local health care system, it is an innovative step toward meeting a critical need.

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1. Central Intelligence Agency. The world factbook (https://www.cia.gov/library/publications/the-world-factbook/geos/us.html).
2. Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. PLoS Med 2006;3(11):e442.
3. Riviello ED, Letchford S, Achieng L, Newton MW. Critical care in resource-poor settings: lessons learned and future directions. Crit Care Med 2011;39:860-7.
4. Mills EJ, Kanters S, Hagopian A, et al. The financial cost of doctors emigrating from sub-Saharan Africa: human capital analysis. BMJ 2011;343:d7031.
5. Towey RM, Ojara S. Practice of intensive care in rural Africa: an assessment of data from Northern Uganda. Afr Health Sci 2008;8:61-4.

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Confronting the Social Determinants of Health — Obesity, Neglect, and Inequity

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Several months ago, I reluctantly participated in the filing of a Child Protective Services (CPS) report alleging the medical neglect of two young sisters. Lucy, a soft-spoken 13-year-old girl, and her rambunctious 10-year-old sister, Jackie, have a long history of medical nonadherence, progressive morbid obesity, and serious coexisting conditions including poorly controlled type 2 diabetes, hypertension, dyslipidemia, hepatic abnormalities, severe obstructive sleep apnea, poor psychosocial functioning, and chronic school absenteeism. Recently, Lucy and Jackie had missed multiple important appointments after their mother had agreed to an intensified in-clinic monitoring regimen, and repeated attempts to contact the family had been unsuccessful.

As the girls' latest pediatrician, I had recommended on several occasions sending a nurse to assist with home-based medical management, but the mother had declined each time, saying that she didn't want "strangers" in her home. With each missed appointment, our medical team felt a growing moral and professional responsibility to interrupt what we saw as a downward spiral for the girls' health. The decision to file a report in this case was based on three considerations: concerns that the severity and trajectory of the girls' medical problems portended life-threatening and potentially irreversible end-organ disease with lifelong sequelae; the hope that CPS involvement might bolster medical adherence by providing support services; and the dearth of other reasonable options for engaging the family in appropriate care.

As the obesity epidemic unfolds, increasing numbers of children with severe obesity might be referred for CPS adjudication. Indeed, some scholars have argued that "state intervention may serve the best interests of many children with life-threatening obesity [and is] the only realistic way to control harmful behaviors."[1] In practice, however, CPS agencies have limited ability to alter the milieu that shapes behavior among resource-poor families who are reported for medical neglect, particularly when the problem is refractory obesity. Such families face intransigent inequities throughout their lives that perpetuate cross-generational cycles of poverty and poor health and pose major challenges to the medical and welfare establishments.

Obesity stems from energy imbalance derived from a complex interplay of behavioral, genetic, environmental, and social factors. Children with obesity severe enough to warrant a report for medical neglect represent the tip of the iceberg and invariably come from impoverished families with chaotic lives fraught with social difficulties, including unfilled basic needs. Lucy and Jackie S. live in a crowded, run-down tenement in a high-crime neighborhood; they would like to ride their bikes but are often afraid even to step outside. Their single mother had long given up trying to find a job, and she battles bouts of depression as she struggles to provide for her children by piecing together supplemental security income and nutrition-assistance benefits. Recapitulating a cycle of indigence, Ms. S. grew up with few positive role models and faltered academically, dropping out of school in the 10th grade. She was never taught how to cook or keep a budget, and her meager supplemental income forces her to choose between food and utilities; in fact, the reason she had not responded to our calls was that her phone service had been disconnected for nonpayment. Ms. S. has also had difficulties

navigating the complexities of the Medicaid system, with resultant lapses in insurance coverage and trouble filling needed prescriptions for her children.

Since the CPS filing, I have been able to check in with the S. family every 2 weeks, either by phone or in person, and to connect with their CPS caseworker. It turned out that mine was the third CPS report filed against this family, who now face a custody hearing for failing to comply with mandated home visits. Ms. S. told me that so far, CPS had done little to help her family: "All they do is come out to watch us; we don't need a babysitter."

CPS, a government agency that was created in the 1970s to investigate reports of child abuse and neglect, is credited with helping to increase public awareness of physical and sexual abuse of children and with implementing changes in reporting norms that have led to sharp decreases in such abuse over the past several decades. Nationally, the number of substantiated cases of physical or sexual abuse has decreased by more than 50%, but the number of neglect cases has remained level, so that neglect now accounts for nearly three quarters of cases reported to CPS.[2] This dramatic change in case mix calls for a realignment of CPS's priorities — a shift from the agency's current disproportionately investigative approach to a more supportive modus operandi — so that it can better serve its changing clientele. A recent study of 595 high-risk children whose families were reported for CPS intervention showed no significant improvements in family functioning, social support, maternal education, or child behavior problems among children who received CPS intervention as compared with those who did not.[3] These findings suggest that opportunities are being missed for meaningful intervention on behalf of society's most vulnerable children and families.

I believe that the limited resources that are available for protecting children should be allocated to supporting rather than policing struggling families. What the S. family and other families like them desperately need are customized support services that are delivered with empathy and an understanding of the greater contextual forces that drive and shape behaviors. What they deserve are the conditions in which all people can be healthy, including equal opportunities for "education, housing, employment, living wages, access to health care, access to healthy foods and green spaces, occupational safety, hopefulness, and freedom from racism, classism, sexism, and other forms of exclusion, marginalization, and discrimination based on social status."[4]

Compelling evidence links inequalities in the social determinants of health, defined as the "economic, environmental, political and social conditions in which people are born, live, work, and age," to a disproportionate burden of disease borne by socially disadvantaged groups, in striking conformity to a social gradient. People born into lower social strata are more likely than their contemporaries in higher social echelons to be born small and then to experience rapid catch-up growth leading to overweight and obesity; they also have higher rates of pulmonary and cardiovascular disease, learning difficulties, mental illness, poor life quality, and premature death than do people higher up the social ladder.[4] The 20-year differential in life expectancy between the most and least advantaged people in the United States reflects vast social inequities[5] and grossly different life experiences for the haves and the have nots. Making the right decisions can be extraordinarily difficult for families like the S. family, because they have little true choice.

If we are to break the vicious cycle of inequality and uphold the tradition of physicians as champions of social justice in the global arena, we must widen our perspective beyond the individual to confront the "causes of the causes" at multiple levels, so as to help create social and physical environments that promote good health for all. In the same vein, multipronged approaches that include cross-sectorial collaboration among nontraditional partners (including health care providers, lawmakers, and welfare workers) and bold change in social policy are needed to ensure equal health and justice for all. As Theodore Roosevelt once said, "The welfare of each of us is dependent fundamentally upon the welfare of all of us."

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1. Murtagh L, Ludwig DS. State intervention in life-threatening childhood obesity. JAMA 2011;306:206-7.
2. Waldfogel J. Rethinking the paradigm for child protection. Future Child 1998;8:104-19.
3. Campbell KA, Cook LJ, LaFleur BJ, Keenan HT. Household, family, and child risk factors after an investigation for suspected child maltreatment: a missed opportunity for prevention. Arch Pediatr Adolesc Med 2010;164:943-9.
4. Wilkinson R, Marmot M. Social determinants of health — the solid facts. 2nd ed. Copenhagen: World Health Organization Regional Office for Europe, 2003.
5. Marmot M. Social determinants of health inequalities. Lancet 2005;365:1099-104.

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