EDITORIAL

Child Maltreatment Prevention in the Era of Coronavirus Disease 2019

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The coronavirus disease 2019 (COVID-19) pandemic has exposed the frailty of the just-in-time medical system currently in place in the United States. Large gaps in access to care, unequal distribution of testing, and disparities in mortality rates in many ways reflect the greater inequalities that many communities and families were confronting daily before COVID-19. These inequities now may mean life or death. COVID-19 is not the great equalizer it is often referenced to be. It does not affect all communities, all families, or all children equally. Some neighborhoods are ravaged by food insecurity, loss of hourly wage jobs, and threats of evictions, while for others, COVID-19 is disrupting and troubling but not a true existential threat.

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As is often the case, inequalities affect children most harshly.[1] Built and unbuilt power structures in communities are often indifferent to the needs of children. While the current decrease in calls to child welfare services as reported in many states may be because of school closures (in that teachers are the most common reporters to Child Protective Services [CPS]), there remains a growing concern that the family and community disruption caused by COVID-19 may result in an increase in violence toward vulnerable children and/or parents.[2]

There is a natural urge to protect children who may be at heightened risk as a result of social isolation, financial stress, or physical harm brought on by the pandemic. Being able to reliably separate children who are at risk of maltreatment from those who are not remains frustratingly elusive. The growth of big data and greater analytic sophistication have contributed to the exploration of predictive risk modeling (PRM) in child welfare work—the goal being to use large data sets, usually from child welfare systems, to assess which child, caregiver, or community characteristics were associated with unfavorable outcomes for the children. These criteria would be applied to future children to define their risk potential. In this issue of *JAMA Pediatrics*, Vaithianathan et al[3] report their work in validating a PRM derived from a database of children reported to CPS in Allegheny County, Pennsylvania. The authors then validated the algorithm's ability to predict subsequent emergency department visits for injury to a child. They demonstrated that their algorithm was able to classify children at risk for subsequent emergency department visits for injuries but did not demonstrate an association with their control condition (emergency department visits for cancer).

While this is a promising advance, some meaningful cautions need to be explored. Much harm can be done under the umbrella of good intentions, because big data is a big weapon. As noted by Vaithianathan et al,[3] there is increased use of algorithms in a number of settings, from criminal bail assignment to elementary school teacher performance ratings.[4,5] Common refrains used in support of algorithms and big data are that they are neutral, objective, and evidence based. Within child welfare, the adoption of PRM is understandably attractive, given the complex and charged nature of some of the decisions that need to be made, often with incomplete information and without the luxury of time. That said, the concerns about the accuracy of the algorithm deployed should be of paramount importance, since the thread of historic biases in large data sets has become increasingly apparent. In a 2017 TED Talk, data scientist Cathy O'Neil emphasized the threats in overreliance on algorithms, describing them as "opinions embedded in code."[6] If these opinions contained traces of historic biases and racism, then they are no more objective than the systems they seek to replace. The COVID-19 pandemic is an example of a caution for PRM algorithms; although initially billed as affecting everyone equally, it clearly manifests inherent de facto inequalities.

The rise of the use of PRM in child risk assessments will require careful consideration of data, policy, and practice.[7] Even with algorithm transparency, implicit biases and structural racism or classism can exist in the underlying data that trained the algorithm. An example of implicit bias was illustrated by Chasnoff et al.[8] Researchers in the late 1980s were evaluating the substance use patterns in pregnant women in Pinellas County, Florida. Deidentified urine samples were obtained at 5 public health clinics and 12 private obstetrician offices and tested for illicit drug and alcohol usage. While positive urine immunoassay results were similar, pregnant black women were reported to health authorities at a 10-fold increased rate. Data from that county would then spuriously indicate that black women used substances at a higher rate than white women.

The child abuse literature reports that both the evaluation of suspected abuse and subsequent diagnoses can contain racial biases.[9-11] This may also be true with reports to CPS, in that race and poverty are often tightly aligned.[12] The data are mixed regarding whether overrepresentation in CPS of children in racial/ethnic minority groups is a result of the greater risk factors for children living in poverty or an increased risk of investigation by CPS.[13,14] If children in racial/ethnic minority groups or poor communities are overrepresented in CPS,[15,16] the question is whether maltreatment risks factors are greater for these children or they are surveilled or adjudicated differently.

When framing child maltreatment, it is a false paradigm that there are times before and after an abusive event. The

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lives of most children who are at risk are series of fluctuating and wriggling adversities that come and go, and some result in a notable event. Screening for children and targeting specific children may benefit them, but their neighbor may be just as in need of assistance that never comes. The behavioral and developmental outcome of children who are substantiated as experiencing maltreatment are similar to those who are not substantiated.[17] This reframing of maltreatment refocuses the prevention target from an event that may happen to the circumstances that made that event possible. This has given rise to the policy principle of proportionate universalism—broadly providing services or resources without targeting specific families or people.[5] The target of strategies to decrease rates of child maltreatment would be better directed to community-based strategies that support children and families facing adversities and living in poverty.

Public Health Approach to Child Maltreatment Prevention

Currently, most families who are struggling cannot get help until a crime has been alleged. The adoption of PRM and predictive analytics would be a welcome addition if paired with a prevention mindset, as opposed to a punitive mindset. A PRM may be able to provide a set of characteristics of a community, family, or child, who are then linked to resources available as broad-based public health prevention approaches.[18] There are 2 critical features of a public health approach to child maltreatment prevention. The first is the gradient of outcome. In all cities, states, and countries, inequalities exist along a gradient; rather than poor vs nonpoor, there are gradients of wealth. This gradient translates directly into health and morbidity outcomes. The higher the mean household income, the longer the life expectancy.[19] To relieve the most distress, prevention strategies should address the needs of all at incomes less than the incomes of those with greatest privilege, not solely those with the greatest need. The second critical feature is the nested nature of forces at play. The child is nested in a family, that family is nested in a neighborhood, that neighborhood is nested in a community, and that community is nested in a culture.

While these 2 threads are not mutually exclusive, a public health prevention effort would benefit a greater number of families and children and may require less effort.[18] Growing evidence shows that the neighborhood that a child grows up in has a lifelong association with that child's life trajectory and well-being,[20] and strategies to mitigate adversities implemented at a neighborhood level have a greater outcome on a population.[21,22] To effectively address childhood adversity and maltreatment, multiple strategies will need to be deployed across the life span of the affected person.[23] This may be identification of children who are at risk for community-based strategies affecting the social, economic, and power gradients of inequality characterizing neighborhood marginalization.

Conclusions

As COVID-19 has forced a reevaluation of the social contract between what communities, cities, and states are obligated to provide for their citizenries, there should be an emphasis on eliminating the systemic and structural injustices that exist in our communities already. This is not the first pandemic or natural disaster, nor will it be the last. With the current disruption from COVID-19, financial budgets will tighten and hard choices will have to be made. Now is the time to be thoughtful about the kinds of policies, practices, and resources that we will wish we had put in place when the next catastrophe occurs. We will need to begin to address some of the pernicious community inequalities because, as George Santayana warned, those who cannot remember the past are condemned to repeat it.

ARTICLE INFORMATION

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