

Autism can be predicted from routine developmental surveillance data

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Autism spectrum disorder (ASD) can be predicted from routine developmental surveillance data, according to a study published online Jan. 10 in *JAMA Network Open*.

Guy Amit, Ph.D., from the KI Research Institute in Kfar Malal, Israel, and colleagues conducted a [retrospective cohort study](#) using nationwide data of developmental assessments conducted between Jan. 1, 2014, and Jan. 17, 2023, to develop [predictive models](#) for ASD. The study included all 1,187,397 [children](#) who were assessed at the maternal child health clinics that perform routine developmental surveillance of children from

birth to 6 years of age.

The researchers found that the ASD prediction models performance improved with prediction age, with fair accuracy at 12 months of age. An area under the receiver operating characteristic curve of 0.83 was achieved, with sensitivity of 45.1 percent at 95.0 percent specificity using a model combining longitudinal measures of developmental milestone assessments with a minimal set of demographic variables, applied at 18 to 24 months of age.

An area under the receiver operating characteristic curve of 0.81 was achieved using a model with single-visit assessments, with sensitivity of 41.2 percent at 95.0 percent specificity. The best performing models surpassed the pooled performance of Modified Checklist for Autism in Toddlers, which had sensitivity of 40 percent and 95 percent specificity.

"This study's findings suggest that with the use of prediction models, ASD screening can be seamlessly integrated into routine early childhood developmental surveillance," the authors write. "The suggested approach may assist children in receiving timely interventions and achieving their developmental potential."

One author disclosed being a shareholder in LinkCaring Ltd.

More information: Guy Amit et al, Early Prediction of Autistic Spectrum Disorder Using Developmental Surveillance Data, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2023.51052](https://doi.org/10.1001/jamanetworkopen.2023.51052)

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