Children's Hospital of Philadelphia PolicyLab

Tackling Adverse Childhood Experiences and Health Care Disparities in Youth with Chronic Pain

Health Equity

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There's no shortage of stressors on youth these days, many of which are only exacerbated by the COVID-19 pandemic. From the anxiety caused by video calls to the isolation that results from being unable to participate in sports and socialize with peers to the impact on proms, graduations and birthday celebrations—the effect of these chronic stressors on the development and persistence of pediatric chronic pain has become quite palpable.

Often thought of as an adult malady, chronic pain is remarkably common in the pediatric population, affecting approximately one-quarter of all children and adolescents. Chronic stressors are thought to play a driving role in the development of pain syndromes.

In addition to new stressors brought on by the pandemic, Adverse Childhood Experiences (ACEs) have been found to have profound impact on health throughout an individual's life. These experiences can include living with a household member with mental illness or experiencing physical abuse. Recently, a large cross-sectional analysis of the 2016-2017 National Survey of Children's Health (NSCH) found that **70% of children with chronic pain had experienced at least one ACE during their lifetime**, compared to 48% of children without chronic pain.

While we previously thought children and teens with chronic pain were adjusting well to living with pandemic-related stress, it's now clear to providers in Children's Hospital of Philadelphia's (CHOP) Center for Amplified Musculoskeletal Pain Syndrome (AMPS) that this is no longer the case. To better meet the evolving needs of

our patients, we conducted a study to help us understand the association between the presence of ACEs and chronic pain severity in new patients at CHOP's AMPS clinic within the last two years.

Connections Between ACEs and Chronic Pain

We found that 76% of our patients had at least one identified ACE, the most frequent being a history of mental illness in a first degree relative, affecting more than half (56%) of these patients.

ACEs also appeared to have a cumulative effect on the symptoms patients had. Those with two or more ACEs had more pain symptoms, more physical impairment, and were more likely to have comorbid mental health conditions than those with no or one ACE. Those with higher ACE scores and a comorbid rheumatologic condition were also more likely to have greater functional impairment associated with their rheumatologic condition than their peers without ACEs.

Disparities in Access to Care

While these findings are concerning, there is another alarming result of our study: Our findings are likely an illustration of inherent provider biases and inequities in accessing care.

Patients in our study were predominantly female (83%), Caucasian (75%) and non-Hispanic (90%). Estimated median household income of our cohort ($83,970) was markedly higher than the national median ($65,712). However, those with two or more ACEs had significantly lower estimated median family income than those with only one or no reported ACE.

These findings are likely not representative of the general chronic pain population, nor are they representative of larger patterns in who experience ACEs. Previous studies have shown that those who identify as Black, Hispanic, or multiracial and those in lower-income families are more likely to report higher exposure to ACEs than comparison groups.

Pediatricians' implicit attitudes about race affect their approaches to pain management. Many of these attitudes are apparent even early in medical school—one study found that 40% of first- and second-year medical students endorsed the belief that "Black people's skin is thicker than White people's."

The significant race, gender and socioeconomic skew of our cohort suggests that there are major disparities in who is able to reach a tertiary care pain clinic. Further, even though our study population was a relatively high-income group, we were still able to identify a marked association between income and ACE exposure, mirroring previously established patterns. Given the scarcity of pediatric pain clinics and lengthy wait times (as long as 18 months), our income skew likely reflects how lower-income patients may face additional barriers to reaching a chronic pain provider.

Creating Equity in Caring for Youth with Chronic Pain

We likely will not be able to appreciate the full extent of trauma caused by the pandemic for many years. Loss of loved ones and jobs and worsening mental health among family members illustrate just a few of the ways COVID-19 has put children at increased risk of experiencing ACEs and, in turn, developing chronic pain. Policymakers should be cognizant of these downstream effects on children while crafting policy to support families.

When chronic pain syndromes are identified and appropriately treated early, the pain neural circuit is more readily responsive to treatment. Primary care pediatricians are the health system's sentinels for at-risk children and can also serve as supportive adult figures to mitigate the effects of toxic stress. Our findings suggest current practices are not providing equitable care and highlight the need for further study and standardized approaches to screening for chronic pain.

Finally, access to appropriate pain care is a major issue. Currently, there are nine states without a pediatric rheumatologist; six more only have one. Similarly, there are only about 45 pediatric chronic pain programs in the country. This leaves many children effectively without access to care. Over the course of the pandemic, telehealth has become an asset for increasing access and equity in pain care while also allowing children to receive treatment in a psychologically safe environment. As we plan for the future, continued support for telehealth services will be crucial in ensuring we provide the best care to children with chronic pain and support their functional recovery.

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