Health care disparities exist along the continuum of care for children admitted to the hospital; they start before admission, impact hospital course, and continue after discharge. During an acute illness, risk of admission, length of stay, hospital costs, communication during family-centered rounds, and risk of readmission have all been shown to vary by socioeconomic status, race, and ethnicity. Understanding factors beyond the acute illness that increase a child’s risk of admission, increase hospital course complications, and lower discharge quality is imperative for the new generation of pediatric hospitalists focused on improving health for a population of children. In this article, we describe a framework to conceptualize socioeconomic, racial, and ethnic health disparities for the hospitalized child. Additionally, we offer actions pediatric hospitalists can take to address disparities within their practices.
Health disparities are defined as differences in health that can be attributed to social, economic, or environmental disadvantage. Disparities can adversely affect any group of people who have systematically experienced greater obstacles to health on the basis of a dimension of their identity that has been historically linked to discrimination or exclusion. Most pediatric health disparities research has focused on inequities between socioeconomic, racial, and ethnic groups. Differences in child health and exposure by socioeconomic status (SES), race, and ethnicity can have a cumulative and synergistic impact on the health and exposure by socioeconomic and ethnic groups. Differences in child inequities between socioeconomic, racial, and ethnicity. For example, children living in poverty are at higher risk of being marginalized by health care (sometimes due to past experiences of discrimination), and chronic or toxic stress, discrimination likely contribute to disparities in hospitalization by increasing susceptibility to disease, delaying the presentation of ambulatory-sensitive conditions due to access issues (transportation, job inflexibility, etc), and possibly avoiding early outpatient care because of mistrust of the health care system. Several recent studies have investigated the role of neighborhoods (and not simply individual-level social determinants of health) on health outcomes. Historically, marginalized people of color and the poor have been structurally insulated from advancement in economic, political, and educational domains. African American and Hispanic children disproportionately reside in low-income households, defined as ≤200% of the federal poverty level; 61% of all African American children, 59% of all Hispanic children, and 60% of all American Indian children reside in low-income households in comparison to 28% of all white children in the United States. Additionally, African American families in poverty are more than twice as likely to live in concentrated high-poverty neighborhoods than poor white families. Crowded housing
in concentrated high-poverty neighborhoods can facilitate transmission of communicable diseases. In addition, in areas of concentrated poverty, children are more likely to be exposed to air pollutants and "other particle environment exposures," including tobacco smoke, which impairs cilia function and damages mucosal lining, predisposing them to respiratory illnesses and bacterial colonization of the nasopharynx. Impressively, rates of bronchiolitis, pneumonia, and asthma hospitalization can vary up to 6-fold, 11-fold, and 18-fold, respectively, across local neighborhoods. Additional research is needed to understand contributors to neighborhood-level disparities and determine how to best leverage place-based contextual information to improve population health and reduce preventable hospitalizations.

DIFFERENCES IN HOSPITAL COURSE

Once admitted, hospital course and outcomes may also vary by SES, race, or ethnicity. Studies have revealed disparities in length of stay, hospital cost, medical errors, pain control, perioperative outcomes, and family centeredness in the acute care setting. It is hypothesized that differences in length of stay and cost are likely due to delayed care, access to outpatient services, and comorbidities, leading to more severe presentations on admission and subsequently more intensive inpatient care. For example, impoverished children admitted with bronchiolitis are more likely to have a longer ICU stay and need for mechanical ventilation. It is estimated that the excess costs for patients from the lowest income group result in $8.4 million more in hospital-level and $13.6 million more in patient-level costs. In addition to disparities in inpatient use, which may in part reflect severity of illness on presentation, the quality and experience of the hospitalization may differ on the basis of patient demographics.

Since 2003, the American Academy of Pediatrics has endorsed family-centered care as the gold standard in providing high-quality pediatric care. In the inpatient setting, teams have enacted family-centered rounds (FCRs) to meet this standard. FCRs can be defined as bedside rounds in which "the patient and family share in the control of the management plan as well as in the evaluation of the process itself." Caregiver race, ethnicity, language, income, and education level may all impact caregiver-provider communication and the ability of caregivers to effectively participate in FCRs. For example, negative biases and stereotyping toward people of color may impede effective communication. In an outpatient-based study, clinician pro-white bias on the race implicit association test was associated with poorer visit communication and ratings of care among African American patients. In the inpatient setting, Spanish-speaking and African American families may be less empowered to ask questions during FCRs compared with English-speaking and white families. One study found that some Spanish-speaking
caregivers perceive requesting an interpreter as burdensome to the medical team despite evidence that the presence of an interpreter may improve understanding of the child’s diagnosis and the medical plan. 

Low parental education has also been associated with lack of shared understanding of the medical plan between providers and caregivers. We hypothesize that disparities by SES, race, and ethnicity in effective communication during FCRs can likely be attributed to provider factors (implicit bias, misinterpretation of cultural norms), family factors (health literacy, advocacy skills, English proficiency, competing unmet needs), and system factors (limited and set time for rounds, unavailability of interpreters, lack of family orientation to FCRs, learners with various competency in FCRs). Importantly, studies reveal that the overwhelming majority (up to 99%) of parents want to participate in shared decision-making for their children’s health care regardless of SES, race, or ethnicity.

In addition to improved parent satisfaction, effective family engagement and participation during a child’s hospitalization can lead to more positive patient outcomes, such as increased comfort, increased activity, and decreased length of stay. Recognizing barriers to family engagement is essential for the health care team to develop high-quality, patient-centered management plans. Competing priorities, disproportionately felt by low-income families, such as food insecurity, care for siblings, utility or housing issues, and unsupportive employers, may also limit families’ ability to participate in their children’s health care and decision-making. Hospitalization has a disproportionate financial burden on those with underlying economic hardship. A recent study revealed that caregivers with greater financial hardship lost or spent 6 times more of their daily income on nonmedical costs (including lost earnings and expenses such as transportation, meals, and child care) compared with those without hardship. Having more unmet needs and greater financial hardships impacts the ability of low-SES families to fully engage with the health care team, which can have effects on patient hospital course and outcome.

Children from low-SES and racial and/or ethnic minority backgrounds may have increased risk of in-hospital mortality. Increased odds of mortality for acute conditions, such as low-income neonates admitted with sepsis, are likely due to upstream factors, such as severity at presentation, comorbidities, and hospital quality. Neighborhood rurality, distance to a tertiary-care hospital, and transportation may all impact where parents seek care for their children. For several conditions, studies suggest disparities in morbidity and mortality may be less within hospitals but greater between hospitals. However, in-hospital processes likely also contribute to disparities. (One study of children with terminal cancer found African American, Hispanic, and Asian American children had higher rates of in-hospital death and a higher degree of medical intensity at the end of life. Overall, research and advocacy are needed to better understand and address differences in hospital course and hospital-acquired conditions by SES, race, and ethnicity.

### DISPARITIES IN DISCHARGE PROCESS AND RISK OF READMISSION

Most providers recognize the importance of assessing and understanding a patient’s social, cultural, and economic context to provide a high-quality discharge. A family’s degree of psychosocial functioning impacts their ability to successfully return home and complete care tasks. Hospitalizations are stressful for families. In a qualitative study, lower-SES families more commonly reported a lack of support from families and friends to “cushion the blow” dealt by the hospitalization in the postdischarge period. Lower-SES families may have less stable support from employers, more difficulty making follow-up appointments (due to their job, transportation, and child care arrangements for other children), and difficulty obtaining medications. These factors and others contribute to disparities in readmissions by SES.

Interestingly, a study of asthma patient readmissions found that the risk of readmission by race, ethnicity, and income didn’t vary at 2 months but greatly differed at 1 year postdischarge. This finding suggests that the disparities in readmission were not reflective of differences in acute care management, as would be seen in the first weeks to months after discharge, but represented the influence of social determinants of health and access to care as predisposing factors to readmission.

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### WHAT CAN HOSPITALISTS DO?

There are several strategies hospitalists and health systems can employ to decrease health disparities (Table 1). At the patient planning...
level, we can (1) be aware of our own implicit biases and have both curiosity and humility in patient interactions and (2) screen for and address social determinants of health. Studies reveal implicit bias toward people of color in terms of positive attitudes toward white patients are common among physicians and similar to levels in the general population. Negative implicit bias toward people of color can impede effective communication and worsen clinical care for those patients. Efforts to increase awareness of and reflection on personal biases through taking an implicit association test or developing a health equity curriculum can mitigate bias and may impact behavior. At our institution, we have also led interactive case-based conferences that encourage self-reflection and identification of personal and systemic bias within real clinical encounters. Burgess et al provide a helpful framework, adapted from social cognitive psychology, that can be used to design comprehensive curricula to reduce bias among health care workers.

In addition, at the individual patient level, few physicians screen for social needs despite the overwhelming sentiment among physicians (85%–90%) that unmet social needs directly lead to worse health. Lack of training, physician discomfort, and fear for patient discomfort are common barriers to screening. Despite these obstacles, studies suggest that screening can be well executed and well received in the inpatient setting. To promote screening, health systems can provide clinicians resources on how to screen and work with multidisciplinary teams (including social workers) to address unmet social needs.

At the health systems level we can (1) routinely collect patient demographic data and monitor for differences in outcome by SES, race, ethnicity, and language; (2) identify systems and structures that contribute to disparities at our institution; (3) use quality improvement (QI) and implementation science methodologies to identify and reduce health care disparities, and (4) develop clinical care pathways to standardize care both between and within hospitals. Without collection of demographic data, institutions may not realize that disparities exist. Routine monitoring of outcomes by SES, race, and ethnicity will highlight potential QI opportunities to reduce disparities. When using QI to standardize care, it is important to note that QI initiatives can decrease, increase, or have no change on disparities. Lion and Raphael provide a thoughtful and

<p>| TABLE 1 Strategies to Be Employed by Pediatric Hospitalists and Health Systems to Address Health Disparities |</p>
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<tr>
<th>Strategy Level</th>
<th>Strategy</th>
<th>Exercises and/or Examples</th>
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<tr>
<td>Provider</td>
<td>Mitigate implicit bias</td>
<td>Take the implicit association test</td>
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<tr>
<td>Screen for social determinants of health</td>
<td>Reflect on and be aware of personal biases</td>
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<tr>
<td>Screen for social determinants of health</td>
<td>Recognize that implicit bias is more likely to impact decisions when there is ambiguity or provider is experiencing fatigue, stress, or high cognitive load</td>
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<tr>
<td>Screen for social determinants of health</td>
<td>Use case-based discussion to reflect on how bias or social determinants of health impacted the patient’s clinical course</td>
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<tr>
<td>Health system</td>
<td>Routinely collect demographic data and monitor for differences</td>
<td>Encourage screening by leveraging technology (ie, embed screening tools into note templates)</td>
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<tr>
<td>Health system</td>
<td>Incorporate equity into QI initiatives</td>
<td>Work in multidisciplinary teams</td>
</tr>
<tr>
<td>Health system</td>
<td>Routinely collect demographic data and monitor for differences</td>
<td>Stratify process and outcome measures by SES, race, and ethnicity to monitor for disparities</td>
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<tr>
<td>Health system</td>
<td>Incorporate equity into QI initiatives</td>
<td>Standardized clinical care pathways based on evidence</td>
</tr>
<tr>
<td>Health system</td>
<td>Routinely collect demographic data and monitor for differences</td>
<td>Reduce disparities within ongoing QI project</td>
</tr>
<tr>
<td>Health system</td>
<td>Incorporate equity into QI initiatives</td>
<td>Use QI methodology to decrease known disparity at your institution</td>
</tr>
<tr>
<td>Population</td>
<td>Partner with primary care providers, nonprofits, and local government to improve health for population of children</td>
<td>Design disease-specific (asthma) or population-specific (children with medical complexity) inpatient-outpatient interventions</td>
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<tr>
<td>Population</td>
<td>Use research to identify evidence-based methods to reduce disparities</td>
<td>Use epidemiology to identify where disparities exist</td>
</tr>
<tr>
<td>Population</td>
<td>Advocate for policies to reduce health disparities</td>
<td>Perform qualitative and quantitative research studies to understand the causes of disparities and experience of marginalized populations in the inpatient setting</td>
</tr>
<tr>
<td>Population</td>
<td>Advocate for policies to reduce health disparities</td>
<td>Study interventions to reduce health disparities</td>
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thorough review of the potential impact of QI on disparities. To reduce disparities using QI, we suggest evaluating baseline outcome measures by SES, race, and ethnicity, exploring reasons for baseline differences and considering designing the intervention in a way that reduces disparities.

At the population level we can (1) perform additional research to enrich our understanding of health disparities; (2) develop partnerships with community pediatrics, nonprofits, and local government or health departments to improve care of children outside of the hospital; and (3) advocate and lobby for policies that would reduce modifiable contributors to health disparities.

CONCLUSIONS

Achieving equity is a fundamental pillar of providing high quality of care as defined by the National Academy of Medicine (formerly the Institute of Medicine). To better care for our patients and the population of children that seek care in our institutions, we need to acknowledge the impact social determinants of health have in the acute care setting. In our review of the literature, we found several gaps in research surrounding health disparities for the hospitalized child, including the need to (1) better describe differences in experience, empowerment, and outcomes for the hospitalized child by SES, race, and ethnicity; (2) identify evidence-based strategies to improve FOR and inpatient care for marginalized communities; (3) report interventions that successfully address individual and neighborhood-level social determinants of health in the inpatient setting; and (4) make the case for institutional investment in implicit bias training and resources and/or tools to address socioeconomic, racial, and ethnic disparities across health care settings.

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