WHITE PAPER SERIES



Demonstrating the vital role of physiatry throughout the health care continuum: Lessons learned from impacts of the COVID-19 pandemic on the disability community

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Editor's Note:

This article is one of a series published in the June 2021 issue of PM&R that collectively form a White Paper describing the vital role of Physiatry throughout the healthcare continuum during the COVID crisis.

CONTEXTUAL BACKGROUND

To situate the field of physical medicine & rehabilitation (PM&R) in the current context of the COVID-19 pandemic, we start with a look back at another defining event in the history of physiatry—the polio epidemic of the 1940s and 1950s, as described by a polio survivor:

> A fear of the unknown. The need to maintain an appropriate distance. An urgent desire to find a cure or vaccine. They're the hallmarks of the coronavirus pandemic, but

they also characterized an earlier epidemic: when paralysis-causing polio ravaged the U.S. in the 1940s and '50s.¹

A highly infectious and indiscriminate disease, at its peak in 1952, there were 57,628 reported cases, 3145 deaths, and 21,269 people left with mild to disabling paralysis.²,² Unlike COVID-19, polio disproportionately affected children. Many children with disabilities secondary to polio grew up to be leaders in the disability rights movement, critiquing the medical model of disability and the harm of attempts to normalize their bodies through years of experimental surgeries and therapy.

As a specialty we owe a great debt to these disability activists. Without Mary Lou Breslin, Justin Dart, Hugh Gallagher, Carol Gill, Harlan Hahn, Judy Heumann, Paul Longmore, Ed Roberts, Irving Zola, and many others, there would not have been a Section 504 of the 1973 Rehabilitation Act, or an Americans with Disabilities Act, or the field of disability studies.³ The disabled community has pushed our field to critique the goals of medicine and the boundaries of "medical," "social", and "health." Activists have pushed questions about the need to change society

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and the environment rather than altering the body. They have advocated for an expansive definition of normality and urged the World Health Organization to adopt biopsychosocial models of disability, such as the International Classification of Functioning, Disability and Health.⁴

Despite progress since the polio era, experiences of people with disabilities during the COVID-19 pandemic show us that ableism remains prevalent. Though people with disabilities currently represent an estimated 26% of the U.S. adult population, or one in four adult Americans. there continues to be ableism-discrimination and social prejudice against people with disabilities based on the beliefs that typical abilities are superior, disabled people require "fixing," and people are defined by their disability.⁵ In fact, a survey published in February 2021 of physicians' perceptions of people with disability showed that 82.4% reported that people with significant disability have worse quality of life than nondisabled people.⁶ In society more broadly, implicit biases regarding disability are higher than implicit biases for race, skin tone, and sexuality.⁷ The types of implicit bias that have decreased the most over time are the biases that have received more societal attention; implicit biases about disability have not changed over time.⁷ During the COVID-19 pandemic, we are seeing profound examples of individual-level ableism in health care providers' behavior and of structural ableism in health care systems. We are seeing the invisibility of disability in the collection of COVID-19 demographics and the lack of pandemic planning for people with disabilities. We are seeing gaps in services and supports for home and community-based services and the shocking and disproportionate harms of COVID-19 in nursing homes and other shared/congregate living facilities. We are seeing the devaluation of the lives of essential disability service providers, many of whom cannot access adequate personal protective equipment (PPE), live in poverty themselves, yet provide critical supports for many people with disabilities.

There will undoubtedly be a new population of people with disabilities due to COVID-19, the full scope of which is not yet known.^{8,9} Will physiatrists help to lead this next charge in the disability rights movement and work to transform the oppressive culture of ableism within medicine and within society?

In this paper, we use a lens of health equity to discuss the top five impacts of the COVID-19 pandemic on people with disabilities and opportunities for the field of PM&R, which inform our vision for the field moving forward.

TOP FIVE IMPACTS OF THE COVID-19 PANDEMIC ON PATIENTS WITH DISABILITIES: A PHYSIATRIC PERSPECTIVE

As physiatrists, it is crucial to understand the effects of the COVID-19 pandemic on the patient populations we serve, which includes people with physical, sensory, cognitive, intellectual, and developmental disabilities. For many, COVID-19 has been the "perfect storm," laying bare a multitude of personal risk factors, compounded by systemic inequities. Although mainstays of pandemic response include widespread testing and surveillance, conversion of health care services to telehealth, and social distancing, these strategies are often largely inaccessible to people with disabilities. Additionally, although data are crucial for pandemic policy development, we recognize that people with disabilities are often invisible in the routine data collection that is used to drive policy.¹⁰

To understand the true cost of the pandemic on the disability community, we must use a systems-based perspective grounded in health equity, which explores proximate causes for the poor health outcomes experienced by people with disabilities. These proximate causes include both disparities in social determinants of health and forms of discrimination experienced by people with disabilities, such as ableism. Throughout this paper, we use the Centers for Disease Control and Prevention's definition of social determinants of health as the "conditions in the places where people live, learn, work, and play that affect a wide range of health risks and outcomes".¹¹ Examples include housing, transportation, education, and employment.¹¹

Using a perspective that considers the broad environment experienced by a patient, which is central to physiatry, we describe the top five impacts of COVID-19 on the health of the disability community as follows:

Increased personal health risk and unintended consequences of public health policies

The World Health Organization and Centers for Disease Control and Prevention warn that people with disabilities are at increased risk of infection and subsequent complications of COVID-19.12 At its core, COVID-19 is a virus that affects individuals who are medically vulnerable due to advanced age or the presence of underlying conditions (e.g. obesity, diabetes, heart disease).¹³⁻¹⁵ Although there may be physiologic changes attributable to a disabled person's underlying diagnosis,^{16,17} the degree to which a comorbidity is effectively managed is often moderated by systemslevel factors, such as structural ableism, access to healthy choices, and the existence of and access to trained clinicians with knowledge of their underlying condition. For example, many public gyms lack full accessibility features and people with disabilities continuously report bias and exclusion, which prohibit their full participation in fitness activities.^{18,19} Furthermore, where fitness activities are accessible, they are often

accessible only to one type of disability, rather than universally designed for all people.

Many public health policies designed to reduce community spread of COVID-19 have had unintended consequences for people with disabilities (Table 1). The ability to practice social distancing is a privilege²⁰⁻²² and is often not an option for people with disabilities.²³ It may not be a feasible choice for people with disabilities to be socially distant from caregivers they depend upon for daily activities or for people with

TABLE1 Public health policies aimed to address the COVID-19 pandemic and unintended consequences on people with disabilities

Public health policy	Unintended consequence
Social distancing	 Difficulty obtaining necessary in-home supports (eg, personal care assistance, direct support professionals, etc.) Difficulty obtaining necessary hands-on rehabilitative care (eg, outpatient therapy) Communication difficulties for those who rely on tactile cues
Stay-at-home orders	 Increased isolation and risk of loneliness and/or mental health symptoms and disorders Increased risk of domestic abuse Difficulty obtaining medications, durable medical equipment, and other essential goods and services
Closure of health clinics/ migration of many services to telemedicine	 Difficulty in ensuring continuity of health care (both primary and specialty care) Lack of access to tertiary prevention services Lack of cognitive and sensory accessibility features in telemedicine platforms Lack of access to internet and technology such as computers
Closure of other essential businesses	 Loss of employment and meaningful income for many people with disabilities, further exacerbating challenges related to the social determinants of health
Universal masks	 Increased challenges for individuals with communication disabilities or those who rely on lip reading Lack of guidance regarding strategies for improving tolerance to masks for some individuals with disabilities (eg, autism spectrum disorder, posttraumatic stress disorder)

disabilities to move out of communal settings. Many people with disabilities reside in skilled nursing facilities and shared/congregate housing, such as group homes and intermediate care facilities for individuals with intellectual disabilities. These living arrangements pose unique challenges to social distancing because of communal living spaces, direct care needs, and frequent staff changes.^{24,25} For some individuals with disabilities, such as those who are Deaf-blind, physical touch is vital to communicate and navigate through the world. With social distancing, infection risk would be mitigated, but daily life would be rendered inaccessible.²⁶

Additionally, stay-at-home orders have mental health implications for those who were already experiencing isolation and exclusion before the COVID-19 pandemic. Quarantining and social distance policies have increased isolation among people with intellectual disability, affecting mental health and wellbeing in several ways.²⁷ Public health strategies that further isolate a population that depends upon predictable routines, compounded with lack of cognitively accessible community psychiatry and mental health services, have left many people with intellectual disability and their families without adequate mental health support.

The COVID-19 pandemic has also led to a significant increase in domestic abuse and violence cases in the United States, though scant research is available on the impacts on people with disabilities. The lifetime prepandemic prevalence of interpersonal violence among people with disabilities ranges from 26 to 90% for women and 29 to 86% for men, with an even higher risk seen in adults with intellectual disabilities.^{28,29} The increased personal risk for physical, sexual, and emotional abuse is heightened during a pandemic, during which there are fewer options for care; a person with a disability may in fact be reliant on the perpetrator for care.³⁰

Finally, a lack of accessible health information contributes to increased personal health risk for people with disabilities. Although it may be difficult to adhere to current guidelines, it becomes nearly impossible when that information is not universally designed so that it is consistent, clear, in lay language, and presented in a variety of languages and formats. Specifically, people with intellectual disabilities report difficulties understanding and abiding by the ever-changing pandemic guidelines that are rarely adapted in easy-to-read, cognitively accessible formats³¹ and until a lawsuit was filed in September 2020, the White House held COVID briefings without American Sign Language interpreters.³²

Difficulty in accessing high-quality routine health care services

Within four months from the onset of the pandemic, an estimated 60% of United States adults with disabilities

reported having delayed or avoided medical care because of concerns about COVID-19.³³ The COVID-19 pandemic has disrupted the status quo of how patients seek, and how health care systems provide, routine medical care. These changes have unique implications for patient access as well as the quality of the care that is provided to individuals with disabilities.

Virtual care, although broadly seen as a positive innovation, carries the risk of exacerbating health care disparities for individuals with certain types of disabilities, such as sensory disabilities and intellectual disability. This is a challenge not yet solved in most health care systems.^{34,35} Although shifting health care delivery to telemedicine may be positive for some members of the disability community, such as individuals with mobility disability, we must be cognizant of implications for the wider disability community. A recent survey of our American Academy of PM&R membership found that only 27% of physiatrists reported agreement with the statement "I believe that telemedicine visits are as effective as in-person visits". Additionally, physiatrists noted difficulty with telemedicine encounters for new patient visits and follow-up visits for patients with new chief symptoms. These findings illustrate the limitations of telemedicine for patients with disabilities and the importance of considering quality of care in addition to access to care. In the general population, guality of care is often assumed in an approach that prioritizes access to mainstream health care services; for patients with disabilities, routine access to health care does not imply that services are physically or cognitively accessible or of high quality.

In addition to the proliferation of telemedicine, the COVID-19 pandemic also results in the categorization of health care services as "essential" and "nonessential". For people with disabilities, services aimed at tertiary prevention-reducing the number and/or impact of complications³⁶—are essential. However, initial COVID-19 pandemic policies included the discontinuation of services deemed "nonessential" to the general population, which included many services aimed at tertiary prevention. Interruptions to rehabilitation services, including outpatient therapy, durable medical equipment evaluation and repair, and respite care, whether because of concerns about COVID-19 or classification of these services as "nonessential," will have long-term implications for the health of patients with disabilities.³⁷

Disruptions to home- and communitybased care

For many individuals with disabilities, the right to live independently in the community is facilitated by the assistance of another person—for example, a family member, caregiver, personal care assistant, direct or disability support professional, or community living support worker. These individuals may assist with activities of daily living and instrumental activities of daily living, support communicative needs, provide essential homebased medical care, and promote well-being and mental health. As the response to the initial COVID-19 surge has largely been focused on hospitals, many personal care assistants, direct or disability support professionals, and community living support workers - often themselves from high-risk communities - lack access to appropriate PPE, leading to increased personal risks as well as increased risk to their clients.³⁸⁻⁴⁰

This increased risk of transmitting COVID-19 due to inadequate PPE often leads to discontinuation and/or disruption of services provided by direct care workers, which is profoundly detrimental to both physical and mental health. Disruption of in-home services can lead to increased risk of rehospitalization or admission to a skilled nursing facility—a highly undesirable outcome amidst the COVID-19 pandemic. For children with intellectual or developmental disabilities, disruptions in community-based early intervention services such as speech therapy, occupational therapy, physical therapy, and behavioral health services negatively affects those who rely on these services; furthermore, these services are rendered inaccessible for families without access to technology at home.⁴¹

Disruption in community-based day programs for people with intellectual disability can lead to increased risk of social isolation, loneliness, depression, anxiety, and stress due to changes in daily routines.^{27,42} Additionally, these same mental health conditions can develop in caregivers. Given that supports outside of the home are decreased, the role of family members and caregivers inside the home increases. Many families have reported having lost all of their support services, forcing them to fill a large void and provide hands-on support to loved ones with disabilities without any additional resources-all while continuing to work their own jobs.43 Taken together, disruption of in-home services, disruption of community-based early intervention services, and disruption of community-based day programs removes support systems that are required for people with disabilities to maintain their independence and quality of life.

Another way these services may be discontinued or disrupted relates to how they are funded. States offer Home and Community-Based Services Medicaid waivers for people with disabilities to receive services in their own home or community rather than in institutions or other isolated settings.⁴⁴ Previous trends have demonstrated that as unemployment rises, there is an overall decrease in Medicaid funding for Home and Community-Based Services waivers for people with disabilities.⁴⁵

Care rationing

Although the coronavirus is novel, care rationing is unfortunately not a new concept to the disability

community. Prepandemic, intellectual disability has been used as a contraindication to organ transplantation in the United States.^{46,47} During the initial COVID-19 surge, many states developed guidelines on "crisis standards of care," describing the suggested mechanism for allocating critical care resources if need outstripped availability. It was immediately recognized that aspects of these policies would lead to a high risk of discrimination toward people with disabilities. In response, disability rights organizations and selfadvocates have filed complaints about illegal disability discrimination to the Office for Civil Rights (OCR). For example, a complaint was filed by Disability Rights Washington, Self-Advocates in Leadership, The Arc of the United States, and Ivanova Smith as an individual and self-advocate against policies adopted by the Washington State Department of Health, the Northwest Healthcare Response Network, and the University of Washington Medical Center. The University of -Washington Medical Center guidelines initially stated that resources would be allocated pursuant to "utilitarian principles," noting that "overall survival may be further qualified as healthy, long-term survival. recognizing that this represents weighing the survival of young otherwise healthy patients more heavily than that of older, chronically debilitated patients. Such weighting has general support in medicine and societyat-large".48,49 Tennessee listed "people with spinal muscular atrophy who need assistance with activities of daily living" as an exclusionary group in the case of scarce resources.⁵⁰ Until the OCR intervened. Alabama maintained the standard of care that "allowed for denying ventilator services to individuals based on the presence of intellectual disabilities, including 'profound mental retardation.""50

In June 2020, fears regarding care rationing were validated in the case of Michael Hickson, a 46-year-old Black man with brain injury and tetraplegia who was transitioned from intensive care to hospice after determining that his condition was likely to result in a poor prognosis but also because of his perceived poor quality of life.⁵¹ In response, the disability advocacy community organized, engaged, and brought complaints to the OCR.⁵²⁻⁵⁴ Care rationing, long feared by people with disabilities, becomes a reality during crises such as pandemics when ableist health care policies and guidelines are implemented that do not reflect the value that people with disabilities bring to society.⁵⁵

Cumulative effect of forms of discrimination

Given that people with disabilities experience ableism, they are an at-risk population. This vulnerability is magnified when, in addition to ableism, a disabled person may experience discrimination related to other aspects of their identity, such as racism, sexism, classism, homophobia, etc. The pandemic has affected many structures and institutions simultaneously, forcing clinicians, researchers, and health care administrators to consider intersectionality and the impact of multiple, simultaneous forms of discrimination on health outcomes.

The term intersectionality is the concept that forms of discrimination affect our patients in a complex, cumulative way, intersecting and creating overlapping and interdependent systems of discrimination-especially in the experiences of marginalized individuals or groups.⁵⁶ Patients with disabilities experience ableism, which has a direct effect on health outcomes. For example, people with disabilities experience a lack of accessible environments-including physical, cognitive, and sensory accessibility. This results in fewer choices when it comes to healthy food, physical activity, and sports participation, all of which are essential for obesity prevention.⁵⁷ Examining obesity risk for people with disabilities by race and by gender helps us examine the extent to which racism and sexism have a compounding effect with ableism. Although health disparities related to disability status, race, gender, and other identities have been documented before COVID-19, the pandemic is forcing clinicians and researchers to consider how forms of discrimination intersect and overlap and how this affects health outcomes.

OPPORTUNITIES FOR PHYSIATRY MOVING FORWARD

COVID-19 has exposed existing health disparities affecting the disability community, and moving forward, medicine's response will serve to either widen or narrow these gaps in health outcomes. Addressing the social determinants of health for patients with disabilities will have a direct impact on their health outcomes.

In the second section, we discussed threats to the health of the disability community as a result of the - COVID-19 pandemic: increased personal health risk and unintended consequences of public health policies, difficulty in accessing high-quality routine health care services, disruptions to home- and community-based care, care rationing, and the cumulative effect of multiple forms of discrimination. We now tie these threats to opportunities for the field of physiatry moving forward, both during the COVID-19 pandemic and well after. We discuss these opportunities at different levels of action, from micro to macro.

Disability data collection

Although population studies estimate adults with disabilities to total 26% of the adult population, or 61 million Americans,⁵⁸ these numbers are likely underestimates owing to ongoing stigma that leads to underreporting of disability status, particularly in minoritized communities. Globally, the World Health Organization estimates that over 1 billion people, or 15% of the adult population, experience disability.⁵⁹ To effectively address health disparities experienced by patients with disabilities, we must improve data collection and ensure that disability status is included within all aspects of public health surveillance. Currently, people with disabilities are frequently invisible in clinical and public health data collection as they are not prioritized or intentionally included. Additionally, there is a lack of consistency with regard to how disability status is defined and measured. It is impossible to accurately describe and track the personal health risk of COVID-19 for people with disabilities if disability is not included in a consistent way in routine data collection.

Physiatrists should engage with efforts to improve data collection at the health systems level. For example, given the disproportionate impact of COVID-19 on the Black, Indigenous, and Hispanic or Latinx communities,60 many health care systems have enhanced their focus on data collection focused on race, ethnicity, and preferred language in order to understand the impact of the virus while also ensuring equity in the pandemic response (e.g. vaccine distribution). Collecting data on disability status can and should be included in these efforts.¹⁰ A six-item set of disability questions has been validated by the Department of Health and Human Services and can serve as a starting point.⁶¹ Of note, collecting disability data enhances our understanding of disability prevalence in patient populations and facilitates efforts to ensure universal access to clinical care settings.

An evolving example from the COVID-19 pandemic illustrates how clinicians, researchers, and disability advocates can work together to improve the public health response to COVID-19 for the disability community, beginning with data collection.⁶² An initial study in the fall of 2020 based on medical records review of 8.26 million adults in England found that people with Down syndrome were four times more likely to be hospitalized and 10 times more likely to die from COVID-19. Subsequent studies provided additional evidence of this increased risk, leading to the inclusion of Down syndrome on the Centers for Disease Control and Prevention's list of conditions that are at increased risk of severe illness from the virus that causes COVID-19. This addition was made on December 23, 2020, prompting discussion regarding the prioritization of people with Down syndrome and other intellectual and developmental disabilities in states' vaccine distribution plans. 63-65 This is a concrete example of the importance of intentional data collection, as data tie directly to policy decisions. One can imagine that many other disability populations may be at increased risk for severe disease from COVID-19, but in the absence of intentional data collection for a given population, there can be no policy decisions such as inclusion on a list that has implications for prioritization in vaccine distribution efforts.

Across the country, physiatrists are playing an active role in advocacy initiatives, including (1) leading municipal and state efforts focused on ensuring disability equity in the pandemic response (eg, testing, vaccine distribution), (2) advising on state crisis standards of care policies. (3) conducting and publishing reviews and original research that seek to define the impact of COVID-19 on the disability community, and (4) aligning with the disability advocacy community to ensure equitable care and mitigation of challenges related to the social determinants of health. Despite these efforts, it is clear that more work is needed to ensure that people with disabilities are not left behind in the pandemic response, accompanied by data to objectively define ongoing disparities in health and health care access. For example, quantitative and qualitative data regarding differential treatment, such as encouragement by clinicians for people with disabilities to be do not resuscitate or comfort care only, are important measures that identify structural vulnerabilities and bias. Health disparities are a measure of progress toward health equity; without data that measure these disparities, we cannot monitor progress towards equitable care.

Defining essential services for patients with disabilities

In addition to efforts regarding data collection, it is critical for physiatrists to partner with disability advocates to clarify the definition of "essential services" in a manner that is specific for the disability community. For people with disabilities, home- and communitybased care are essential services, including direct support professionals and personal care attendants. Physiatrists can lead by aligning with leaders from the disability community to advocate on issues that affect the patient populations we serve. As physicians, we are often asked to serve in roles such as task forces, advisory committees, and pandemic planning efforts, giving us an important voice in shaping health care policy decisions. We must use these opportunities to amplify the voices of the disability community, ensuring their inclusion in policy and pandemic planning efforts. It is our patients who can best speak to the value of physiatry as a specialty-and if they cannot, it is a sign that we as physiatrists have work to do. Moving forward, physiatry can help advocate for essential services to be defined according to what people with disabilities tell us is essential and what we observe in the process of delivering clinical care to patients with disabilities.

Incorporating universal design

As physiatrists, we recognize that simply accessing care is not enough; it is critical that the care delivered is of high quality. For the disability community, the word "access" has nuance. Simply improving access to an existing health care service will not improve quality if the service is inherently inaccessible, in terms of physical, cognitive, and/or sensory accessibility. Although the approach in health care delivery is often to develop a service for the general population and then make accommodations to improve accessibility for people with disabilities, physiatrists have an opportunity to promote a different approach-universal design. Universal design is "the design and composition of an environment so that it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, ability, or disability. An environment (or any building, product, or service in that environment) should be designed to meet the needs for all people who wish to use it".⁶⁶ Physiatrists have value as advocates on a health system level, advising how physical, cognitive, and sensory accessibility can be operationalized in clinical care. Additionally, although universal design is a concept that is inclusive of health care environments, the principles apply more broadly and physiatry can advocate for universally designed social determinants of health, including education, employment, housing, and transportation. Improving physical, cognitive, and sensory access through universally designed systems, both within health care and within the community more broadly, will improve health outcomes. Providing subject matter expertise that emphasizes concepts of universal design is an area where physiatry can demonstrate value as a specialty to clinical care environments and to society at-large.

Combatting ableism in medicine and in society

As outlined throughout this paper, COVID-19 has highlighted both the negative effects of systemic ableism as well as the cumulative effect of multiple forms of discrimination, including systemic racism. Moving forward, we must emphasize physiatrists' holistic approach to clinical care by addressing the broader environment in which our patients live. Indeed, patients spend only a fraction of their time as patients; they spend most of their time as people, where root causes including discrimination and inequities in social determinants of health shape their opportunities for optimizing health and health outcomes.

To start, providing leadership in shaping medical education is a natural strategy for combatting ableism in medicine. Physiatry is often not a required rotation in medical school, leading to missed opportunities for medical students to learn about the comprehensive care of patients with disabilities. Increased opportunities for learners to spend time with physiatrists is an area of importance for both combatting ableism and for improving the visibility of our field. Additionally, physiatrists can become more engaged in medical education and lead the way in shaping didactic content addressing health equity and the health disparities experienced by people with disabilities, biopsychosocial models of disability, and the impact of ableism and other forms of systemic discrimination on health outcomes. These topics are currently in demand by learners, and physiatry can lead by providing expertise and partnering with self-advocates to highlight these topics.

In addition, physiatrists can lead by supporting the inclusion of trainees with disabilities in medical education. There is a critical shortage of physicians with disabilities. Although physiatry as a field is considered relatively supportive of physicians with disabilities, a recent membership survey revealed that only 4.8% of respondents self-identified as having a disability. Additionally, a 2019 survey of medical school administrators demonstrated that only 4.6% of students self-reported disability.⁶⁷ The lack of representation of disabled physicians in medicine is concerning. Physiatrists can lead efforts aimed at improving the diversity of the physician workforce with regard to disability status and use these efforts as opportunities to promote concepts of intersectionality and the diversity of physician workforce more broadly.68

Most important, physiatry must partner with and learn from self-advocates. Only then can we understand the complex interaction between inequities in social determinants of health and health outcomes in individuals who face multiple forms of discrimination. True change comes not only from leading but also from following. Ultimately, our value as a field is derived from the value we bring to our patients. As expressed by Courtland Townes III, a person with a disability and deputy director of the Boston Center for Independent Living:

> The most acute needs that have arisen during the pandemic are access to PPE which is seriously critical for those who have care providers coming into their homes—access to food, and housing stability. The lines are intensely fragile between stability and health or contracting COVID, being hungry, or facing eviction.

Courtland's words speak to the place-based framework used by Healthy People 2030, which outlines five key areas of social determinants of health: health care access and quality, education access and quality, social and community context, economic stability, and neighborhood and built environment. These domains interact to affect health and health outcomes. For example, the percentage of adults with disability increases as poverty increases; in fact, mobility disability is nearly five times as common among middle-age adults living below the poverty level compared to those whose income was twice the federal poverty level.⁵⁸

Although quantitative data help us illustrate the problem, it is qualitative data from those with lived experience that will point us toward solutions. Physiatrists receive qualitative data from patients with disabilities during every clinical encounter, through hearing their stories and lived experiences with COVID-19, with the health care system, and with society at large. Physiatrists are therefore uniquely suited to become leaders of systems of care for the disability community and others that face multiple forms of discrimination.

A post-COVID world presents opportunities for physiatrists to leverage their unique approach to patient care—one that uses a biopsychosocial conceptual model of disability, that is intersectional in its understanding of a person's identity, and that is intimately tied to advocacy—to be leaders in our roles in clinical care, research, and teaching.

- In clinical care, physiatry is valuable because we develop unique rapport with patients, maintaining long-term relationships and seeking to maximize function and independence through modification of the environment. Physiatrists can be leaders in clinical care by thinking of the environment not just as the built environment but in a broader sense as the social determinants of health.
- In research, physiatry sees the value of mixed methods study designs, which positions physiatry well for exploring the mediating and moderating roles of social determinants of health and of forms of discrimination, such as ableism, in the health outcomes we observe in patients. Physiatrists can be leaders in research through intentional disability data collection, through community engaged research, and through prioritizing study designs that will allow for a more nuanced look at health outcomes.
- In teaching, physiatry is valuable because we may be the only exposure learners have to patients with disabilities. Physiatrists have the unique opportunity to bring the lived experience of people with disabilities to learners through serving as a bridge between disability organizations and academia.

CONCLUSION

The COVID-19 pandemic has exposed and amplified many of the longstanding barriers, biases, and inequities in health care services for people with disabilities. Physiatrists are well positioned to lead the charge toward a more inclusive, accessible, and equitable system of care. Physiatry's unique approach to patient care presents an opportunity to be leaders in this next charge in the disability rights movement. Here, we discuss actionable items that physiatrists, together with key stakeholders, can do now and items that will require further development.

- Study the nature of and rehabilitation interventions for the post-acute disabling effects of COVID. Lead the way regarding postacute care needs of COVID-19 patients with disabilities (including both those with disabilities before COVID-19 and those who acquired disability due to COVID-19), including managing COVID rehabilitation inpatient units and consultation with acute care physicians. In addition, we recommend physiatric consultation whenever a decision to withhold or withdraw life-sustaining treatment is being considered for a person with a disability.
- Partner with self-advocates and community partners to elevate their voices and follow their lead regarding issues that are of importance to the disability community.
- Partner with state Medicaid agencies to improve service delivery and raise awareness of issues facing the disability community with respect to health care financing, such as wavier service coverage and provider availability.
- Partner with hospital administrators to address unintended consequences of hospital visitor policies for people with disabilities.
- Disability should be incorporated into all health professional training programs. Medical education/training is a key determinant of the health disparities experienced by people with disabilities and is therefore an important lever for action to improve health equity. Physiatrists can take the lead to ensure that training, research, and advocacy efforts regarding disability in medical education (1) use the term "disability" to intentionally include people with physical, cognitive, sensory, intellectual, and developmental disabilities; (2) center around ableism at multiple levels of influence including individual, structural, systemic, and societal; and (3) are intersectional in their approach, using the opportunity to discuss other types of systemic discrimination, such as racism, sexism, ageism, etc.
- Represent the disability community as a whole. Efforts aimed at changing accreditation requirements, such as the Liaison Committee on Medical Education Standards, should also be inclusive and intersectional, in order to move the needle on health disparities related to lack of clinician training and clinician bias. Health professions students with disabilities must be supported and encouraged to pursue training pathways that will help diversify the clinician workforce with respect to disability.
- Partner with critical stakeholders such as disability organizations to ensure inclusion and access

standards that are appropriate (eg, ensuring that vaccine distribution incorporates physical, cognitive, and sensory accessibility).

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