Poverty Related Education in Pediatrics: Current State, Gaps and Call to Action

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ABSTRACT

Children are the poorest age group in our country, with 1 in 6, or 12 million, living in poverty. This sobering statistic became even more appalling in spring 2020 when COVID-19 magnified existing inequities. These inequities are particularly important to pediatricians, because poverty, along with racism and other interrelated social factors, significantly impact overall child health and well-being. It is imperative that pediatric educators redouble their efforts to train learners to recognize and address health inequities related to poverty and all of its counterparts. In this paper, we describe the current state of poverty-related training in pediatric undergraduate, graduate, and continuing medical education as well as opportunities for growth. We highlight gaps in the current curricula, particularly around the intersectionality between poverty and racism, as well as the need for robust evaluation. Using a logic model framework, we outline content, learning strategies, and outcomes for poverty-related education. We include opportunities for the deployment of best practice learning strategies and the incorporation of newer technologies to deliver the content. We assert that collaboration with community partners is critical to shape the depth and breadth of education. Finally, we emphasize the paramount need for high-quality faculty development and accessible career paths to create the cadre of role models and mentors necessary to lead this work. We conclude with a call for collaboration between institutions, accrediting bodies, and policymakers to promote meaningful, outcome-oriented, poverty-related education, and training throughout the medical education continuum.

KEYWORDS: medical education, pediatrics; poverty, racism, social determinants of health

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WHAT’S NEW

We highlight gaps in poverty-related curricula, including the intersectionality between poverty and racism, and need for evaluation. We outline content, learning strategies, outcomes, and faculty career development, emphasizing collaboration between institutions, accreditation, policymakers, and communities to promote comprehensive medical education.

In 2020, the United States (US) engaged in conversations about the ongoing epidemic of racism while also struggling to confront a global pandemic. For pediatricians, the confluence of these crises highlighted the necessity of addressing the social determinants of health (SDH) and racism. The glaring health inequities brought to light by both COVID-19 and the racial justice movements are intimately interconnected with the health impacts of poverty. Almost 12 million US children, or 1 in 6, live below the Federal Poverty Level. Children of color are disproportionately more likely to live in poverty, with Latinx, Black, and American Indian children experiencing the highest poverty rates. The pandemic-induced economic collapse has exacerbated these harsh realities; job losses skyrocketed in 2020 and food and housing insecurity increased.

The relevance of these important societal problems to medical education is well-established within medical training requirements. As explored by Chamberlain et al in 2016, education on child poverty aligns well with the goals of undergraduate medical education (UME) and graduate medical education (GME) in pediatrics. The core components of a curriculum on child poverty can be mapped to the Accreditation Council for Graduate Medical Education (ACGME) subcompetencies for pediatrics, the American Board of Pediatrics (ABP) Entrustable Professional Activities (EPAs), and the Association of American Medical Colleges (AAMC)
core EPAs for entering residency.\textsuperscript{5,6} In addition, attention to societal problems and health disparities, such as those related to poverty and racism, are core elements in the current Liaison Committee on Medical Education (LCME) Standards for Accreditation of Medical Education Programs (Elements 7.5 and 7.6, respectively).\textsuperscript{7}

Given these training requirements and the increasing threat to child health and well-being that poverty poses, how should those responsible for training the next generation of child health professionals respond? We will make the case that a clear mandate exists to expand upon curricula addressing child poverty, including how the intersectionality of racism and poverty impacts child health. In addition, we will emphasize the importance of engaging with community members in order to target curricula and evaluation towards outcomes that matter. Finally, we will discuss the need for faculty development, particularly as it relates to uncovering and understanding the structural forces that support racism and perpetuate poverty in our society. This challenge to the status quo has already been embraced by trainees through movements such as White Coats for Black Lives,\textsuperscript{8} and now medical education needs to engage. In this article we critically examine the existing curricula and curricular gaps related to poverty and health. Using a logic model as a framework (Fig. 1), we will outline the current state of poverty-related training, inputs, resources, and activities needed to enhance training across the continuum and identify meaningful areas of evaluation to measure impact on learners, patients and communities, and policy.

**Figure 1. Logic model of pediatric poverty-related educational outcomes.**
medicine programs reported a health disparities curriculum, the majority reported no formal evaluation, thus effectiveness remains unknown. For studies that did have an evaluation component, most focused on lower level outcomes such as learner satisfaction and knowledge change.

**GAPS**

We believe pediatricians are primed to lead this curricular reform to address several remaining gaps in child poverty education. First, content related to racism and its impact on health, SDH, and poverty is deficient. Promising initiatives in medical school training exploring bias and health disparities are described, but still uncommon. As recently as 2018, only 40% of US medical schools reported covering content related to racial disparities in healthcare. There are even fewer reports at the GME level and beyond. However in both UME and GME, there is growing momentum to address this gap from the highest levels.

Rigorous evaluation is critical to advance the field. While examples of innovative evaluations of experiential learning addressing child poverty exist, there is a dearth of formal evaluation of child poverty curricula, especially those focused on the higher level outcomes related to behavior change and results. These outcomes, which are more difficult and costly to evaluate, are likely more meaningful to patients, families, communities, and institutions. For example, the US Child Poverty Curriculum developed by Academic Pediatric Association Task Force on Child Poverty Education Subcommittee had over 13,000 page views between January 1, 2018 and June 1, 2020, yet there are no publications on a formal evaluation of this curriculum or its components.

**PROPOSED ADVANCES TO POVERTY-RELATED TRAINING**

Here we propose new ways forward for training on poverty, ranging from content, educational strategies, evaluation, and timing to faculty development. Weaving much of this together, we offer a schematic outlining a hierarchical progression of poverty training from knowledge to analysis, with evaluation at every step, that spans the medical education continuum.

**CONTENT**

Deliberate, coordinated efforts from a variety of teaching institutions are necessary to fill the content gaps. The scope of training must be broadened to integrate SDH, structural racism, medical racism, bias, equity and disparities. Educators will be challenged to reframe SDH not as static issues, but dynamic forces that are experienced differently based on identity and often driven by structural racism and other factors. Newly developed curricular content needs to follow best-practice frameworks for curriculum development, such as Kern’s model. For example, a needs assessment should consider the needs of all stakeholders including learners, accrediting agencies, patients, and community members to avoid inadvertently promoting stereotypes about racism. Educators may consider their institution’s parent-led advisory board (or equivalent) and local Community Health Needs Assessment as data sources. Goals and objectives must address the inequities that underlie poverty. Developing and implementing the educational strategies in partnership with families and community organizations increases the relevance of the curriculum.

**LEARNING STRATEGIES AND TECHNOLOGY**

We recommend using a variety of learning strategies that align with adult learning theory, including didactic...
(eg, interactive, facilitated discussions, case-based scenarios, peer teaching) and experiential methods in both clinical and community settings. Reflection is a critical tool which can be paired with other educational strategies. Learners can explore their own lived experience and recognize how that may differ from colleagues and patients, which may reduce assumptions. Existing curricula in UME and GME that embrace a service-learning model allow educators to collaborate with patients, families, and community partners to provide unique opportunities to learn from and contribute to their communities. Interprofessional teaching of these complex concepts, from a variety of individuals within healthcare and the community, allows learners to recognize and appreciate the broad array of clinical and nonclinical roles necessary to address poverty and impact child health. In addition, longitudinal curricula embedded within patient care and community activities, and when possible, spiral curricula, which build content over time to create deeper learning, are recommended. Learning strategies should be tailored to match the goals and needs of learners along the medical education continuum, such that interactivity and autonomy increase as learners build from knowledge to application and analysis (Fig. 2).

Technology could be utilized to increase access to realistic SDH, poverty, and antiracism training. Educators can develop, implement and disseminate curricula and best practice teaching strategies via virtual collaborations. Virtual community tours using 360-degree video technology and video SDH curricula have demonstrated effectiveness for learning about social risks and screening within a community. Videoconference “visits” with community partners enable trainees to learn about resources from local organizations. Social media platforms such as blogs, podcasts, and videosharing sites provide opportunities to connect academic centers with communities allowing learners to recognize the effects of racism and poverty. Simulation has documented efficacy in medical education, and poverty-related simulation has demonstrated effectiveness among health care providers. Educators should also consider newer technologies, such as virtual or augmented reality, to create realistic environments in which learners can safely practice sensitive conversations about SDH, racism and other critical topics before entering real-life clinical settings. Gamification, applying game design elements to traditionally nongame contexts, is newer in medical education and, to date, lacks the evidence of other educational strategies. While gamification techniques engage learners and have been reported as well-accepted by millennial trainees, we caution their use in poverty and antiracism training. The lived experiences of patients, families, colleagues and community members are not a game and cannot be trivialized. If used, we urge the educator to stress the context and embed substantial reflection and debriefing to ensure appropriate take-home messages are recognized.

Many of these virtual technologies are particularly valuable in situations where social distancing is necessary, which has been an important consideration during the COVID-19 pandemic. Digital health opportunities, including telehealth and telerounding, are emerging clinical strategies with educational opportunities. We suggest that educators creating new curricula around digital health technologies include information about their complex role in health care, in which they can potentially improve access to care but also risk worsening disparities for families living in poverty who may have limited devices and/or broadband access.

**Timing of Education**

Child poverty-related education must be firmly grounded in foundational knowledge and comprehension with subsequent progression to application and analysis (Fig. 2). Content development targeted to learners at different levels of the medical education continuum is imperative, beginning with foundational concepts and then adding on discussions of intersectionality and application to clinical contexts. The initiation of content during the preclinical years of medical school is important to harness the energy of new students, to establish that such training is a core component of medicine, and to provide a foundation for subsequent learning. In addition, early integration of content regarding the health impacts of poverty and racism is vital to provide context for understanding population-based differences in disease rates that students learn about in their preclinical courses. An integrated spiral curriculum throughout UME and GME must link to clinical rotations, focusing on individual patients, practices, and communities. Research rotations can emphasize principles of population health, geocoding and hotspotting. Implementing curricula at all levels of the medical education continuum is essential to enable faculty and residents to serve as role models and mentors for more junior trainees and faculty and build a pipeline of physicians who recognize and can address poverty and racism, thus reducing health disparities. This educational continuum extends into the faculty development sphere.

**Faculty Development**

As educators focus on the timing, content, and learning strategies for trainees, the needs of faculty must not be overlooked. Although we are not aware of any CME requirements on these topics, we urge all pediatricians to participate in CME training on poverty, SDH, bias, and racism as they are ubiquitous in our communities and medical institutions, and impact the health of our patients, families and communities. In addition, the ABP should incorporate poverty, SDH and racism focused questions for board recertification. Training a cadre of faculty is imperative for teaching, modeling, mentoring and educating the next generation of pediatric providers. Trainees nationwide have embraced concepts of social activism as a core part of medical practice, and well-trained faculty, in both primary care and subspecialty practice, could accelerate this expansion of the scope of medicine in clinical care, research, and policy.
Unfortunately, gaps exist in the medical education literature on poverty-related faculty development. While some curricula included faculty among the learners, most efforts have been trainee-focused with few programs that focus on faculty. Lack of faculty development will stymie the progress of learners in this area. For sustainability and growth of UME and GME training, faculty must develop the knowledge, skills and attitudes to create and evaluate learning activities that also include patients and community organizations.

**CHOOSING OUTCOME METRICS THAT MATTER**

Evaluating the success of poverty curricula will depend on choosing metrics that matter. True success will be achieved when learner behavior has changed, leading ultimately to improved patient experience and outcomes. Harnessing the electronic health record to abstract patient level data for each learner can provide “real time” feedback for learning and improvement. Soliciting patient feedback about physician performance, with narrative comments and facilitated reflective discussions, can positively impact medical performance. In addition to patient outcomes, medical educators should strive to include opportunities for self-reflections on one’s own bias and experience as well as involvement with community engagement, legislative advocacy, and policy.

**ANTICIPATED OUTCOMES FROM POVERTY-RELATED TRAINING**

The anticipated outcomes from instituting child poverty training across the medical education continuum must be considered and discussed. We put forth an aspirational framework elucidating the range of potential impacts which will be required to monitor our progress (Fig. 3).

**EDUCATIONAL PROGRAMS**

We consider these goals in terms of educational programs, workforce changes, and community impact through policy change.

For educational programs, change in learner knowledge, skills, and attitudes are only the first step. Since training in community practices has demonstrated association with enhanced community engagement and self-reported advocacy skills, educational programs should partner with pediatrician advocates and community sites. Inclusion of practices which actively incorporate interventions to identify and mitigate SDH through integrated interdisciplinary programs such as medical-legal partnerships, medical-financial partnerships, and Health Leads should be sought out partners. Practice leaders could create programs that teach evidence-based clinical strategies to mitigate inequities and maximize the impact of integrated, collaborative health care teams. Curricula in pediatric population health would allow pediatric trainees to seamlessly shift from individual level perspectives and care to mitigate the impact of child poverty at the population level.

**WORKFORCE CHANGES**

Workforce changes to support careers that address the intersection of childhood poverty, SDH, and racism are necessary. Tools such as the Community Health and Advocacy Milestones Profile (CHAMP) can be used to align curricula to the pediatric milestones and lead to development of new EPAs that directly address childhood poverty and its effects. National organizations, such as the Association of Pediatric Program Directors, could longitudinally monitor outcomes by documenting the increasing number of residency programs with tracks focused on community health, poverty, and advocacy. In addition,
accrediting organizations could survey pediatricians at different career trajectory points to determine the percent of general and subspecialty pediatricians who incorporate poverty-related advocacy in their work and their level of engagement. This baseline national data is important for continued faculty-based program development.

Physicians trained in child poverty and advocacy requires pathways for academic appointment and promotion. Strategies with new metrics of academic success, such as “advocacy portfolios,” are needed to objectively evaluate faculty impact on communities. This evolution of the professoriate is imperative to demonstrate a viable path for academic faculty who mentor students, residents, fellows and junior faculty interested in addressing poverty as part of their practice of medicine. An increase in the number of leadership roles within pediatric departments and medical schools, such as Associate Chair and Associate Dean positions respectively, would indicate a fundamental shift in the field. Faculty who hold these visible, prominent leadership roles will be well-positioned to serve as mentors, thus creating a cadre of physician advocates. We believe new faculty development programming and funding, similar to the Macy Faculty Scholars program, is required to support faculty dedicated to developing the next generation of national leaders focused on pediatric population health. We call upon the ABP and the American Academy of Pediatrics (AAP) to lead such initiatives.

COMMUNITY IMPACT THROUGH POLICY CHANGE

The challenges of the global pandemic and the stark inequities in our society make clear the urgent need for the pediatric voice to bridge the best evidence-based science to policy deliberations. Trainees must be aware of which policies create the biggest impact on poverty and child health, and develop the skills to influence policy changes. Physicians must be aware of and advocate against specific policies that underpin structural racism and segregation. Many gaps in health policy-related advocacy training exist; however, successful strategies of engaging learners and practicing faculty have been described. Faculty must develop long-term relationships with elected officials and their staff such that they are sought after trusted voices when new policies at the local, state, or federal level, are considered. Faculty partnerships with the AAP and Government Relations Directors at their home institutions are crucial and advantageous. When a new generation of pediatrician advocates can participate as trusted partners with legislative bodies, then policies that address child poverty and dismantle structural racism will result in increased child health equity.

CONCLUSION

We must educate and inspire the next generation of pediatricians to address child poverty and structural racism to improve the health of children, families and communities through new educational programs and academic structures to confront the challenges highlighted in 2020 and beyond. The commitment and investment of accrediting bodies spanning the spectrum of medical education will be essential to move the field forward. Similar to other critical clinical and research agendas, funding is imperative to conduct rigorous studies to determine and disseminate best education and training practices. Pediatrists has always understood the power of context, and it is our hope that the frameworks put forth in this piece can advance the field to address child poverty so that every child has the opportunity to thrive.

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