Accuracy of Autism Screening in a Large Pediatric Network

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Universal screening is recommended to reduce the age of diagnosis for autism spectrum disorder (ASD). However, there are insufficient data on children who screen negative and no study of outcomes from truly universal screening. With this study, we filled these gaps by examining the accuracy of universal screening with systematic follow-up through 4 to 8 years. Universal, primary care-based screening was conducted using the Modified Checklist for Autism in Toddlers with Follow-Up (M-CHAT/F) and supported by electronic administration and integration into electronic health records. All children with a well-child visit (1) between 16 and 26 months, (2) at a Children's Hospital of Philadelphia site after universal electronic screening was initiated, and (3) between January 2011 and July 2015 were included (*N* = 25 999). Nearly universal screening was achieved (91%), and ASD prevalence was 2.2%. Overall, the M-CHAT/F's sensitivity was 38.8%, and its positive predictive value (PPV) was 14.6%. Sensitivity was higher in older toddlers and with repeated screenings, whereas PPV was lower in girls. Finally, the M-CHAT/F's specificity and PPV were lower in children of color and those from lower-income households. Universal screening in primary care is possible when supported by electronic administration. In this "real-world" cohort that was systematically followed, the M-CHAT/F was less accurate in detecting ASD than in previous studies. Disparities in screening rates and accuracy were evident in traditionally underrepresented groups. Future research should focus on the development of new methods that detect a greater proportion of children with ASD and reduce disparities in the screening process.

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