

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

This paper was submitted to the ADC but declined for publication following peer review. The authors addressed the reviewers' comments and submitted the revised paper to BMJ Open where it was re-reviewed and accepted.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Consensus diagnostic criteria for fetal alcohol spectrum disorders in Australia: a modified Delphi study
AUTHORS	Watkins, Rochelle ; Elliott, Elizabeth; Mutch, Raewyn; Payne, Jan; Jones, Heather; Latimer, Jane; Russell, Elizabeth; Fitzpatrick, James; Hayes, Lorian; Burns, Lucinda; Halliday, Jane; D'Antoine, Heather; Wilkins, Amanda; Peadon, Elizabeth; Miers, Sue; Carter, Maureen; O'Leary, Colleen; McKenzie, Anne; Bower, Carol

VERSION 1 - REVIEW

REVIEWER	Clayton-Smith, Jill Central Manchester University Hospitals Foundation Trust, Genetic Medicine
REVIEW RETURNED	20-Jul-2012

GENERAL COMMENTS	<p>The authors state that the main aim of the study is to look at diagnosis of FAS in Australia. The main thrust of the article is to compare views of the published diagnostic criteria for FAS.</p> <p>The methodology used follows the Delphi method and is sound but overall numbers answering all of the questions are low, only 36 out of the 139 individuals first approached for the study, which raises the question as to whether the views obtained might be biased. More is needed about the characteristics of those who did not respond.</p> <p>Why should the diagnosis of FASD be so different in Australia to everywhere else? Why should different criteria be needed? What are the particular problems encountered in Australia which are not present elsewhere?</p> <p>Which professional in Australia have access to diagnostic tests that could rule out some of the alternative diagnoses? This might be a key factor why eg GPs feel they can't take on diagnosis.</p> <p>Did one of the questions enquire specifically about the 4 digit diagnostic code and whether this was helpful. This is a key area of contention between experts in the FAS field and it would be useful to know if you sought a specific view on it.</p> <p>Why do you think approximately 30% of professionals would still consider a diagnosis of FAS when there is a confirmed absence of alcohol exposure in utero?</p>
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	<p>Some of the questions asked are leading ones; There are a group which are clearly exploring possibilities for delivery of a diagnostic service. Was this one of the main aims of the study? Did the answers to this group of questions help you to reach any conclusions about how these services should be delivered in the future.</p> <p>Need a clearer conclusion about how this will change current practice. Will you recommend use of IOM criteria or develop new ones. If new ones be clearer as to what you would change.</p> <p>Overall this paper is clear and well-written. It's interesting for readers to see an example of the Delphi method of investigation. The main criticism is that there are no very instructive learning points for readers.</p>
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REVIEWER	Astley, Susan University of Washington
REVIEW RETURNED	25-Jul-2012

GENERAL COMMENTS	<p>This paper represents a very important and novel contribution to the field of FASD.</p> <p>P6, Questionnaire design.</p> <p>The authors report that 21 statements evaluated general and specific components of published diagnostic criteria for FAS and 6 statements evaluated diagnostic criteria for other FASD based on the original IOM criteria and the Canadian guidelines. From Table 4 it is clear that FAS components from all FASD diagnostic guidelines are being represented (Canadian, IOM 1996, Revised IOM 2004, UW, and perhaps the CDC). From Table 5, it is clear that only the Canadian and 1996 IOM criteria are being represented for pFAS, ARND, and ARBD. This is concerning. Why would the 6 statements on criteria for partial FAS and ARND NOT include the criteria published by the 4-Digit Code? The 4-Digit Code has criteria for both pFAS and ARND. The 4-Digit Code does not use the terminology ARND, but it does address ARND through its two diagnostic classifications called Neurobehavioral Disorder/Alcohol Exposed (moderate ARND) and Static Encephalopathy/Alcohol Exposed (severe ARND). It is even more concerning because the authors report that consensus was NOT achieved for ARND when using the Canadian and 1996 IOM statements. One has to wonder; would consensus have been achieved for "ARND" if the participants had been provided statements regarding Neurobehavioral Disorder/Alcohol Exposed and Static Encephalopathy/Alcohol Exposed from the 4-Digit Code? Based on this study limitation, it will be important to report the outcomes of this study in the Abstract and conclusion sections to better address this design limitation. See below for recommendations.</p> <p>P.12 line 56 Conclusions:</p> <p>The authors report "In conclusion, we found consensus agreement on the UW criteria for the diagnosis of FAS, the Canadian and IOM criteria for PFAS, and few important differences between the</p>
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	<p>perceptions of paediatricians and other health professionals.” It would be more accurate to report “In conclusion, when health professionals were presented with FAS diagnostic criteria from the UW, Canadian, original IOM, revised IOM, and CDC diagnostic systems, we found consensus agreement on the UW criteria for FAS. When health professionals were presented with diagnostic criteria for PFAS, ARND, and ARBD from only the Canadian and original IOM diagnostic systems, we found consensus agreement for both Canadian and IOM PFAS criteria and no consensus for ARND or ARBD.”</p> <p>Abstract. The authors report “We found consensus agreement among participants on the diagnostic criteria for fetal alcohol syndrome (FAS), with the University of Washington criteria most commonly endorsed. We found consensus agreement but no clear preference for either the Canadian or Institute of Medicine criteria for the diagnosis of partial FAS, and no consensus on Canadian or Institute of Medicine criteria for alcohol-related neurodevelopmental disorder.” It would be more accurate to report “We found consensus agreement among participants on the diagnostic criteria for fetal alcohol syndrome (FAS), with the University of Washington criteria most commonly endorsed when compared to all other published criteria for FAS. When health professionals were presented with diagnostic criteria for PFAS, ARND, and ARBD from only the Canadian and original IOM diagnostic systems, we found consensus agreement for both Canadian and IOM PFAS criteria, and no consensus for ARND or ARBD. “</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

1. The methodology used follows the Delphi method and is sound but overall numbers answering all of the questions are low, only 36 out of the 139 individuals first approached for the study, which raises the question as to whether the views obtained might be biased. More is needed about the characteristics of those who did not respond.

We used a modified Delphi methodology which seeks to represent the opinion of health professionals with relevant expertise. All participants were not expected to complete the questions on diagnosis because:

- i) the survey was not only focused on diagnosis, and panel members were recruited based on their experience or expertise in screening or diagnosis, and
- ii) to support the validity of the study we encouraged participants to indicate where the statements were outside their area of expertise rather than complete these statements (which should be distinguished from non-response).

These points are reported in the methods (questionnaire design and panel recruitment sections).

We have modified the discussion (page 13) to include the following: ‘However, due to the recruitment of panel members based on experience or expertise on screening or diagnosis and the examination

of both screening and diagnosis in the questionnaire, we did not anticipate that all panel members would respond to the statements on diagnostic criteria.'

We originally included in the final section of the results an analysis of response completeness according to individual characteristics among individuals who at any point indicated relevant expertise related to diagnosis (through response to 1 or more statements on diagnostic criteria) to explore the factors associated with response frequency among participants with relevant expertise. We have revised this section (now renamed 'Response completeness and survey non-response') to include results of an analysis of non-response to the survey (36/139) according to occupation based on information collected from panel members at the time of enrolment. We have added the following text at the end of this section: 'Although there was no evidence of an association between occupation and completion of any questionnaire statement on diagnostic criteria either among the 139 panel members ($p=0.2$) or among the 103 panel members who responded to the survey ($p=0.46$); non-response to the survey overall (36/139 panel members) was more frequent among paediatricians (36.6%) than among other health professionals (14.7%, $p=0.003$). Among the 103 survey participants, paediatricians were also more likely to complete 22 or more of the 27 diagnostic criteria statements (46.7%) than other health professionals (25.9%, $p=0.03$).'

2. Why should the diagnosis of FASD be so different in Australia to everywhere else? Why should different criteria be needed? What are the particular problems encountered in Australia which are not present elsewhere?

We explored health professionals' perceptions of adopting an existing diagnostic guideline in Australia, and we found no clear consensus on whether any of the existing diagnostic guidelines for FASD should be adopted (Watkins, Elliott, Mutch et al., 2012). Most health professionals were unsure whether existing guidelines should be adopted, and participants raised concerns about adopting existing guidelines in their current form. This finding is consistent with the lack of an internationally agreed standard for diagnosis and the recognised need to evaluate the appropriateness of guidelines in different contexts. We have added text outlining these factors in the last paragraph of the introduction (page 6): 'There are no internationally agreed standards for FASD diagnosis, and a survey of health professionals demonstrated that most were unsure about whether any of the existing diagnostic guidelines should be adopted in Australia (Watkins, Elliott, Mutch et al., 2012). Consistent with the recognised need to evaluate guidelines when they are adopted in different contexts (Brouwers et al., 2010; Graham and Harrison, 2005)' ...

3. Which professional in Australia have access to diagnostic tests that could rule out some of the alternative diagnoses? This might be a key factor why eg GPs feel they can't take on diagnosis.

Although GPs participated in this study, based on the study panel composition our findings are most likely to reflect the perceptions of other professionals about GP diagnosis. Some participant comments indicated that responses are at least in part associated with perceptions of the need for

specialist expertise, a lack of time to complete the diagnostic process, and the perceived need for a specialist multidisciplinary diagnostic team. No comments related to a lack of access to diagnostic tests, and we don't believe that this is a major issue; however, more information is required to fully explain the reasons for finding, and particularly from the perspective of GPs.

We have added the following sentence to page 12 of the discussion: 'Comments from some participants indicated that the lack of support for the role of general practitioners in diagnosis may be associated with the perceived need for specific expertise in FASD diagnosis, a lack of time to complete the diagnostic process in general practice, and the perceived need for a specialist multidisciplinary diagnostic team.'

4. Did one of the questions enquire specifically about the 4 digit diagnostic code and whether this was helpful. This is a key area of contention between experts in the FAS field and it would be useful to know if you sought a specific view on it.

As mentioned in our response to point 2 and now more fully explained in the manuscript, we report the results of general questions about adoption of existing diagnostic guidelines, including the 4-digit Diagnostic Code, in the following paper: Watkins RE, Elliot EJ Mutch RC et al., Health professionals' perceptions about the adoption of existing guidelines for the diagnosis of fetal alcohol spectrum disorders in Australia. BMC Pediatrics 2012, 12:69.

5. Why do you think approximately 30% of professionals would still consider a diagnosis of FAS when there is a confirmed absence of alcohol exposure in utero?

Based on comments made by some participants in response to this item, the absence of 100% agreement is likely to be associated with uncertainty about the definition of 'confirmed absence' and its potential fallibility.

6. Some of the questions asked are leading ones; There are a group which are clearly exploring possibilities for delivery of a diagnostic service. Was this one of the main aims of the study? Did the answers to this group of questions help you to reach any conclusions about how these services should be delivered in the future.

Gathering information on potential models for service delivery was an aim of the study, but not the main aim. As such we have removed information on service delivery from the abstract. Some of the statements used were designed to evaluate agreement with existing recommendations published in Australia, consistent with the modified Delphi method. We have added the following text to the

questionnaire design section on page 6: 'Agreement with different methods of service delivery, including several concepts included in the Western Australian FASD model of care (Department of Health Western Australia, 2010) was also explored.'

7. Need a clearer conclusion about how this will change current practice. Will you recommend use of IOM criteria or develop new ones. If new ones be clearer as to what you would change.

We conducted this study to identify health professionals' agreement with existing diagnostic criteria for FASD, identify the implications of these findings, and document these findings so that they can be evaluated and considered alongside other evidence in an appropriate formal guideline development process. We have inserted the following text in the final paragraph of the discussion (page 13) and edited this paragraph to improve clarity associated with implications of this research: '... these data provide valuable consensus-based evidence for guideline development that should be incorporated in formal guideline development processes for FASD diagnosis in Australia.'

8. Overall this paper is clear and well-written. It's interesting for readers to see an example of the Delphi method of investigation. The main criticism is that there are no very instructive learning points for readers.

We thank reviewer 1 for their comments.

Reviewer: 2

1. This paper represents a very important and novel contribution to the field of FASD.

2. P6, Questionnaire design.

The authors report that 21 statements evaluated general and specific components of published diagnostic criteria for FAS and 6 statements evaluated diagnostic criteria for other FASD based on the original IOM criteria and the Canadian guidelines. From Table 4 it is clear that FAS components from all FASD diagnostic guidelines are being represented (Canadian, IOM 1996, Revised IOM 2004, UW, and perhaps the CDC). From Table 5, it is clear that only the Canadian and 1996 IOM criteria are being represented for pFAS, ARND, and ARBD. This is concerning. Why would the 6 statements on criteria for partial FAS and ARND NOT include the criteria published by the 4-Digit Code? The 4-Digit Code has criteria for both pFAS and ARND. The 4-Digit Code does not use the terminology ARND, but it does address ARND through its two diagnostic classifications called Neurobehavioral Disorder/Alcohol Exposed (moderate ARND) and Static Encephalopathy/Alcohol Exposed (severe ARND). It is even more concerning because the authors report that consensus was NOT achieved for ARND when using the Canadian and 1996 IOM statements. One has to wonder; would consensus

have been achieved for “ARND” if the participants had been provided statements regarding Neurobehavioral Disorder/Alcohol Exposed and Static Encephalopathy/Alcohol Exposed from the 4-Digit Code? Based on this study limitation, it will be important to report the outcomes of this study in the Abstract and conclusion sections to better address this design limitation. See below for recommendations.

P.12 line 56 Conclusions:

The authors report “In conclusion, we found consensus agreement on the UW criteria for the diagnosis of FAS, the Canadian and IOM criteria for PFAS, and few important differences between the perceptions of paediatricians and other health professionals.” It would be more accurate to report “In conclusion, when health professionals were presented with FAS diagnostic criteria from the UW, Canadian, original IOM, revised IOM, and CDC diagnostic systems, we found consensus agreement on the UW criteria for FAS. When health professionals were presented with diagnostic criteria for PFAS, ARND, and ARBD from only the Canadian and original IOM diagnostic systems, we found consensus agreement for both Canadian and IOM PFAS criteria and no consensus for ARND or ARBD.”

Abstract.

The authors report “We found consensus agreement among participants on the diagnostic criteria for fetal alcohol syndrome (FAS), with the University of Washington criteria most commonly endorsed. We found consensus agreement but no clear preference for either the Canadian or Institute of Medicine criteria for the diagnosis of partial FAS, and no consensus on Canadian or Institute of Medicine criteria for alcohol-related neurodevelopmental disorder.” It would be more accurate to report “We found consensus agreement among participants on the diagnostic criteria for fetal alcohol syndrome (FAS), with the University of Washington criteria most commonly endorsed when compared to all other published criteria for FAS. When health professionals were presented with diagnostic criteria for PFAS, ARND, and ARBD from only the Canadian and original IOM diagnostic systems, we found consensus agreement for both Canadian and IOM PFAS criteria, and no consensus for ARND or ARBD. “

We agree that we did not use a comprehensive approach to evaluate diagnostic categories other than FAS, and we agree that this pragmatic decision has left central questions about agreement with the 4-Digit Diagnostic Code and the revised IOM diagnostic criteria unaddressed. Nevertheless, we believe that our finding of a lack of difference in agreement with the IOM and Canadian criteria for PFAS and ARND still provides valuable information. We have clearly acknowledged the design used and its limitations in the paper, and we have revised the abstract along the lines suggested by reviewer 2 to include more detail about the survey design and findings. This study design limitation has also been highlighted in the new article summary section. Due to the need to make substantial changes to the abstract format for BMJ Open we have not tracked these changes in the revised paper.

We thank reviewer 2 for their comments.

VERSION 2 – REVIEW

REVIEWER	Susan Astley PhD Professor of Pediatrics and Epidemiology Director Washington State FAS Diagnostic & Prevention Network University of Washington, Seattle WA USA Author of the FASD 4-Digit Diagnostic Code, 2004
REVIEW RETURNED	01-Sep-2012

THE STUDY	There were no supplemental documents.
GENERAL COMMENTS	<p>General Comment This paper represents an important and novel contribution to the field of FASD.</p> <p>Detailed Comments The following minor edits are suggested to further clarify the text.</p> <p>Page 4. Strengths and limitations of this study. The authors report: “Evaluation of diagnostic criteria for FASD other than FAS only compared criteria from the original and the most recent published guidelines. Please consider editing as follows: “Evaluation of diagnostic criteria for PFAS and ARND only compared criteria from the Canadian(2) and IOM(4) guidelines.”</p> <p>The authors report: “Based on our finding of a clear preference for the University of Washington criteria for FAS, further work is required to identify whether there is consensus agreement for University of Washington criteria equivalent to alcohol-related neurodevelopmental disorder (ARND).” Please consider editing as follows: “Based on our finding of a clear preference for the UW(10) criteria for FAS, further work is required to identify whether there is consensus agreement for the UW criteria for PFAS and the UW criteria for ARND (more specifically: Static encephalopathy/alcohol exposed (severe ARND) and Neurobehavioral Disorder/Alcohol Exposed (moderate ARND).”</p> <p>Page 7</p> <p>The authors report: “21 statements which evaluated agreement with general and specific components of published diagnostic criteria for FAS”. Please consider editing as follows: “21 statements which evaluated agreement with general and specific components of the UW(10), CDC(9), IOM(4), revised IOM(11), and Canadian(2) diagnostic criteria for FAS,”</p> <p>The authors report: “and 6 statements which evaluated agreement with diagnostic criteria for other FASD based on a comparison of concepts from the original IOM diagnostic criteria (4) and the more recently developed Canadian guidelines(2)”. Please consider editing as follows: “and 6 statements which evaluated agreement with diagnostic criteria for PFAS and ARND based on a comparison of concepts from the original IOM diagnostic criteria(4) and the more recently developed Canadian guidelines(2).</p> <p>Page 10 The authors use the subtitle: “Diagnostic criteria for other FASD”. Please consider editing as follows: “Diagnostic criteria for PFAS, ARND, and ARBD”.</p>

	<p>The authors report: “No consensus agreement was reached on the definition of alcohol-related birth defects (ARBD)”. Please consider editing as follows: “No consensus agreement was reached on the IOM(4) definition of alcohol-related birth defects (ARBD)”</p> <p>Page 13</p> <p>The authors report: “Further exploration of agreement with the UW diagnostic criteria for other FASD is needed to distinguish a lack of support for the diagnostic category of ARND from the specific and limited diagnostic criteria for other FASD evaluated in this survey.” Please consider revising as follows: “Since respondents were not provided the UW criteria for PFAS, Static Encephalopathy/Alcohol Exposed (Severe ARND), and Neurobehavioral Disorder/Alcohol Exposed (Moderate ARND), agreement and preference on criteria for PFAS and ARND remain incomplete and warrant further exploration. “</p> <p>Page 14</p> <p>The authors report: “Limitations of this study include its exploratory design and the inability of the survey to represent published diagnostic criteria within their full context and evaluate all available diagnostic criteria for other FASD”. Please consider revising as follows: “Limitations of this study include its exploratory design, the inability of the survey to represent published diagnostic criteria within their full context, and exclusion of UW diagnostic criteria for PFAS and ARND.”</p> <p>The authors report: “In conclusion, we found consensus agreement on the UW criteria for the diagnosis of FAS, the Canadian and IOM criteria for PFAS, and few important differences between the perceptions of paediatricians and other health professionals”. This statement is not entirely accurate. Please consider revising as follows: “In conclusion, when health professionals were presented with criteria for FAS from all five guidelines(2,4,9-11) we found consensus agreement on the UW criteria for FAS. When health professionals were presented with criteria for PFAS and ARND from the Canadian and IOM guidelines, we found consensus agreement, but no clear preference for either the Canadian or IOM criteria for the diagnosis of PFAS, and no consensus agreement on diagnostic criteria for ARND. We also found no consensus on the IOM diagnostic criteria for ARBD. A few important differences between the perceptions of paediatricians and other health professionals were observed.”</p>
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VERSION 2 – AUTHOR RESPONSE

Reviewer: Susan Astley

The following minor edits are suggested to further clarify the text:

Page 4. Strengths and limitations of this study.

1. The authors report: “Evaluation of diagnostic criteria for FASD other than FAS only compared

criteria from the original and the most recent published guidelines. Please consider editing as follows: "Evaluation of diagnostic criteria for PFAS and ARND only compared criteria from the Canadian(2) and IOM(4) guidelines."

We have revised the sentence to include the guideline names as suggested:

"Evaluation of diagnostic criteria for partial FAS (PFAS), alcohol-related neurodevelopmental disorder (ARND), and alcohol-related birth defects (ARBD) only compared concepts from the original (Institute of Medicine) and the most recent (Canadian) published guidelines."

2. The authors report: "Based on our finding of a clear preference for the University of Washington criteria for FAS, further work is required to identify whether there is consensus agreement for University of Washington criteria equivalent to alcohol-related neurodevelopmental disorder (ARND)." Please consider editing as follows: "Based on our finding of a clear preference for the UW(10) criteria for FAS, further work is required to identify whether there is consensus agreement for the UW criteria for PFAS and the UW criteria for ARND (more specifically: Static encephalopathy/alcohol exposed (severe ARND) and Neurobehavioral Disorder/Alcohol Exposed (moderate ARND))."

We have revised the sentence to include the main suggested text. As this is an article summary, we have omitted the suggested details included in parentheses.

"Based on our finding of a clear preference for the University of Washington criteria for FAS, further work is required to identify whether there is consensus agreement for University of Washington criteria for PFAS and ARND."

Page 7

3. The authors report: "21 statements which evaluated agreement with general and specific components of published diagnostic criteria for FAS". Please consider editing as follows: "21 statements which evaluated agreement with general and specific components of the UW(10), CDC(9), IOM(4), revised IOM(11), and Canadian(2) diagnostic criteria for FAS,"

We have revised the manuscript to include the suggested text, and standardised the order that guidelines are listed in the manuscript based on date of publication:

"... 21 statements which evaluated agreement with general and specific components of the IOM, UW, Centers for Disease Control (CDC), revised IOM, and Canadian diagnostic criteria for FAS ..."

4. The authors report: "and 6 statements which evaluated agreement with diagnostic criteria for other FASD based on a comparison of concepts from the original IOM diagnostic criteria (4) and the more recently developed Canadian guidelines(2)". Please consider editing as follows: "and 6 statements which evaluated agreement with diagnostic criteria for PFAS and ARND based on a comparison of concepts from the original IOM diagnostic criteria(4) and the more recently developed Canadian guidelines(2).

We have revised the text to include the above suggestion as follows:

"...and 6 statements which evaluated agreement with diagnostic criteria for partial FAS (PFAS), alcohol-related neurodevelopmental disorder (ARND), and alcohol-related birth defects (ARBD) based on a comparison of concepts from the original IOM diagnostic criteria and the more recently developed Canadian guidelines."

Page 10

5. The authors use the subtitle: "Diagnostic criteria for other FASD". Please consider editing as follows: "Diagnostic criteria for PFAS, ARND, and ARBD".

We have revised the subtitle as suggested.

6. The authors report: "No consensus agreement was reached on the definition of alcohol-related birth defects (ARBD)". Please consider editing as follows: "No consensus agreement was reached on the IOM(4) definition of alcohol-related birth defects (ARBD)"

We have revised the text to refer specifically to the IOM criteria as suggested:
"No consensus agreement was reached on the IOM criteria for ARBD"

Page 13

7. The authors report: "Further exploration of agreement with the UW diagnostic criteria for other FASD is needed to distinguish a lack of support for the diagnostic category of ARND from the specific and limited diagnostic criteria for other FASD evaluated in this survey." Please consider revising as follows: "Since respondents were not provided the UW criteria for PFAS, Static Encephalopathy/Alcohol Exposed (Severe ARND), and Neurobehavioral Disorder/Alcohol Exposed (Moderate ARND), agreement and preference on criteria for PFAS and ARND remain incomplete and warrant further exploration. "

We have revised the sentence to include specific reference to PFAS and ARND rather than 'other FASD', and refer to our findings for PFAS in addition to ARND to highlight why further investigation in the area is needed. The existing text highlights the lack of assessment of all diagnostic criteria for PFAS and ARND in the article abstract, summary, methods, and specifically refers to this as a limitation on page 14.

"Further exploration of agreement with the UW diagnostic criteria is needed to distinguish a lack of support for the diagnostic category of ARND and lack of clear preference for diagnostic criteria for PFAS from the specific and limited diagnostic criteria evaluated in this survey."

We have also revised the following sentence to include reference to UW diagnostic categories for ARND "(static encephalopathy-alcohol exposed and neurobehavioral disorder-alcohol exposed)."

Page 14

8. The authors report: "Limitations of this study include its exploratory design and the inability of the survey to represent published diagnostic criteria within their full context and evaluate all available diagnostic criteria for other FASD". Please consider revising as follows: "Limitations of this study include its exploratory design, the inability of the survey to represent published diagnostic criteria within their full context, and exclusion of UW diagnostic criteria for PFAS and ARND."

We have revised the sentence to highlight the lack of assessment of all published diagnostic criteria for PFAS and ARND:

"Limitations of this study include its exploratory design, the inability of the survey to represent published diagnostic criteria within their full context, and the failure to assess agreement with all published diagnostic criteria for PFAS and ARND."

9. The authors report: "In conclusion, we found consensus agreement on the UW criteria for the diagnosis of FAS, the Canadian and IOM criteria for PFAS, and few important differences between the perceptions of paediatricians and other health professionals". This statement is not entirely accurate. Please consider revising as follows: "In conclusion, when health professionals were presented with criteria for FAS from all five guidelines(2,4,9-11) we found consensus agreement on the UW criteria for FAS. When health professionals were presented with criteria for PFAS and ARND from the Canadian and IOM guidelines, we found consensus agreement, but no clear preference for either the Canadian or IOM criteria for the diagnosis of PFAS, and no consensus agreement on diagnostic criteria for ARND. We also found no consensus on the IOM diagnostic criteria for ARBD. A few important differences between the perceptions of paediatricians and other health professionals were observed."

We have revised the first sentence of the final concluding paragraph to improve its accuracy and focus on the main conclusions drawn from our results:

“In conclusion, we found consensus agreement on the UW criteria for the diagnosis of FAS, and few important differences between the perceptions of paediatricians and other health professionals.”