Reviewer's report

Title: Validation of the Diagnosis of Autism in General Practitioner Records

Version: Date: 5 January 2004

Reviewer: Tony Charman

Reviewer's report:

General

This is a useful and carefully conducted study that forms part of a larger study utilizing the GPRD to investigate trends and association of autism and related conditions. The GPRD diagnosis of autism turns out to be valid (at least in terms of positive predictive value) and this will be important for the papers on this dataset that follow. To my knowledge this is the first time that such validity has been demonstrated for a behavioral/developmental disorder. I have some minor comments and suggestions that the authors may want to consider. I will make these (for simplicity) as I read through the MS.

Discretionary Revisions (which the author can choose to ignore)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

- Abstract – The mean age of diagnosis is not the primary finding and need not be reported in the Abstract and certainly should not come first in the Results section.
- Abstract – The kappa for agreement of a PDD diagnosis is on the boundary of moderate to good to my mind. It might be helpful in the text for the authors to present the number of cases on which there was not agreement.
- Abstract – Did one rater rate more cases as PDD than the other or did both rate approximately the same proportion of cases but disagree more often? I am assuming this figure was for the global clinical judgment of PDD presence/absence but such an agreement could also be calculated for the algorithm diagnosis.
- Page 3, para 1 – The second sentence appears to argue for a causal association from increased research activity in epidemiology leading to refinement in the definition of autism. This is not the case. The third sentence says that the definition ‘now involves’ a specific combination of symptoms – Has it not always done so?
- Page 4, para 3 – Spell out VAMP.
- Page 5, para 1 – Spell out READ.
- Page 5, para 2 – Can the authors clarify what information was and was not available on the N=38 cases that did not have complete records (and were thus excluded).
- Page 6, para 1 – Clarify that it is onset or emergence of words and phrases that is intended.
- Page 7, para 1 – One alternative more conservative approach would be to use both the adjusted DSM algorithm and the stricter full algorithm. The data on agreement between clinical judgment of the 2 raters and algorithm diagnosis is not presented but it could be for this 3-way analysis: strict algorithm vs. looser algorithm vs. clinical judgment.
- Page 10 and Table 3 – The authors should note that this analysis is not independent of autistic disorder vs. PDD/AS previously conducted.
- Page 10, penultimate sentence – I am not sure if the authors have made the point about clinical presentation becoming less severe over time clearly. My understanding is that it is likely that over
time more children with less severe presentations are receiving autism or PDD diagnosis in the GPRD but we do not know if the presentation for cases (more severe) that would previously have been included has changed. I think that Table 10 might work better in terms of readability and subgroup sizes to group the cases in 10-year intervals (at least for the 2 oldest cohorts).

- Page 11 – Can the authors comment on the 2 variables where there was less reliability: regression and intellectual functioning.
- Page 12, para 2 – Report only % and not (repeat) numbers in the text.
- Page 13, para, line 5 – I think the authors mean children with atypical autism (note this term has not been previously used in this MS) did not get a diagnosis of PDD in this study analysis but they might mean in the GP records – Can they clarify? I do not follow the argument made in this paragraph about a decrease in severity of autism as indexed by changes over time in gender, epilepsy, IQ and language necessarily supporting their first explanation. First, rather different effects might be operating. For example, epilepsy might increase with age and thus be higher in older cohorts. Alternatively, phrase speech might decrease due to the younger age at which children are seen. This paragraph was one of the few (in fact the only) one where I could not follow the logic of the argument.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

**What next?:** Accept after minor essential revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

None