next steps after an emergency provider or department has implemented the basics. *Advanced* recommendations often extend outside the ED to community involvement and advocacy including, for example, efforts that should be undertaken by emergency medicine specialty organizations, hospital groups, or others on a broader scale. Finally, each chapter ends with a *Teaching Case* including a clinical case, teaching points, and discussion questions. We asked authors to keep their chapters firmly grounded in the prior literature, so that chapters can serve as durable, evidence-based resources for readers. We aim for this text to be useful to a wide variety of emergency medicine practitioners: residents, attending physicians, nurses, physician assistants, nurse practitioners, social workers, administrators, and others. Its pages may also be useful for medical students, health policymakers, and others outside emergency medicine who are interested in a frontline view of social determinants of health and resultant social needs.

Our hope is that this text serves not only as a reference and educational resource, but as a guide for action. While some of the recommendations may currently seem aspirational for some ED settings, change begins with small steps made by each of us. Meaningful action could be as small as making a change in an element of one's own clinical practice. Or it could be as big as collaborating with local organizations on a program to better serve one's local community, advocating against health injustice, implementing new policies to address social needs within healthcare, or conducting groundbreaking research. For those new to social emergency medicine—and maybe even new to medicine itself—we would encourage you to dream big but not to fear starting small.

As we were putting the final touches on edits for this book, our world was besieged by two traumatic events: the COVID-19 pandemic and the murder of George Floyd. The pandemic wreaked havoc on many of our EDs, but even more pertinent to this book it put into sharp relief the profound health inequities in the United States. The inequities witnessed during the COVID-19 pandemic—borne of structural racism and many of the same social needs discussed in this book including financial insecurity and inadequate housing—strengthen our conviction that social emergency medicine is a vital part of emergency medicine. Similarly, the murder of George Floyd at the hands of police during a time when COVID-19 was already exposing—yet again—longstanding racial inequities has been a call to action to address racism within the many *structures* of American society, including healthcare. In viewing the social determinants of health through a structural lens, we can begin to understand the upstream social and economic policies that impact healthcare and outcomes. Most chapters of this book were already complete prior to the COVID-19 pandemic and George Floyd's murder and the resurgence of attention to structural racism that followed, and therefore do not discuss these events explicitly. Yet we hope that readers will be able to draw clear lines between the topics described in this book and these events—and will recommit themselves to fighting health injustice. We acknowledge that we are all learning. We hope that this book will help to foster dialogue within yourself, with your colleagues and in your health system, and beyond.

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References

1. Healthy People 2020. Social determinants of health. Available at: https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health.
2. Schroeder SA. We can do better – improving the health of the American people. N Engl J Med. 2007; 357(12):1221–8. https://doi.org/10.1056/NEJMsa073350.

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Part I

Underpinnings of Social Emergency Medicine

Social Emergency Medicine: History and Principles

1

Harrison J. Alter, Jahan Fahimi, and Nancy Ewen Wang

It is important for all of us to appreciate where we come from and how that history has really shaped us in ways that we might not understand [1].

Sonia Sotomayor

Key Points

- Social emergency medicine generally refers to the incorporation of social context into the structure and practice of emergency care.
- There are three main strands of history that intertwine to create the fabric of social emergency medicine. The first is the social medicine movement, rooted in the works of nineteenth century Rudolph Virchow, put into practice by the sociopolitical changes in Latin America in the mid twentieth century led by revolutionary physician Ernesto "Che" Guevara, and the vision of community clinics created by Jack Geiger in Mound Bayou, Mississippi in the 1960s.

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- The second strand is the birth and growth of the specialty of emergency medicine. Emergency medicine was first officially recognized as a specialty in 1978 and imprinted with a social mission from the start.
- The third strand is the academic field of social epidemiology, most relevant for elaborating the social determinants of health. Research in this field has highlighted the fundamental and overwhelming contribution of "how we live, eat, work and play" to a person's health, well-being, and longevity, as compared to the contributions of medical care.

Social Medicine as a Political and Clinical Movement

Social medicine can be understood as the investigation of social, behavioral, and environmental factors influencing human disease and disability and the elucidation of methods of disease prevention and health promotion in individuals and communities [2]. Inherent throughout social medicine is its political mandate, to actively pursue change in social structures that suppress health and health equity.

Rudolf Virchow (1821–1902), commonly cited as the "Father of Pathology" is also one of the fathers of social medicine. Dr. Virchow was commissioned by the Prussian government to investigate a typhus outbreak in Upper Silesia (now in Poland) in 1848. His report laid clear blame for the outbreak on the miserable social conditions he found. He criticized government inaction, advocating for improved education, increased wages, and changes in agricultural policy [3]. Virchow's colleagues and students popularized the concept of medicine as a clinical social science in the interwar years. According to Porter's brief history of social medicine, "The interdisciplinary program between medicine and social science would provide medicine with the intellectual skills needed to analyze the social causes of health and illness in the same way as the alliance between medicine and the laboratory sciences had provided new insights into the chemical and physical bases of disease." [2]

The Latin American social medicine movement directly applied these principles to implement social change. So much so that they stated that social medicine policies should not be concerned with clinical medicine but rather with the conditions—the structures—that created the clinical situation. Thus Salvador Allende, a Chilean pathologist, as health minister and later as elected president of Chile, focused on social transformation—the alleviation of poverty, poor working conditions and lack of education—as fundamental to improving health. Dr. Ernesto "Che" Guevara's concept of revolutionary medicine similarly promoted teaching physicians about the social origins of illness and the need for social change to improve health. Overall, social medicine in Latin America focused on transforming the political and social structures underlying poverty, whereas public health worked within existing structures to create and implement public policy to benefit health [2].

In the US, during the 1960s, Drs. H. Jack Geiger and Count Gibson attempted to bridge the demand for structural change with the patient- and community-level effects of social inequality, establishing the first two community health centers in Bolivar County, Mississippi, (known as Mound Bayou) and the Columbia Point Public Housing Project in Boston, Massachusetts. The impetus to create these

centers grew from the Medical Committee for Human Rights, a consortium of healthcare workers providing care to activists during the "Freedom Summer" volunteer movement for civil rights in Mississippi. Both Mound Bayou and Columbia Point provided much needed medical services in struggling communities [4]. They attempted to address the poverty, malnutrition, and unemployment as the roots of the poor health they observed. Geiger engaged local Black-owned grocers in Jim Crow Mississippi to honor food prescriptions written by clinicians for their malnourished patients at the Mound Bayou clinic. Geiger was famously quoted as saying, "The last time we looked in the book for specific therapy for malnutrition, it was food." [4] The community health center model, now codified in our Federally Qualified Health Centers (FQHCs), has spread widely—currently there are over 1000 centers throughout the US. This model relies on community engagement in a way that few other elements of the medical-industrial complex do, incorporating a community voice through advisory committees and patient advocacy panels. Geiger then went on to build the Social Medicine program at the City University of New York and Montefiore Hospital, which has trained generations of physician-activists.

The Specialty of Emergency Medicine and Its Social Mission

Emergency medicine is one of the youngest fields of medicine, not yet 50 years old in 2021. Unique among medical specialties, emergency medicine's specialty status is not based on an anatomic system, procedure, or specific patient population. Rather, emergency medicine is based on place and time. Emergency "rooms" are situated as the doorway to the hospital. As such, they are an entrance to social and medical services for the surrounding community. They also serve as a window into the community's health. Emergency care is predicated on a layperson's perception of an acute need and defined by access to care at any time of the day or night. By the definition endorsed by the American College of Emergency Physicians (ACEP), "The practice of emergency medicine includes the initial evaluation, diagnosis, treatment, coordination of care among multiple providers, and disposition of any patient requiring expeditious medical, surgical, or psychiatric care." [5] Or, put another way, we offer specialty care for "anyone" with "anything" at "anytime" [6].

Emergency medicine as a specialty arose out of the success of "curative" medicine and the development of modern hospitals housing diverse and increasingly effective diagnostic and treatment technology. After World War II, the US government put increased resources into building up the nation's health care infrastructure. The Hill-Burton Act of 1946 explicitly provided for hospital construction particularly in rural and small neighborhoods. Physicians' practices migrated from individual offices to hospitals, where they could provide efficient care and specialty access [7]. Although hospitals had emergency rooms, these had no designated medical staff. Private physicians or specialists would arrange to meet and care for their own patients in need and, if necessary, admit them to the hospital. Poor patients without a private physician would also go to the emergency room in search of help, often only to be seen by the least experienced personnel. Thus, the emergency room,

though full of patients, had no specific personnel or expertise for evaluating and stabilizing patients with undifferentiated conditions.

The first known emergency medicine groups were formed in 1961 in Alexandria, Virginia, and Pontiac, Michigan. Brian Zink, emergency medicine's unofficial historian, points out that James D. Mills, the first emergency physician, was attracted to the practice in large part because of his realization that, "in serving as a full-time emergency physician … he could have more of an impact on improving health care for at least some of the poor and uninsured in his city" [6].

Demand for emergency medical care increased dramatically during this era. The Medicaid and Medicare programs implemented in 1963 gave recourse to the poor and elderly needing emergency care while providing financial incentives to physicians to care for them. Next, the Emergency Medical Treatment and Active Labor Act (EMTALA), passed in 1986, codified specific standards of care as a mandate: EMTALA required medical screening and stabilization for anyone who sought care within the grounds of a hospital. By law, though unfunded, no one, regardless of medical problem, ability to pay, or skin color, could be turned away from an emergency room.

While public policy was working to provide a solution to challenges arising from societal evolution, modernization, and changing demographics, the medical profession recognized the importance of structure, organization, standards, and a trained cadre of practitioners—the preconditions for establishment of a specialty. Thus, increasing demand for quality emergency care stimulated the creation of the American College of Emergency Physicians. In the early 1970s, the first emergency medicine residencies coalesced, followed quickly by the establishment of the American Board of Emergency Medicine, a formal examination and certification arm. The American Board of Medical Specialties approved emergency medicine as a specialty in 1979.

A new medical-social contract was forming from these developments. In the latter half of the twentieth century, those who were poor or disabled, who were immigrants, without primary care, or without the resources to prevent health complications or personal tragedies all now had a place to turn. Emergency rooms became emergency departments (EDs), equipped with the infrastructure, capability, workforce, and expertise to care for a larger segment of society. The principles of social medicine—as well as population and public health—were powerfully relevant to emergency medicine, which had been, in part, woven from "threads of egalitarianism, social justice, and compassion for the poor and underserved" [8].

The Horizon Expands: The Emergence of Social Epidemiology

We now understand the social conditions that Geiger and Gibson attempted to treat collectively as "social determinants of health." This concept began to materialize as the field of Social Epidemiology took shape in the early 1960s based in part on the work of Leonard Syme and Sir Michael Marmot. The concept of the social determinants of health emerged from early findings of the socioeconomic gradient in health,

now recognized as one of the most robust relationships in biology [9]. For example, in studying the relationship between social mobility and coronary heart disease, Syme, like Virchow, found that social determinants largely predict health [10]. Syme's advantage was the tools of epidemiology, allowing him to demonstrate the concept more empirically.

The social determinants of health have since come to be defined by the World Health Organization (WHO) as the "conditions in which people are born, grow, live, work and age…shaped by the distribution of money, power and resources at global, national and local levels" [11]. Researchers and experts may expand these determinants to include income and income distribution; early life; education; housing; food security; employment and working conditions; unemployment and job security; social safety net; social inclusion/exclusion; and health services [12]. Increasingly, factors such as structural and community violence and racism are among the social forces included as social determinants of health [13].

As Social Epidemiology evolved, it took on some of the same characteristics that made emergency medicine unique. Whereas epidemiologists had been concerned with specific diseases—infectious disease outbreaks, injury, or cancer epidemiology—social epidemiology asserted itself in understanding the dynamics of the health of populations. This more holistic vantage meant that just as emergency physicians first saw patients with undifferentiated complaints and applied tools to make a definitive diagnosis, social epidemiologists studied the ubiquitous upstream drivers of health, applying them to a wide range of diseases.

Social epidemiology and emergency medicine share another conceptual framework: the care and study of populations. As one important arm of population health, EDs ensure that all persons have access to care, thereby somewhat reducing the impact of healthcare disparities. However, while social epidemiology studies social determinants of health, the practice of emergency medicine often addresses social needs, something that is best addressed at the bedside. Social needs may arise from social determinants of health, but these terms are not synonymous. For example, the relationship between an individual's hunger (the social need) and the structural determinants of the food landscape in that person's community (the social determinants of health) is complex. While a clinician interested in the relationship between social context and emergency care (i.e., social emergency medicine) may be interested in pushing both of these levers, action on the individual patient's hunger is often more direct and tangible in the ED. This is an illustration of the "upstream/downstream" dichotomy in social epidemiology [14].

In the current era, concepts relating to the social determinants of health are being rapidly refined. One way in which the dialogue is shifting is the sharpening focus on *structural* determinants of health, a concept which incorporates the way that social constructs such as racism, sexism, ablism, and other biases influence how society and institutions address health [15]. An example of such a focus is a study overlaying maps of acute asthma ED visits on historical "redlined" maps [16], which the federal government created for banks to exclude African-American and Latinx loan applicants from securing mortgages. The study's finding of increased ED visits within these neighborhoods supports the idea that structural racism, highlighted by the loan maps, has direct effects on health.

Social Emergency Medicine Comes Together

Any emergency clinician can glance at a list of social determinants and immediately understand how these and other social forces frequently complicate clinical encounters with their patients. These clinical experiences have long motivated clinician-scientists and health services researchers to investigate the distribution and impact of social determinants on the health of patients seeking care and help in EDs. Early examples of such inquiries include studies exploring the relationship between access to primary care and patterns of ED use [17, 18].

In 1994, Edward Bernstein led an authorship group on a paper entitled, "A Public Health Approach to Emergency Medicine: Preparing for the Twenty-First Century" [19]. This paper laid out an argument for a broader scope of practice in emergency medicine, an initial blueprint for what has become social emergency medicine. Their scope was somewhat limited, however, by the era; public health's incorporation into the medical model at that time meant essentially secondary prevention, identifying medical presentations whose recurrence could be prevented by social intervention, often taken to mean patient or public education.

Dr. Bernstein, an emergency physician, and Dr. Judith Bernstein, a public health and policy expert, then published *Case studies in emergency medicine and the health of the public,* a book which demonstrated opportunities for public health-style interventions in the ED through clinical cases [20]. The text introduces readers to cases about homelessness, partner violence, substance use disorder, and other social concerns, providing glimpses into practicing emergency medicine with a population health lens. In 1999, James Gordon published a paper in the *Annals of Emergency Medicine* further highlighting the interconnectedness of social and clinical care in EDs. Gordon's widely cited paper, "The Hospital Emergency Department as a Social Welfare Institution," deserves credit in many respects for launching the contemporary era of social emergency medicine.

Gordon lays out his vision for the twenty-first century ED:

> "How would a social triage system actually work? All patients presenting to the ED (or their proxy, when appropriate) would be screened by a short panel of questions built into the standard triage history or registration interview, designed to detect unmet social needs. The questions would reflect basic material, economic, social, and health factors important to maintain a minimum standard of well-being. Items would address such basic issues as: Can you pay your rent? Are your utilities working? Do you have enough food to eat? Can you get to the doctor? Can you afford medicines? Such simple questions are often never asked of the most disadvantaged and are usually absent from standard medical evaluations—yet the answers can profoundly reflect on overall well-being. If a major category of deprivation is identified, the patient would be referred to the social triage center for a more complete social evaluation, and a social care and referral plan established. This process would be designed not to interfere with the formal medical encounter, and could occur in the social triage area just before formal discharge" [21].

Gordon argues effectively that patients make a rational choice to seek care in the ED, and that as both a practical matter and a human one, EDs ought to be equipped to meet their needs.

For decades, the work of many clinicians and researchers from across the country has pointed towards this goal while building the field of social emergency medicine.

The label of social emergency medicine and its origins as a coordinated field began a few years after the publication of Gordon's roadmap, when EM physicians at Highland Hospital, in Oakland, California, partnered with the family of Andrew Levitt, a colleague who died unexpectedly, to honor his legacy by forming an independent non-profit research and advocacy institute to promote the concept of social emergency medicine. In 2008, they launched the Andrew Levitt Center for Social Emergency Medicine.

Meanwhile, the practice of social emergency medicine was not a new concept. Clinicians and leaders in emergency medicine from across the nation were training residents and building programs to think beyond the walls of the ED. For example, Lewis Goldfrank at NYU-Bellevue was shining a light on the importance of care for vulnerable populations and Stephen Hargarten at the Medical College of Wisconsin was studying violence and its impact on health. Clinician-investigators and socially oriented leaders worked together to bridge the gap from research to evidence-based implementation by addressing human trafficking, gun violence, homelessness, and a wide array of other issues affecting their patients.

Social EM: Current State and Future Aspirations

Soon after the creation of the Levitt Center, the idea of formalizing social emergency medicine began to take hold within academic and organized emergency medicine. Emergency medicine faculty at Stanford University and Highland Hospital simultaneously created the first training fellowships in social emergency medicine. In 2017, the Levitt Center, ACEP, and the Emergency Medicine Foundation organized a consensus conference in Dallas, Texas, funded by the Robert Wood Johnson Foundation. This event, titled "Inventing Social Emergency Medicine," drew a diverse array of investigators and innovators from across emergency medicine. Its proceedings, published as a supplemental issue of *Annals of Emergency Medicine* [22], constitute the most extensive collaboration of experts in the field. Shortly after the conference, a Social Emergency Medicine Section at ACEP and an Interest Group at the Society for Academic Emergency Medicine were created, to provide ongoing forums for collaboration among like-minded members of these specialty societies.

The range of initiatives proposed and undertaken by the members of these groups is vast. There are help desks for health-related social needs, such as the Highland Health Advocates [23]. There is a broad network of hospital-based violence intervention programs [24]. Numerous interventions recognize and address homelessness and unstable housing in ED patients. ED-based health coaches aid patients with chronic disease management [25]. After exploring the importance of the built environment, faculty and staff at the University of Pennsylvania ED have collaborated to "green" vacant lots, effectively reducing the community burden of medical emergencies [26]. Many of these innovations are documented in this textbook.

The basic precepts of the practice are emerging from the foundational and programmatic work. One of the recurrent themes is the notion of inreach; working with community partners to bring their social services into the ED. ED social workers, long the linchpin of addressing social needs, cannot do it all; between assessments, grief counselling and death notifications, family support, and so much more, there are limits on their capacity. For specialized services, such as bedside advocacy for violence survivors or housing needs, skilled community service providers with established relationships in the ED can meet patients in the ED. When services cannot be brought within the walls of the hospital, interprofessional teams have collaborated to develop "warm handoffs" for patients who need linkage to services to address their social needs [27].

Another theme arising as the historical precedent evolves into contemporary social emergency medicine is that the ED is a rational and potentially important location to address and assess patients' social needs. Though much focus of social medicine has centered on primary care, there is growing evidence that EDs have a unique role to play. For one, research has shown that—compared to patients in other settings—ED patients have uniquely high burdens of multiple social needs, including homelessness, food insecurity, exposure to violence, and others [28]. Relatedly, EDs accept patients at any hour and are mandated to serve all who seek care, therefore serving many—whether due to lack of access to other health care, patient preference, or other reasons—who do not receive regular outpatient care [29, 30]. Last, EDs serve as a social surveillance system, recognizing emerging individual and population social needs and creating capacity to address them at the bedside or within a larger system.

Parallel to the growth in social emergency medicine practice, there has been a surge in social emergency medicine research. Such inquiry is critical to push the field toward effective interventions and further solidify its standing as a rigorous, evidence-based part of emergency medicine. However much social emergency medicine has been about *doing*, it is crucial to also focus on *understanding*. As readers experience the breadth of topics in this text, attention should be paid to the underlying evidence to support the authors' conclusions, with an eye towards future high-quality research that will guide programs and interventions.

As this text highlights, a geographically and demographically diverse group of clinician-scientists and clinician-advocates have coalesced around a unifying movement [31]. Through sharing of insights, methods, and approaches, there now appears to be a collective voice advancing emergency care through incorporation of social context and social determinants of health.

References

1. Marinucci C. SCOTUS Justice Sonia Sotomayor in SF: on affirmative action, "terror" on the job — and witchcraft. In: PoliticsSource. Albany Times Union; 2013. Accessed 02/05 2020.
2. Porter D. How did social medicine evolve, and where is it heading? PLoS Med. 2006;3(10):e399. https://doi.org/10.1371/journal.pmed.0030399.

3. Virchow RC. Report on the typhus epidemic in Upper Silesia. Am J Public Health. 2006;96(12):2102–5. https://doi.org/10.2105/ajph.96.12.2102.
4. Ward TJ, Geiger HJ. Out in the rural: a Mississippi health center and its war on poverty. New York: Oxford University Press; 2017.
5. Definition of Emergency Medicine. "@acepnow". 2020. http://www.acep.org/patient-care/policy-statements/definition-of-emergency-medicine/.
6. Zink BJ. Anyone, anything, anytime: a history of emergency medicine. 2nd ed. Dallas: ACEP Bookstore; 2018.
7. Starr P. The social transformation of American medicine. Updated edition ed. New York: Basic Books; 2017.
8. Zink BJ. Social justice, egalitarianism, and the history of emergency medicine. AMA J Ethics. 2010;12(6):492–4.
9. Wilkinson RG, Pickett KE. Income inequality and socioeconomic gradients in mortality. Am J Public Health. 2008;98(4):699–704. https://doi.org/10.2105/AJPH.2007.109637.
10. Syme SL. Historical perspective: the social determinants of disease – some roots of the movement. Epidemiol Perspect Innov. 2005;2(1):2. https://doi.org/10.1186/1742-5573-2-2.
11. WHO | About social determinants of health. In: WHO. World Health Organization. 2017. https://www.who.int/social_determinants/sdh_definition/en/.
12. Raphael D. Addressing the social determinants of health in Canada: bridging the gap between research findings and public policy. Policy Options-Montreal. 2003;24(3):35–40.
13. Paradies Y, Ben J, Denson N, Elias A, Priest N, Pieterse A, et al. Racism as a determinant of health: a systematic review and meta-analysis. PLoS One. 2015;10(9):e0138511. https://doi.org/10.1371/journal.pone.0138511.
14. Braveman P, Egerter S, Williams DR. The social determinants of health: coming of age. Annu Rev Public Health. 2011;32:381–98. https://doi.org/10.1146/annurev-publhealth-031210-101218.
15. Shokoohi M, Bauer GR, Kaida A, Lacombe-Duncan A, Kazemi M, Gagnier B, et al. Social determinants of health and self-rated health status: a comparison between women with HIV and women without HIV from the general population in Canada. PLoS One. 2019;14(3):e0213901.
16. Nardone A, Casey JA, Morello-Frosch R, Mujahid M, Balmes JR, Thakur N. Associations between historical residential redlining and current age-adjusted rates of emergency department visits due to asthma across eight cities in California: an ecological study. Lancet Planetary Health. 2020;4(1):e24–31.
17. Baker DW. Patients who leave a public hospital emergency department without being seen by a physician. JAMA. 1991;266(8):1085. https://doi.org/10.1001/jama.1991.03470080055029.
18. Akin BV, Rucker L, Hubbell FA, Cygan RW, Waitzkin H. Access to medical care in a medically indigent population. J Gen Intern Med. 1989;4(3):216–20.
19. Bernstein E, Goldrank LR, Kellerman AL, Hargarten SW, Jui J, Fish SS, et al. A public health approach to emergency medicine: preparing for the twenty-first century. Acad Emerg Med. 1994;1(3):277–86. https://doi.org/10.1111/j.1553-2712.1994.tb02446.x.
20. Bernstein E, Bernstein J. Case studies in emergency medicine and the health of the public. Boston: Jones and Bartlett Publishers; 1996.
21. Gordon JA. The hospital emergency department as a social welfare institution. Ann Emerg Med. 1999;33(3):321–5.
22. Alter HJ. Foreword to conference proceedings, inventing social emergency medicine. Ann Emerg Med. 2019;74(5S):S1–2.
23. Losonczy LI, Hsieh D, Wang M, Hahn C, Trivedi T, Rodriguez M, et al. The Highland Health Advocates: a preliminary evaluation of a novel programme addressing the social needs of emergency department patients. Emerg Med J. 2017;34(9):599–605.
24. Bonne S, Dicker RA. Hospital-based violence intervention programs to address social determinants of health and violence. Curr Trauma Rep. 2020;6:23–28.
25. Capp R, Misky GJ, Lindrooth RC, Honigman B, Logan H, Hardy R, et al. Coordination program reduced acute care use and increased primary care visits among frequent emergency care users. Health Aff. 2017;36(10):1705–11.

26. Hohl BC, Kondo MC, Kajeepeta S, MacDonald JM, Theall KP, Zimmerman MA, et al. Creating safe and healthy neighborhoods with place-based violence interventions. Health Aff. 2019;38(10):1687–94.
27. Kelly T, Hoppe JA, Zuckerman M, Khoshnoud A, Sholl B, Heard K. A novel social work approach to emergency department buprenorphine induction and warm hand-off to community providers. Am J Emerg Med. 2020;38:1286.
28. Malecha PW, Williams JH, Kunzler NM, Goldfrank LR, Alter HJ, Doran KM. Material needs of emergency department patients: a systematic review. Acad Emerg Med. 2018;25(3):330–59. https://doi.org/10.1111/acem.13370.
29. Poon SJ, Schuur JD, Mehrotra A. Trends in visits to acute care venues for treatment of low-acuity conditions in the United States from 2008 to 2015. JAMA Intern Med. 2018;178(10):1342. https://doi.org/10.1001/jamainternmed.2018.3205.
30. Hwang SW, Chambers C, Chiu S, Katic M, Kiss A, Redelmeier DA, et al. A comprehensive assessment of health care utilization among homeless adults under a system of universal health insurance. Am J Public Health. 2013;103(S2):S294–301.
31. Directory — SocialEMpact. 2020. https://www.socialempact.com/directory.

Part II

Social Constructs, Structural Determinants, and Individual Identity

Race and Racism in Social Emergency Medicine

2

Sukhveer K. Bains, Christopher M. Colbert, and Marina Del Rios

Key Points

- Structural racism is defined as the macro-level systems, institutions, social forces, ideologies, and processes that generate and reinforce inequities among racial groups [1]. Emergency medicine physicians should be aware of how the history of structural racism has resulted in differential healthcare resource availability and health outcomes in the communities they serve.
- Implicit bias is an unconsciously held belief pertaining to a specific social group, related to the process that leads to stereotyping. Implicit bias helps explain how socialization can manifest in our unconscious and unintentional actions. It is a universal phenomenon, and awareness is key to control its negative effects on patient care.
- Emergency providers have a unique lens into health disparities as front-line healthcare workers. By actively working toward reducing implicit bias and advocating for systemic anti-racism strategies that dismantle structural racism, emergency providers are able to provide more equitable care at the bedside.

Foundations

Background

Race and Structural Racism

> Race is not a biological category that naturally produces health disparities because of genetic differences. Race is a social category that has staggering biological consequences because of its impact of social inequality on people's health
>
> – Dorothy E. Roberts, J.D [2].

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The definition of race rests on external characteristics of color and other phenotypic attributes we categorize socially [3]. In the literature, and in society, race is often confounded with ethnicity [4], which refers to elements such as culture, language, heritage, history, shared geography, and the practices and norms that individuals come to share through their socialization. For example, the term African American is often used interchangeably with Black when describing the race of a population. This verbiage negates the heterogeneity of both terms, as there are many individuals who are categorized as Black and trace their ancestry to the Caribbean, Asia, or South America. Race and ethnicity are important axes of social stratification in the US [5]. Given the conflation of race and ethnicity in common language and medical literature, there will be some overlap of these terms within this chapter. We have used the original verbiage of the research studies in the citations.

Racism is when the "presumed superiority of one or more racial groups is used to justify the inferior social position or treatment of other racial groups" [6]. Structural racism is defined as the "ways in which historical and contemporary racial inequities are perpetuated by social, economic and political systems… It results in systemic variation in opportunity according to race" [7].

The history of the US as a slaveholding republic and a colonial settler nation cannot be minimized when discussing how race impacts health in the present day. The modern concept of "racism" emerged as early European settlers sought to preserve an economy largely on the basis of the labor of enslaved people [8]. Colonists established legal categories based on the premise that Black and indigenous individuals were different, less than human, and innately, intellectually, and morally inferior—and therefore subordinate—to White individuals [9]. These ideologies were foundational to the creation of systems and institutions that led to the formation of the US. In the post emancipation era, the US government remained complicit in the promotion of racial discrimination right into the civil rights movement of the 1960s and 1970s; and this history continues to manifest today. While interpersonal racism, bias, and discrimination in healthcare settings can directly affect health through poor health care, it is essential to recognize the broader context within which healthcare systems operate. Over 100 years of exclusionary housing policies resulting in segregated neighborhoods [10, 11] and segregated hospitals [12, 13]; voter suppression of racial minorities [14]; discriminatory criminal justice practices and incarceration [15]; and barriers to financial assistance [16], all of which have significant repercussions on the health of racial minorities today [17]. These manifestations of structural racism are often overlooked as root causes of health inequities [1].

One example of government sanctioned discrimination with longstanding health repercussions is the Home Owners' Loan Corporation (HOLC) established in 1933. Formed under the New Deal initiative as a depression-era emergency agency, the HOLC was a measure to refinance defaulted home mortgages and prevent foreclosures. However, the agency systematically graded neighborhoods that were predominantly inner-city, Black, and immigrant as dangerous, and outlined these neighborhoods in red on maps, creating the term "redlining." Neighborhoods with

higher property values, better housing quality, and fewer individuals who were people of color and "foreign-born" were considered lower risk. This practice helped institutionalize and perpetuate racial segregation by driving divestment from redlined communities and in turn, decreasing educational and employment opportunities [11], diminishing accumulation of wealth, and decreasing appreciation of home values [18]. Residential segregation results in dramatic variations in factors conducive to the practice of healthy or unhealthy behaviors, such as the availability of open spaces like parks and playgrounds [19] and of healthful products in grocery stores [20, 21]. In addition, redlining and divestment have also resulted in inequitable distribution of healthcare infrastructure and services by neighborhood, thereby exposing racial minorities to unequal health services [22–25].

Implicit Bias and Interpersonal Racism

Implicit biases are defined as unintentional or habitual preferences and behaviors that are relatively inaccessible to conscious awareness or control; they are "habits of mind" [26]. Implicit bias is not problematic in and of itself; it is simply one of the many well-established factors that influence human behavior. The implicit biases we hold may be unconscious manifestations of stereotypes we have for certain groups that result in unintentional preferences. Interpersonal racism can arise when these biases manifest in behaviors that are racially preferential and consequential in their outcomes, regardless of intent [27]. Socialization does not occur in a vacuum, and implicit biases are acquired through our societal ideologies, social interactions, and institutions; all of which are informed by our history, which includes a legacy of racism.

Given the necessity of heuristic clinical assessments in emergency medicine (EM), emergency care providers are at high risk for exhibiting implicit bias. Although the intent is to administer evidence-based, objective clinical care, the larger environment within which we practice can influence and impact our actions. In order to eliminate racial disparities in emergency care and outcomes, it is important to discern why these disparities exist and how our actions, consciously or unconsciously, perpetuate them. It is through these lenses of structural racism and implicit bias that we can understand the effect and impact of race and racism in emergency care.

Evidence Basis

The last three decades have witnessed a growing body of research on the topics of implicit bias and racism in EM [28–31]. Wide disparities in prehospital [32, 33], triage [34, 35], and emergency department (ED) assessment [36] and treatment have been identified and are associated with worse outcomes among patients who are categorized as racial minorities. Most evidence comes from large surveillance studies, prospective and retrospective observational studies, and some systematic reviews. After controlling for geography, hospital size or type where care was received, insurance status, and multiple patient variables including age, sex, and