

NEWS

Review of medical records reveals pitfalls of autism screen

BY KATIE MOISSE

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The vast majority of children flagged for autism on a widely used screening test are never diagnosed with the condition, according to an unpublished review of medical records of more than 13,500 children. More worryingly, some children who are not flagged are diagnosed with the

condition years later.

The unpublished findings, presented yesterday at the **2017 International Meeting for Autism Research** in San Francisco, California, highlight a pitfall of universal screening for autism.

The goal of universal screening is to identify children with signs of autism so they can be diagnosed early and gain access to therapies. But the most widely used screen, called the Modified Checklist for Autism in Toddlers (M-CHAT), flags just 40 percent of children eventually diagnosed with autism.

“The screening method works for some children, but not all children,” says Whitney Guthrie, a postdoctoral researcher in **Judith Miller’s** lab at the Children’s Hospital of Philadelphia, who presented the work.

The M-CHAT is a 20-item questionnaire that parents complete during a routine toddler checkup — either at the 18-month checkup or the 24-month one. Guthrie and her colleagues reviewed medical records for 13,503 children seen at 31 clinics affiliated with the hospital. Of these children, the M-CHAT flagged 1,457 for autism.

Clinicians typically refer a small proportion of children flagged by the M-CHAT for an autism evaluation. But most children the screen flags first require a follow-up to determine whether they need an evaluation.

Nearly 90 percent of the 1,457 children flagged in the new study needed this follow-up, but only 43 percent got it. This may be because clinicians are busy and toddler checkups are often too short to include the follow-up, Guthrie says.

False flags:

Of the 917 children who screened positive for autism — some after the follow-up and some without a follow-up — 128 were diagnosed with autism by age 4. This means that the M-CHAT wrongly flagged 86 percent of children for a follow-up.

The U.S. Preventive Services Task Force cited this risk of ‘false positives’ as a reason to **withhold support for universal screening** in February 2016. False positives, the group reasoned, could lead to misdiagnoses and cause families to waste time and money pursuing unnecessary therapies.

Much less is known about the rate of ‘false-negative’ results on the M-CHAT — that is, children with autism that the screen misses — because clinicians do not follow children who test negative on the screen. Of the 12,046 children in the study who got a negative result on the test, 198 were diagnosed with autism by age 4.

“That’s a really important group of children that we want to try to detect,” Guthrie says.

The predictive value of the M-CHAT increases with a child’s age, and seems to be highest in children older than 24 months. Although there are benefits to early identification, the findings suggest that screening for autism would be more effective at the 24-month checkup than at 18 months.

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