OPINION, **SPECIAL REPORT SUBARTICLE**, **VIEWPOINT**

Adjusting diagnostic tests for the DSM-5

BY **AMY ESLER**

30 MAY 2013

Controversial new criteria for autism spectrum disorder, described in the DSM-5, the 5th edition of the *Diagnostic and Statistical Manual of Mental Disorders*, are now in effect.

As we adopt the new diagnostic criteria, will the many tests now used to diagnose autism also need to be modified?

The final autism criteria in the DSM-5 have been refined in response to concerns that the number of people qualifying for an **autism diagnosis would decrease dramatically**, especially among more verbally and cognitively able individuals[1, 2, 3, 4]. However, other large-scale studies have found that **the guidelines would not exclude** individuals now diagnosed with pervasive developmental disorder-not otherwise specified or **Asperger syndrome**[5, 6].

One important limitation of all of these studies is that they used archival data, with diagnoses based on the previous edition of the diagnostic manual, the DSM-IV. It's possible that the DSM-IV does not capture some behaviors important to the DSM-5, skewing the results.

We know that the most accurate and reliable diagnostic decisions are made by experienced clinicians using well-validated, standardized measures. The process is also critical in research, as scientists must carefully characterize the participants to allow for comparability across studies.

Given that our current diagnostic measures were designed for the DSM-IV, might they fail to capture behaviors relevant to the DSM-5?

The descriptions of most symptoms are largely retained between the DSM-IV and DSM-5, but one significant change in the DSM-5 is that autism symptoms can be manifested either currently or by history, foreither social communication or restricted and **repetitive behaviors**.That means that clinicianswill need to focus more deeply on an individual's earlier history.

Historic symptoms:

The Autism Diagnostic Interview-Revised (ADI-R) covers current and past behavior for each item, and the Diagnostic Interview for Social and Communication Disorders (DISCO) includes a section on infancy and early development. Other common tools (such as the Childhood Autism Rating Scale-2 and the Developmental, Dimensional and Diagnostic Interview) may need to be modified to capture early symptoms that may have improved with intervention. By its nature, the Autism Diagnostic Observation Schedule (ADOS) measures a sample of only current behavior.

The ADOS and the ADI-R are required for any autism projects funded by the National Institutes of Health. In a study published earlier this year, researchers found that if they used the ADOS alone, only 33 percent of individuals with autism met DSM-5 criteria. The ADI-R alone captured 83 percent. The best agreement, 93 percent, came from using the ADI-R and the ADOS together.

The DSM-5 was partly intended to provide a more specific framework to guide diagnosis, by better specifying behaviors unique to autism spectrum disorder. However, there are early indicators that the assignment of symptoms to DSM-5 criteria may not be straightforward.

Two separate groups of researchers recently attempted to determine which symptoms on the ADI-R and ADOS match which DSM-5 criteria. The two groups disagreed on the matched DSM-5 criterion for almost a third of the 54 ADI-R/ADOS symptoms. For example,making an awkward overture could be considered an “abnormal social approach” or “difficulty adjusting behavior to suit different social contexts” depending on the form and content of the overture[7, 8].The DSM-5 was partly intended to provide a more specific framework to guide diagnosis, by better specifying behaviors unique to autism spectrum disorder. However, there are early indicators that the assignment of symptoms to DSM-5 criteria may not be straightforward.

In my own reading of the DSM-5, I was surprised to see that not showing and bringing objects to others is listed as an example of deficits in nonverbal communicative behaviors. I think these behaviors could reflect a lack ofsocial interest, especially in children who are not yet verbal.

Users of the ADOS and ADI-R are trained to avoid ‘double-coding,’ or noting the same behavior in two different places. The lack of clearly delineated criteria may lead to over-diagnosis if clinicians apply the same behaviors to multiple criteria, or under-diagnosis if they attribute too many to one.

Special Report: DSM-5

This is one of a series of articles exploring the DSM-5, the long-awaited new version of American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*.

More articles »

Based on the evidence to date, I do think the DSM-5 is an improvement over the DSM-IV, empirically and practically. The pitfalls of the DSM-5 are the same as ever: **Differences will exist among even expert clinicians** in how behaviors are interpreted.

Further research on the DSM-5 is needed to validate symptom clusters to make sure the current groupings are meaningful, reliable and clear enough to be interpreted consistently.

Amy Esler is assistant professor of pediatrics at the University of Minnesota.

References:

1. McPartland J.C. *et al. J. Am. Acad. Child Adolesc. Psychiatry* **51**, 368-383 (2012) **PubMed**
2. Matson J.L. *et al. Dev. Neurorehabil.* **15**, 185-190 (2012) **PubMed**
3. Taheri A. and A. Perry *J. Autism Dev. Disord.* **42**, 1810-1817 (2012) **PubMed**
4. Mayes S.D. *et al. Res. Autism Spectr. Disord.* **7**, 298-306 (2013) **Full text**
5. Frazier T.W. *et al. J. Am. Acad. Child Adolesc. Psychiatry* **51**, 28-40 (2012) **PubMed**
6. Huerta M. *et al. Am. J. Psychiatry* **169**, 1056-1064 (2012) **PubMed**
7. Mazefsky C.A. *et al. J. Autism Dev. Disord.* **43**, 1236-1242 (2013) **PubMed**
8. Barton M.L. *et al. J. Autism Dev. Disord.* **43**, 1184-1195 (2013) **PubMed**