POLICY FORUM: PEER-REVIEWED ARTICLE
What the COVID-19 Pandemic Teaches Us About Pediatric Iatrogenic Risk
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Abstract
Iatrogenic morbidity and mortality are pediatric public health risks. This article considers how the COVID-19 pandemic illuminates these risks, as clinicians have been forced to navigate increased diagnostic uncertainty and changes to pediatric health care systems, including closures, limited staffing, and new infection control guidelines.

Diagnostic Uncertainty and Inequity
Patient harm resulting from treatment by a member of the medical team is referred to as iatrogenesis. This harm may be secondary to an adverse outcome of evaluation or treatment, or it may be due to medical error; both iatrogenic morbidity and mortality are associated with medical error. Over the last two-and-a-half years, the COVID-19 pandemic has resulted in increased diagnostic uncertainty and diagnostic error and, therefore, an increased risk of iatrogenic morbidity and mortality for certain populations. More specifically, the COVID-19 pandemic highlighted iatrogenic morbidity and mortality as public health risks for pediatric patients.

Throughout the COVID-19 pandemic, physicians were forced to navigate diagnostic uncertainty. Physicians practiced within a rapidly changing health care system (eg, facility closures, limited staffing, telehealth delivery) while experiencing increased fatigue and stress, as well as emotionally charged scenarios. This changing environment resulted in increased opportunities for diagnostic error, defined by the National Academy of Medicine as “the failure to (a) establish an accurate and timely explanation of the patient’s health problem(s) or (b) communicate that explanation to the patient.” Diagnostic error increases risk of iatrogenic morbidity and mortality, secondary to availability bias, diagnostic momentum, and premature closure in the diagnostic process. For example, the diagnosis of COVID-19 for pediatric patients was complicated by multisystem inflammatory syndrome in children (MIS-C), a postinflammatory disease related to SARS-CoV-2 infection, which presents similarly to severe pediatric diseases, including bacterial sepsis, toxin-mediated disease, and viral syndromes. Referred to as the “COVID trap,” diagnostic error during the COVID-19 pandemic was identified by Fatemi and Coffin as an especially salient cause of preventable harm in a series of pediatric cases.
Diagnostic Error as a Source of Iatrogenic Harm to Children

Although highlighted during the COVID-19 pandemic, diagnostic error is not new and is estimated to account for 5% to 15% of diagnoses.\textsuperscript{9,10} Previous work has demonstrated that a significant number of admissions to pediatric intensive care units (PICUs) were due to iatrogenic events, with diagnostic error being identified as one area with potential for improvement.\textsuperscript{11,12} Furthermore, diagnostic error has been identified as a priority research topic by the Children’s Hospitals’ Solutions for Patient Safety Network, with experts noting a lack of large, high-quality pediatric studies on the subject.\textsuperscript{10,13}

Although diagnostic error continues to be a common—and often serious—risk to patients, unlike other foci of patient safety, such as health care-associated infections or medication errors, few gains have been made, perhaps because diagnostic error may be more challenging to address via a systems solution. Nevertheless, researchers must be willing to examine the complex, multifaceted diagnostic process to reduce diagnostic error. This examination will require the health care system to ensure a culture of psychological safety, as physicians will need to discuss their own role in contributing to diagnostic error via cognitive errors. Recently, researchers have identified frameworks for improving reporting of diagnostic error, as it is believed that physician reporting could be a promising method for identifying risks of diagnostic error.\textsuperscript{14,15} However, reducing diagnostic error remains an uphill battle, as a culture of fear and low psychological safety still exists within many health care organizations.\textsuperscript{15} Until we can address these issues, diagnostic error is likely to continue.

Conclusion

In 2019, Congress authorized $2 million for the Agency for Healthcare Research and Quality to investigate and solve the problem of diagnostic errors.\textsuperscript{16} The timing of the COVID-19 pandemic likely impeded this research, although it also highlighted why this work may be more important than ever before. In 1999, the Institute of Medicine’s report, \textit{To Err is Human: Building A Safer Health System}, challenged us to build a safer health care system\textsuperscript{14}; however, pediatric iatrogenic harm continues to occur commonly without clear evidence of improvement.\textsuperscript{17} A changing health care landscape in the setting of the COVID-19 pandemic highlighted the ongoing risk of pediatric iatrogenic morbidity and mortality due to diagnostic error. However, before diagnostic error can be reduced, physicians must feel safe addressing their own role in contributing to diagnostic errors so that the diagnostic process can be improved.

References


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