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Bias and Objectivity When Evaluating Social Risk Factors for Physical Abuse: of Babies and Bathwater

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Social factors are clearly important in the risk of child physical abuse. If abuse commonly occurs when parenting demands overwhelm emotional resources, it makes sense that young or single parents, poverty, substance use, and criminal justice involvement are associated with abuse.^{1,2} But, clinicians are currently ill-equipped to make sound use of social factors in the real world. Without accurate, objective data, clinicians often use their intuition to estimate social risk.³ In the US, where race continues to be associated to a shameful degree with social risk factors, this can result in over-testing for African-American families, and higher rates of missed abuse in others.^{4,5}

In this volume of *The Journal*, Hymel et al present significant race-based disparities in the evaluation and reporting of young children admitted to a pediatric intensive care unit for traumatic brain injury.⁶ Even though the rate of abuse was nearly 50% in this cohort, many children did not undergo a skeletal survey, and many were not reported to Child Protective Services (CPS); these decisions were significantly associated with race in 2 of the 18 participating centers. The data presented by Hymel et al cannot tell us whether this finding was the result of bias, or whether the outcome merely reflects continued associations in our society between race and social factors that truly predict abuse.⁷ However, prior data suggest that there may have been some degree of bias, as increased evaluation in African-Americans has been associated with lower testing yield.⁵

If you are a “glass 89% full” sort of person, you could choose to see these data as a sign of progress, suggesting that the 16 sites without significant differences could be using an approach in which testing and reporting decisions are heavily based on the child’s identified injuries and age, with a few exceptions made for extremely violent, and verifiable mechanisms like motor vehicle crashes or very public injuries.^{8,9} This is the approach that I use, given the tools available. In addition to decreasing missed abuse, and real or perceived bias, this standardized, objective approach also decreases emotional burdens for myself and my patients. Approached case-by-case, the decision to obtain a skeletal survey can seem to me like a high-stakes value judgement, and can seem to families as if I have decided that

they are the sort of person who might hurt a child. Using a standardized approach allows me to say, “Whenever I see this injury, I do these tests,” and mean it. This practice is no more personal than my decision to obtain a pregnancy test in every adolescent girl who presents with lower abdominal pain, irrespective of whether she reports sexual activity. I do not make that latter decision based on how they are dressed, or my impressions of their candor or character. Rather, I know that the risk of testing is low, the outcomes of a missed ectopic pregnancy are severe, and my ability to really know someone’s past sexual activity is limited.

But this approach is, at best, an interim solution. In pursuit of objectivity, it ignores social factors with the potential to improve abuse recognition. Surely, we miss something if we ignore some significant social factors, like the presence of violence in the home.¹⁰ A standardized approach does not question the *value* of social risk factors. Rather, it questions the *feasibility* of measuring social factors in an objective, reliable way – at least today.

One important step toward developing such an objective, reliable approach to social risk factors is provided by Lorenz et al, also in this volume of *The Journal*.¹¹ Any future research testing the association of social factors and abuse will need to define abuse for research purposes in a way that is reliable. Yet, for obvious reasons, the vast majority of physical abuse occurs without witnesses or confession. Much research has therefore relied on experts to determine the outcome of physical abuse. This leaves open, however, the possibility that expert opinion could be confounded by the very social factors that are being tested. Lorenz et al show that, after eliminating these social factors, experts across several specialties were remarkably consistent and reliable in their determinations, suggesting that this approach is a worthy model for future studies. This tool couldn’t have come at a better time as data are becoming more widely available. Several states have begun to provide data about controlled substance use and involvement with criminal justice, and further integration of electronic medical records should also decrease improve the recognition of prior injuries or hospital visits.^{12,13} Other investigators are working to make bedside social assessments more objective and reliable.¹⁴

In order to take advantage of these data, we will need to develop more sophisticated predictive analytics to weigh the importance of social risk factors. It is unreasonable to expect a human being, at the bedside, to memorize and apply the likelihood ratios of a dozen social risk factors in a reliable way. At least for myself, it is difficult to weigh competing factors and acknowledge that many cases will end up somewhere in the middle. Instead, it is tempting to latch on to one factor (“the story changed,” or “they presented right away”) and lump all cases into “high risk” or “low risk,” always creating the opportunity for bias to seep in.

We also need to develop ethical precepts for the use of these data. Clinicians’ normal access to sensitive, social information is usually justified by the need to provide the best care, and protected by doctor-patient confidentiality. But in cases of child abuse, sensitive information could be obtained about one person (a caregiver) in service of another (a child), and mandates to report outweigh the duty of confidentiality. Developing these ethical precepts will require the voices of stakeholders beyond the medical community, including abuse

survivors and their families, those who have been investigated, and members of the CPS and law enforcement communities.

Today, we are in the midst of a giant pendulum swing away from the use of social factors in the evaluation of physical abuse. Eventually, I expect the pendulum to swing back. When it does, I hope that the practice patterns will be based on more objective, comprehensive, and accurate data, and more sophisticated analysis. I am cautiously optimistic.

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