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Teachers' opinions of interdisciplinary reports: The Children's Assessment Team

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ABSTRACT

There has been almost no investigation of reports produced by interdisciplinary teams. Feedback was obtained from 30 teachers regarding a typical (but fictional) report written by the Children's Assessment Team at Flinders Medical Centre. Quantitative and thematic analysis revealed that the same features that contribute to the effectiveness of a psychological report were relevant to inter-disciplinary reports. Readability, explanation of technical terms, use of behavioural examples and an initial summary paragraph were cited as useful report components. While teachers appreciated the clarity and detail of the report, they requested more detailed, concrete recommendations for interventions within a classroom setting.

Key words: interdisciplinary reports, psychological reports, developmental, Aspergers, effectiveness

INTRODUCTION

Psychologists spend a large amount of time translating the results of their assessments into written reports designed for a variety of readers. In addition many psychologists now work as part of an interdisciplinary team. While there has been some research into psychological report writing and an examination of what makes these reports understandable and useful (Brenner, 2003), there has been almost no examination of the reports produced by interdisciplinary teams which are now an important part of modern health care. This study focuses on understanding teachers' views of interdisciplinary reports of the Flinders Medical Centre, Children's Assessment Team.

In health care settings psychological reports are the primary means of information dissemination to schools, families and physicians (Cornwall, 1990). These reports function to communicate the results to relevant parties in a clear and efficient manner. They must also seek to answer the questions that each potential consumer may have and to motivate these parties to undertake recommended changes. Ownby (1997) states that the primary purpose of a psychological report is to persuade someone to do something that will assist the client. Thus in considering the quality of a report, primary consideration should be given to how convincing it is and how likely consumers are to follow its recommendations.

The language of psychological reports

The factors that influence the quality of a psychological report include the use of psychological jargon, simplicity of the language, defining of any essential psychological terms, and providing examples to illustrate points that are made (Harvey, 2006). The use of psychological jargon has been examined by several researchers, all of whom have found that it reduces the comprehensibility of the report (Cuadra & Albaugh, 1956; Rucker, 1967; Sattler, 2001; Seagull, 1979; Wiese, Bush, Newman,

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& Benes, 1986). These studies suggest that use of psychological terms such as “perceptual reasoning” or “full-scale IQ” should either be restated in plain English or explained after they are mentioned. Diagnoses and names of disorders should also be explained because the understanding of these by teachers, health professionals and parents may vary greatly (O’Keeffe & McDowell, 2004).

Many authors have suggested that a different report be tailored for each consumer (Ownby, 1997; Seagull, 1979). Although tailored reports for each consumer would be ideal, Nuttall, Devaney, Malatesta and Hampel (1999) argue that most psychologists only have time to prepare one report for all interested parties. As a result, the report that is produced must be understandable and engaging for all potential readers. This means that the language used must be at the level of the least educated potential consumer and have clear recommendations directly addressing the concerns of all involved with the client.

The structure of psychological reports

Several studies have examined the structural factors that influence teachers’ understanding of psychological reports. Wiener (1985, 1987) found that teachers prefer reports that organise information into functional domains and describe strengths and skill deficits in behavioural terms. Teachers also preferred reports that responded directly to the referral questions. Hodson (1998) asked teachers and parents to read different formats of the same report to determine which was more effective. Teachers and parents preferred a question and answer format as well as the format involving interpretive statements, which was found to increase comprehension of reports. Cuadra and Albaugh (1956) emphasized the importance of including a summary paragraph at the beginning of the report. This summary should not only summarise the content of the report but also directly address the questions that the consumer would have when reading the report.

Teachers’ preferences and psychological reports

Several researchers have asked teachers how psychological reports could be improved. Mussman (1964) received qualitative feedback suggesting that more concrete recommendations were needed. Similarly, Salvagno and Teglassi (1987) found teachers preferred recommendations that give a specific example of a statement that could be made to a student. Brandt and Giebink (1968) and Ownby, Wallbrown and Brown (1982) also found that teachers prefer recommendations that are specific and concrete. Personalised background and developmental information can also assist teachers in designing effective educational programs for children. Bagnato (1980) found that teachers who received individualised information such as “drinks with a cup unassisted” rather than test scores alone were able to assist students more effectively. Compared with other professionals, it is teachers who spend the most time with children with developmental issues so it is unsurprising that they prefer detailed, personalised and concrete information in psychological reports.

The interdisciplinary team

Fergusson, Howley and Rose (2008) discuss the provision of services for children with learning disabilities and autism spectrum disorders, describing the complexity of these cases, and highlighting the need for collaborative processes among professionals who work with these individuals. Interdisciplinary teams have become the new model for patient care (Schofield & Amodeo, 1999) due to the level of specialisation among health care professions and the complex needs of children with pervasive developmental disorders (Kilgore & Langford, 2009). Herrick (2006) defines an interdisciplinary team by comparing it to a multidisciplinary team and highlights some important distinctions. A multidisciplinary team involves several professionals working independently, sharing the results of their work with each other whereas an interdisciplinary team requires far more collaboration, with professionals from various disciplines and families sharing their knowledge in an interdependent manner.

The effectiveness of interdisciplinary teams responsible for administering treatments is highly dependent upon communication and collaboration (Fewster-Thuente & Velsor-Friedrich, 2008). As for psychologists, the primary method of communication for an interdisciplinary team is their report. Although it is important that professionals and families come to a shared understanding of assessment results, these parties often have different requirements of a report. Where parents may require some explanation of terms and interpretation of scores, health professionals often have restrictions on their

time and need to gain the information they require quickly. Donders (1999) suggests that a cover letter with a summary and recommendations section be attached to the front of neuropsychological reports in order to save the time of the professionals who read them. This suggests that there is variation between the demands of different professionals, with Wiener (1985, 1987) finding that teachers preferred reports that were more detailed and explained interventions in length.

An interdisciplinary assessment team: The Children's Assessment Team

The Children's Assessment Team (CAT) at the Flinders Medical Centre in Adelaide, South Australia is an interdisciplinary team providing assessment of children with multiple or severe developmental problems. Team staff includes a paediatrician, clinical psychologist, occupational therapist, speech pathologist, physiotherapist, special education teacher and a clinician from the child and adolescent mental health service. The Team uses a one-day assessment model (Guralnick, 2000). Upon completion of the assessments by relevant disciplines the team meets to discuss the assessment results and consider these in terms of diagnoses. Recommendations and further referrals are also made at this meeting, and a draft summary and recommendations page are written for the child's family and relevant professionals. The child and family are provided with this page and verbal feedback on the assessment, at the completion of the day. Subsequently, the case coordinator finalises the Team report.

The process undertaken by the Children's Assessment Team and the subsequent report from their assessment is based upon review of research in the area of report writing and interdisciplinary team functioning. Team report writing guidelines include explanation of technical terms or jargon within the report and a logical structure with the final conclusions and recommendations answering the initial referral question. The report follows the verbal explanation of the results on the day, aiming to enhance its comprehensibility for parents (Donders, 2001). The reading level of the reports is kept as low as possible and recommendations are intended to be clear, detailed and illustrated with examples. A summary paragraph is provided at the beginning of the report. The Team report is accompanied by more detailed individual assessment reports from relevant disciplines.

Aims of the current study

Given the large commitment of resources that such a team represents it is vital that their work results in a useful document that achieves positive changes for the child being assessed. In addition to this, Ownby and Wallbrown (1983) suggest that although research regarding general principles of report writing is important, specific feedback should be sought regarding the usefulness of a report for consumers. They suggest that psychologists should seek this from consumers of their reports to improve their own report writing. The current study aims to seek such feedback from an important consumer of CAT reports, teachers working in schools within the catchment area of the Team.

The current study aims to evaluate teachers' opinions of CAT reports by asking them to read a typical, albeit fictional, CAT report followed by a questionnaire regarding its usefulness and comprehensibility. Webb (1993) examined the methodological issues related to examining client feedback, finding that quantitative studies tend to provide higher levels of satisfaction than qualitative studies. Qualitative studies ask for elaboration and are more likely to receive a negative response. Webb (1993) suggests that neither of these approaches is accurate in isolation but that the two methods should be used side by side. Combining these methods also allows for unambiguous rating of specific features of a report while allowing for further elaboration and suggestions for improvements.

The present study also considers the usefulness and comprehensibility of inter-disciplinary reports in general. This study provides one of the first examinations of the elements of inter-disciplinary reports that facilitate effective communication among the professionals who assess children and the teachers who assist them.

Given that CAT reports have been designed with minimal jargon, a relatively low reading level, and a clear structure with results responding to referral questions it was expected that teachers would rate the report as clear and understandable. In addition, a relatively detailed background section should allow teachers to understand the difficulties of the student being assessed. Given that teachers must work closely with the child being assessed, it would be expected that they would require a detailed recommendations section with specific instructions for classroom interventions and behavioural examples of the child's difficulties. It was also predicted that teachers would rate the

structure of the report as making sense and would find the summary information useful. Explanations of technical terms were expected to be cited as a positive feature of the reports along with information being organised into functional domains.

METHOD

Participants

All 30 participants were teachers at primary schools of the South Australian Department of Education and Children's Services (DECS). Teachers working at DECS schools within the Children's Assessment Team's catchment area were surveyed. The catchment area extends through the southern regions of Adelaide in South Australia and contains 63 DECS schools.

Surveys were sent to every school within the CAT's catchment area. Principals were called and given a description of the study and asked for their assistance. Of 63 school principals contacted, 32 agreed to invite their teachers to participate (50.8% response rate). It is difficult to determine exact response rates among teachers as one study pack per teacher was sent to each school. However, several Principals indicated that they would only invite teachers for whom CAT reports were most relevant. In many cases this was the special education teacher at the school. The level of experience of developmental disorders of the teachers who responded was high, with 77% of respondents having worked with children with at least 5 different developmental disorders and 66% of respondents had seen reports written by three or more different disciplines.

Materials

Development of the fictional interdisciplinary report: The fictional report of a 5 year old boy with a pervasive developmental disorder (Asperger's Syndrome) was prepared and designed to mimic a typical report from the Team (see Appendix). The report was created by the Coordinator of the Children's Assessment Team and was then checked by two other members of the team. The fictional report was 8 pages long, the first page presenting demographic information and a summary of the assessment. The rest of the report followed the standard format of referral information, background information, previous assessments, results (referring to each of the diagnostic criteria of Asperger's Syndrome), followed by a summary and recommendations section. The recommendations were designed to provide solutions to the difficulties referred to in the background and results sections. As is standard in CAT reports, jargon or diagnostic terms were defined, reading level was kept to a minimum and all sections were of a similar level of detail to standard CAT reports. The reading level of the report was checked in Microsoft Word 2007 which produced a Flesch-Kincaid reading level of 10.3. This is an American scale and means that the document is at the reading level of someone who is in the 10th grade of school in the USA.

Questionnaire: A 23-item questionnaire was used to evaluate the comprehensibility and usefulness of the report. The first section contained five questions examining the teacher's experience of children's assessment reports and the grade they taught. Teachers indicated by discipline which reports they had seen. Other questions gauged the teacher's experience of developmental disorders, questioning if they have taught children with a range of listed disorders (e.g., Asperger's Syndrome, Intellectual disability). Teachers were then instructed to read the fictional report imagining that it referred to a child in their class, and answer the final questions. The questionnaire contained 8 long answer questions allowing for qualitative data to be collected (e.g., "What was the most useful part of this report?"). These questions were a modification of those developed by Ownby and Wallbrown (1983), Wiener (1985, 1987), and Wiener and Kohler (1986). These questions were intended to provide more in depth opinions about the usefulness of the report and to allow teachers to make suggestions for improvements. The questionnaire also contained 10 questions which asked teachers to rate various aspects of the report (e.g., "The report was written in understandable terms") on a 5 point Likert Scale (1 = "Strongly disagree" and 5 = "Strongly agree"). These questions probed how useful, understandable and convincing the report was and required teachers to indicate how much they agreed with each of the 10 statements. The questions were adapted from Cornwall (1990).

Procedure

Ethics approval was attained from the Ethics committees of the University of Adelaide, Flinders Medical Centre and the Department of Education and Children's Services. All schools were contacted to determine teacher numbers. In August and September, 2009, Principals were mailed a pack for each teacher and asked to distribute the surveys to teachers at that school. The packs included the report, questionnaire, information sheet, DECS support letter, support letter from the head of the Children's Assessment Team, consent form and a postage-paid, pre-addressed envelope to allow teachers to mail the questionnaires to the researcher. The packs that were sent to Principals were followed up by a phone call from the researcher 1 week later to address any questions or issues the Principals had about the study.

Qualitative responses were sought as they have the potential to display finer nuances of teachers' demands and allow for clear suggestions for future improvements to reports. While qualitative results are potentially useful due to the quantity of information they provide and the freedom of response that they give to participants, it is important to organise this information effectively. To achieve this, the current study used a thematic analysis to make sense of the responses by teachers. Thematic analysis is described by Boyatzis (1998) as a method for encoding qualitative information; the code is a list of themes that describe the patterns found in the information. An approach based on themes identified in previous research was appropriate as research has been done in the area of interest. However there are no overarching theories in the field. The codes or variables of previous studies were used (Boyatzis, 1998). In addition, a current data approach was adopted to highlight suggestions by teachers that went beyond previous research.

The analysis of the data was similar to the five stages of analysis outlined by Pope and Mays (2006): familiarisation, identification of thematic framework, indexing, charting, and mapping. The qualitative data were examined by the researcher and reviewed several times to allow for familiarisation. The first draft of a codebook was then produced via consideration of the literature. All qualitative data were then coded as themes. Once these themes had been identified, several reviews of the data were completed to search for any remaining themes. This list was then examined one week later to improve intra-rater reliability and to cut the list down by removing redundant themes and themes not adequately supported by the data. Themes were organised under several super-ordinate headings. The level of support for each theme was gauged by the frequency of each theme. Frequency involved the number of teachers that made reference to a specific theme, if a teacher made reference to this theme more than once it was still only counted as one occurrence of the theme. Once this process had been completed the thematic analysis was checked by two researchers unfamiliar with the data to ensure inter-rater reliability.

RESULTS

Themes derived from prior research and current data

Themes are presented in Table 1, with their origin (current data or prior research) displayed with their frequency. Eight themes were derived from previous research and a further six themes were also derived from the data. All themes from research were found to be supported to varying degrees. The most common themes involved a need for detailed recommendations, praise for the detailed background within the report, and praise for the summary paragraph. Two themes indicated a preference for detail and a need for practical suggestions by teachers; they are defined as usefulness factors. The theme relating to the summary paragraph is considered to be a structural component of report clarity. Six themes derived from the data were either conceptually related to those derived from the literature or provided further understanding of other elements of the results. For example, "details of the assessment procedure" is related to details in the background section because it gives the teacher a more detailed and useful understanding of the child's difficulties.

The themes displayed in Table 1 are described in more detail below, with definitions and examples.

Usefulness factors: The elements of the report that made consumers likely to do something in relation to a client were categorised as usefulness factors.

Table 1 Themes derived from literature and data

Theme	Frequency	Percent	Research
Research Derived			
Preference for specific, concrete recommendations	26	86.6	Mussman, 1964; Brandt & Giebink, 1968; Ownby, Wallbrown & Brown, 1962.
Praise for detailed background and description of difficulties	17	56.6	Wiener, 1985; Wiener, 1987.
Information in functional domains useful	5	16.6	Wiener, 1985; Wiener, 1987.
Behavioural example of difficulties useful	4	13.3	Bagnato, 1980; Wiener, 1985; Wiener, 1987.
Praise for summary paragraph at beginning	16	53.3	Cuadra and Albaugh, 1956; Donders, 1999.
Praise for clarity of report	12	40.0	Harvey, 2006; Weddig, 1984.
Description of terms useful	7	23.3	Cuadra & Albaugh 1956; Rucker, 1967; Seagull, 1979
Logical structure	4	13.3	Cuadra & Albaugh 1956; Brenner, 2006; Sattler, 2001.
Derived from current data			
Details of assessment procedure useful	3	10.0	
Diagnosis useful as a label	3	10.0	
Diagnosis useful to confirm beliefs	3	10.0	
Reference to special education background	4	13.3	
Report repetitive or too wordy	9	30.0	
Recommendations for parents useful	10	33.3	

Preference for specific, concrete recommendations: This theme included any request by teachers for recommendations they can implement. This included requests for concrete, specific or classroom-based recommendations.

“Teacher support needed more detail- What are the suggestions for the teacher who works daily with Joseph?”

“What things should we not bother doing + what things would be useful to pursue (eg do we not bother to get him to do reading comprehension). Do we do survival maths, do we make sure he can spell etc. Is sport and exercise something we should make him do to help him. Concrete suggestions would be great- even if we get some eg’s”

Praise for detailed background and description of difficulties This theme demonstrated teachers’ preference for detailed explanations. Any form of praise for detail in background of the report flagged this theme.

“The depth of information- both background in relation to health issues and family/social issues was interesting + useful.”

“All of the report was useful in gaining a picture of the ‘whole’ child (not just academic abilities). It is useful to know the child’s developmental history as well as others’ perceptions (parents, kindergarten staff, physiotherapists etc.)”

Information in functional domains useful: This theme included specific references to information being organised in functional domains. This theme was found in comments regarding detailed information as well as the clarity of the report. It was therefore considered to be a factor contributing to both.

“Linking Joseph and his situation to aspects of autism.” (Cited as being useful in helping the child).

Behavioural examples of difficulties useful: This involves specific reference to behavioural examples of the child's difficulties.

“Anecdotal evidence of Joseph's behaviour to support diagnosis of Asperger's Syndrome.” (Cited as being the most useful part of the report)

Details of assessment procedure useful: This included specific reference to details in the assessment procedure being useful. It was considered a subcomponent of preference for detail by teachers.

“The details in the assessment procedure showing how the child was assessed & how diagnosis was achieved.” (Cited as being the most useful part of the report)

Clarity factors: For a report to be useful it must first be understandable (Seagull, 1979). While the factors under this category ultimately contributed to the usefulness of the report, they achieved this by improving the clarity of the report and were therefore defined as clarity factors.

Praise for summary paragraph at beginning: This theme included any reference to the summary being useful. Reasons included diagnosis information, bringing the report together, improving clarity or allowing for a quick understanding.

“Diagnostic Outcome was clear and concise for a quick overview.”

“Diagnostic Outcome- clear and succinct- good to have this on the front page rather than the last page as is usual”

Praise for clarity of report: This included any praise for the report being readable or understandable. It excluded specific references to structure or terms being explained which were considered subcomponents of these more broad statements.

“It was all clearly written & easy to understand.”

“Readability was at an appropriate level.”

Description of terms useful: This involved specific references to terms being defined. This was always mentioned as a positive quality of the report. More general comments regarding report clarity were categorised under the clarity theme.

“Technical terms, if unknown, were interpreted well with meanings also included in report.”

Logical structure: Specific reference to layout or structure making sense. Exclusions include reference to summary section or more general references to report clarity which were covered by separate but related themes.

“Report reads logically”

Diagnosis useful

Usefulness of a label: This includes any reference to the diagnosis being useful other than for the purpose of confirming beliefs. It was considered a subtheme of usefulness of diagnosis alongside the confirming beliefs theme.

“At least with a diagnosis ‘label’ the school can follow up with something concrete. If the assessment does not confirm a diagnosis it is often not helpful to the school. Where to then?”

Diagnosis as useful to confirm beliefs: This theme covered any reference to a diagnosis as confirming schools' or teachers' beliefs. This was examined following comments by a Principal

during a phone conversation. It was stated that a diagnosis increased a teacher's authority when discussing a child's difficulties with parents. Exclusions include diagnosis being useful to provide a label which was considered a separate component of the usefulness of providing a diagnosis.

"The report was confirming only in what the school suspected/reported."

Reference to special education background: This included any reference to the rating teacher having a special education background.

"Have dealt with them before, 33 years of experience in special education under my belt!"
(When asked if any technical terms were unclear).

Report repetitive or too wordy: This involved specific statements about the report being too long, wordy or repetitive. This was considered as counter evidence to preference for detail and balanced against comments that the report was the right length.

"More dot points to break it down into "scannable" type reading instead of a novel."

Recommendations for parents useful: Any reference to recommendations being aimed at parent flagged this theme; reasons for this comment were mixed, e.g., praise for detail in this section or as contrast to lack of recommendations for teachers.

"Great recommendations for parents to follow up on but very little for teachers."

Theme model: Figure 1 displays the themes that contributed to the report's effectiveness. This information is displayed graphically to illustrate the contribution of each feature of the report. The factors were defined as either contributing to report clarity or report usefulness. Some themes overlapped these two groups, which is unsurprising as a report must be understandable to be useful. The distinction between these aspects of a report is based upon prior research (Brenner, 2003; Harvey, 2006) that addresses separately the factors that contribute to each.

Quantitative data

Table 2 provides a summary of the Likert scale items from the questionnaire. These questions examine the various aspects of report clarity and usefulness outlined in the literature. These results support the themes, with very high ratings for level of detail in the report as well as high ratings for clarity. All teachers within the sample rated the report as understandable and giving a detailed description of the child. Ratings were considerably lower for recommendations, with teachers giving particularly low ratings for their willingness and ability to implement recommendations. Ratings regarding useful and justified recommendations were slightly higher, although still lower than ratings for report clarity, structure and detail. Ratings for report length were mixed, with 30% of teachers rating the report as being too long. This is reflected in the theme of the report being repetitive or wordy. Teachers' ratings of their ability to implement recommendations and willingness to implement recommendations were lower than other aspects of the report.

DISCUSSION

The study had two aims. The first was to gain feedback on CAT reports from one of its most important consumers - teachers. The second was to examine whether the same factors that contribute to the clarity and usefulness of psychological reports are also relevant for inter-disciplinary reports. The present study demonstrates that the same clarity and usefulness factors that are relevant for psychological reports are also relevant for inter-disciplinary reports. While CAT reports were given high ratings for clarity and detail, teachers directed significant criticism at the recommendations section of the report, considered an important aspect of a report.

Results supported the hypothesis that teachers would rate the report as clear and understandable. All teachers agreed or strongly agreed that "The report was written in understandable terms". Similarly a common theme involved praise for the clarity of the report. Within this theme, statements such as "Readability was at an appropriate level" suggest that the low reading level contributed to the

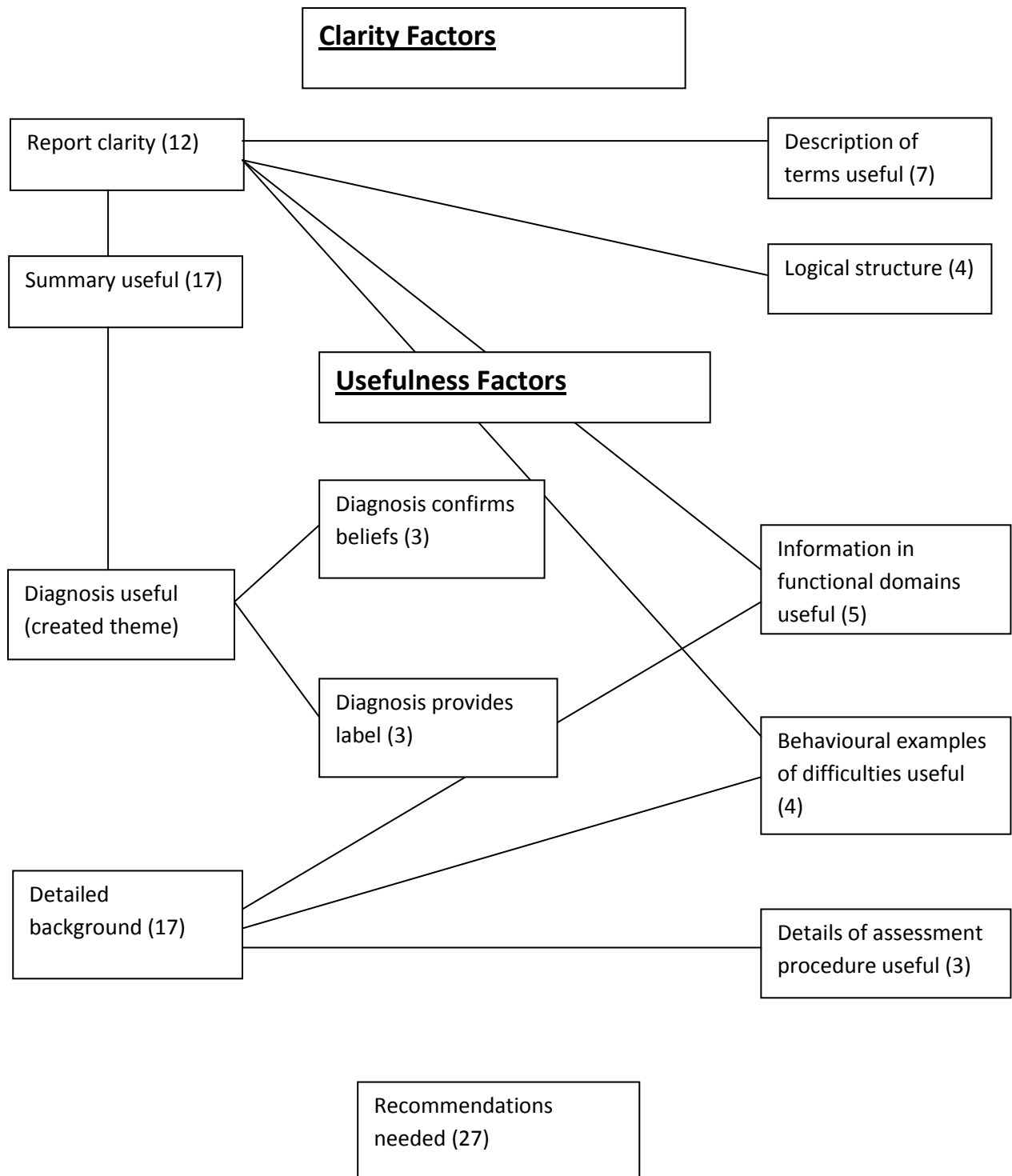


Figure 1. A model of the themes identified in the data.

Table 2 Likert scale ratings of clarity and usefulness of the report

	% Agree/Strongly		% Disagree/Strongly
	Agree	% Not sure	Disagree
Report Understandable	100	0	0
Answered Referral Questions	90	6.7	3.3
Detailed Description of Child	100	0	0
Explained Child's Difficulties	93.3	6.7	0
Useful Recommendations	63.3	20	16.7
Willing to Implement Recommendations	46.7	30	23.3
Able to Implement Recommendations	43.3	30	26.7
Recommendations Justified	76.7	23.3	0
Useful Summary	90	10	0
Structure Made Sense	93.3	3.3	3.3
Report Right length	70	0	30

clarity of the report. This finding is similar to that of several researchers who examined psychological reports (Harvey, 2006; Weddig, 1984).

Previous studies on psychological reports identified features that contribute to their clarity. These included explaining technical terms (O'Keeffe & McDowell, 2004; Rucker, 1967), giving behavioural examples of difficulties (Harvey, 2006), and organising information into functional domains (Wiener, 1985; 1987). Given that these features were present within the CAT report, it was expected that teachers would cite them as helpful. Themes addressing each of these issues were identified within the data, supporting the idea that these are relevant features of an interdisciplinary report and contribute to the clarity of CAT reports.

Cuadra and Albaugh (1956) recommend that a summary be included at the beginning to avoid readers drawing inaccurate conclusions. A summary paragraph at the beginning of the report would improve clarity and it was expected that teachers would rate this aspect of the report highly. This was strongly supported in the current study. As expected, a high proportion of teachers (93%) rated the structure of the report as making sense. This was reflected by comments such as "Report reads logically", as mentioned the summary paragraph and organisation of information regarding the child's difficulties would have improved this aspect of the report. Most teachers (90%) also agreed that the report answered the referral questions. This is noted as an important feature of an effective report (Brenner, 2003; Hodson, 1998). Many teachers praised the detailed description of the child's difficulties and rated the report as being the right length. The results of the present study support those of Wiener (1985, 1987) who found that teachers prefer a detailed description of a child's difficulties.

Some themes are not shown in Figure 1 as they do not fit as either clarity or usefulness factors but instead explain other elements of the results. The theme of recommendations for parents being useful is mixed in nature. It includes both praise for the usefulness of recommendations for parents and criticism that there are no recommendations for teachers within the report. This theme provides

some explanation for the higher quantitative ratings of the justification for and usefulness of the recommendations compared to those of ability and willingness to implement the recommendations. Some teachers rated the recommendations as being justified and useful for parents. However fewer teachers rated that they were able or willing to implement results as these specifically addressed the recommendations in relation to teachers. Less than half of teachers agreed that they were willing or able to implement the recommendations and 87% of the teachers commented that the report needed more recommendations for strategies to help the child at school. This supports the findings of Brandt and Giebink (1968) and Wallbrown and Brown (1982) who found that teachers preferred concrete, specific recommendations.

Participating teachers had high levels of experience with reports and with teaching children with developmental issues. As the survey was voluntary, the teachers who completed it may be those to whom it was most relevant, that is, special education teachers. This is supported by telephone conversations with several Principals who indicated that they would only distribute surveys to special education teachers. This finding has implications for ratings of the report's clarity as those reading it were already aware of the issues being discussed. Despite this, all teachers in the sample were able to understand the report. Some teachers had limited experience of reports and developmental issues. An interesting theme involved the usefulness of a diagnosis. This is an obvious element of an assessment report. However there were several reasons for this being a useful segment. A Principal commented that a diagnosis can lend authority to a teacher's opinion when discussing interventions with parents. Additionally, themes demonstrated that a diagnosis is useful in securing funding for a child. Diagnoses were also rated as useful as they confirmed beliefs about a child. The results suggest that CAT reports in their current format are highly understandable to teachers, using clear language and a logical structure.

Although teachers praised the detailed description of the child's difficulties, 30% of teachers rated the report as too wordy or repetitive. Several teachers suggested that the discussion section be shortened by using dot points to make it "scannable". Shortening discussion sections into dot points may improve its reading time for experienced teachers. This suggestion must be balanced against the needs of less experienced consumers who may require more lengthy descriptions.

The present study supported previous findings about factors that contribute to the clarity and usefulness of psychological reports. This suggests that the same issues that contribute to psychological report clarity are applicable to inter-disciplinary reports. The study has also provided support for the reports written by the Children's Assessment Team as they were rated as clear and detailed. One common criticism of the report was the lack of recommendations for teachers. This is a major issue as clear, concrete recommendations are a critical feature of a report. CAT report packages sent to parents and schools also contain individual assessment reports from relevant team members. These reports usually provide detailed descriptions of interventions that can be employed by various people working with the child. These individual assessments may address this limitation of the interdisciplinary report.

Future research is required to assess parents' understanding of these reports. Parents should find CAT reports understandable given the low reading level and explanation of terms within the reports. In addition, the CAT provides a verbal explanation of results to parents on the day of the assessment. In general, parents would be expected to have less experience of reports and less familiarity with developmental disorders compared with teachers.

While open questions in the questionnaire allowed for more detailed responses, teachers' answers were often brief and ambiguous. Interviewing teachers may provide a more detailed insight into their needs. This study is limited by a low response rate. Feedback on CAT reports could also be collected by seeking feedback for each report that is sent out to a teacher. This would allow teachers to give feedback based upon a report about a real child in their class. In this situation teachers may be more motivated to give detailed feedback regarding reports they receive in a real world setting.

Despite the high level of special education experience of the sample, specific recommendations were requested by most respondents. The level of experience of teachers within this sample further illustrates the importance of providing detailed recommendations for teachers. It cannot be assumed by the health professionals producing assessment reports that a brief explanation of a child's difficulties will easily be extrapolated into suitable interventions. Teachers want health professionals to provide specific, concrete recommendations. The current study has confirmed that the features that contribute to the effectiveness of psychological reports are relevant when writing interdisciplinary reports. The clarity of these reports can be improved by using a lower reading level, explaining technical terms, and responding directly to referral questions. A clear summary at the beginning of the report can assist the reader in forming an integrated picture of the child and his or her difficulties. This feature is essential to an effective report. This study also demonstrated that teachers appreciate a detailed description of a child's difficulties. While this detail is essential, it can become confusing if it is not organised in a useful manner. Organising information into functional domains and providing behavioural examples of a child's difficulties can assist here. Giving details of the assessment procedure can also assist teachers in understanding a child's difficulties.

Interdisciplinary reports are the primary means of providing information to teachers working with children with developmental disorders. It is essential that these reports are clear and useful.

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APPENDIX
Sample report



Government of South Australia
Southern Adelaide Health Service



FLINDERS MEDICAL CENTRE

CHILDREN'S ASSESSMENT TEAM

DIAGNOSTIC ASSESSMENT REPORT FOR AUTISM SPECTRUM DISORDER

NAME:	Joseph Smith
D.O.B:	1.1.03
AGE:	5 years 6 months
F.M.C UR No:	
ADDRESS:	Bedford Park
TELEPHONE:	
SCHOOL:	Woodbank Primary School
YEAR LEVEL:	Reception
DATE OF ASSESSMENT:	June 2009
REFERRED BY:	Physiotherapist
PARENTS/GUARDIANS:	Elizabeth Jones and Michael Smith
GENERAL PRACTITIONER:	Dr L Thorpe – Mount Thomas
CASE COORDINATOR:	Jane Seymour

DIAGNOSTIC OUTCOME: Today's assessment found that Joseph met the criteria for a diagnosis of Asperger Syndrome. He presented with difficulties with his social interactions and a range of rigid behaviours. Previously Joseph has been diagnosed with delayed gross motor

development associated with low muscle tone (floppiness –“hypotonia”) and sensory difficulties. On today’s assessment, Joseph was found to have intellectual functioning in the high average range. His communication and academic abilities are in line with these findings, also within the average to high average range. Recommendations include referral to Autism SA, ongoing occupational therapy and physiotherapy interventions and medical follow-up.

REFERRAL INFORMATION

Joseph was referred to the Children’s Assessment Team by a hospital physiotherapist who had been treating him since birth for gross motor delays associated with benign hypotonia and some foot deformities. The physiotherapist was concerned about Joseph’s difficulties in socialising with other children, behavioural difficulties, some obsessive and repetitive behaviours and his delayed fine motor skills. A request for a developmental assessment and investigation into a possible diagnosis of Asperger Syndrome was made.

BACKGROUND HISTORY

The following information was obtained from questionnaires to parents and school, as well as previous assessment reports.

Joseph is the only child of Elizabeth Jones (architect, currently home duties) and Michael Smith (manager). Ms Jones and Mr Smith have been separated since May 2008 and while Joseph lives primarily with his mother, he has regular contact visits with his father. Ms Jones reported a family history of anxiety and depression.

Development

Joseph was born at Flinders Medical Centre at 38 weeks following an induction after it was noted that he had stopped growing. He had a birth weight of 2.7kg and was reported to have significant difficulties with feeding in the neonatal period due to his low muscle tone.

Joseph’s motor milestones were significantly delayed; he sat 14-15 months and walked at 2 years. His mother was unable to recall his early communication milestones, but has no concerns regarding his communication skills. Joseph has ongoing difficulties with his fine and gross motor skills. He sees a private occupational therapist for development of his fine motor skills and for difficulties with sensory processing.

Joseph is not yet fully toilet trained. He always has been a poor sleeper and his mother has recently started to use some alternative medicines which she feels have been helpful in decreasing his night waking. Joseph is described as a fussy eater who has a number of food intolerances and difficulties with his digestion. Ms Jones reported that Joseph is underweight but that she is not concerned about this.

Joseph is noted to have difficulties with his behaviour and his mother reported that he regularly hits objects and people and is difficult to control when out in public as he becomes overexcited.

Health

As mentioned above Joseph was born with benign congenital hypotonia and some foot deformities. He is reported to have allergies to eggs, milk and soy. Joseph has otherwise been a well child. He is reported to have a constant runny nose, mouth breathing and dribbling due to his low muscle tone.

Joseph's hearing and vision have been assessed recently, with normal findings. His foot deformities were corrected by surgery at FMC when he was an infant.

Information from kindergarten and school

Joseph attended Wyalong Kindergarten in 2008 at the time of the referral to CAT. Kindergarten staff reported that Joseph experienced difficulties with gross and fine motor activities, inappropriate touching of others, entering social play and dealing with conflict. He was reported to require adult assistance with kindergarten routines, despite staff feeling that he had the skills to do many of these tasks independently, e.g. getting his snack. This reluctance to be independent had also been observed at home. Kindergarten teachers reported no concerns with Joseph's communication or early school skill development, e.g. literacy and numeracy.

Joseph commenced school at Woodbank Primary School in Term 4 2008. In 2009, he is in the Reception class of Ms Clare Smith. Ms Smith reported that Joseph is progressing well with his literacy and numeracy skills, but does require encouragement to engage in writing or drawing activities due to his fine motor difficulties. Her primary concern related to Joseph's poor social skills.

PREVIOUS ASSESSMENTS

FMC Physiotherapy report, September 2005, by Julie Roberts

Joseph (aged 4 years 8 months) was found to have delayed gross motor development. He was described as having a short attention span and was difficult to motivate.

FMC Occupational Therapy report, September 2005 by Georgina Lake

Results indicated sensory over and under reactions to auditory and touch experiences which were contributing to Joseph's inattentiveness and behaviour.

ASSESSMENT PROCEDURE

The current assessment consisted of individual assessments with a range of clinicians as well as a play-based session. An early developmental history had been obtained from Joseph's mother prior to the assessment. Further information about Joseph's development was obtained during interactions with Joseph and from Joseph's mother during the play session. The Team then reviewed the observations from the assessment, in combination with the information obtained from interviews with Joseph's parents, teachers and from previous assessments. The Diagnostic and Statistical Manual, Fourth Edition (DSM-IV) of the American Psychiatric Association's criteria for autism, and the Childhood Autism Rating Scale (CARS) were used to guide the diagnosis.

DISCUSSION

ASPERGER SYNDROME

Joseph has met the DSM-IV criteria for a diagnosis of Asperger Syndrome. Examples of his behaviours are described below.

Socialisation

Individuals with Autism Spectrum Disorder present with a qualitative impairment in reciprocal social interaction that is not the result of an intellectual disability, impaired language development or a desire to withdraw. This manifests in part by a lack of awareness of an interest in others, a failure to

develop peer relationships, a lack of emotional and/or social reciprocity, and impaired social language.

Joseph's parents reported that he has difficulties with engaging with others without physical contact and that he has had longstanding difficulties with making and maintaining friendships. He tends to interact only "on his terms" and in a very directive ("bossy") way, rather than in a reciprocal (turn taking, shared) way. At home, Joseph has shown very limited understanding of other people's feelings (e.g. he does not understand that it hurts others when he hits them). He also shows limited interests in sharing other people's interests, tending to focus on his own ideas and interests in all interactions.

Joseph's Kindergarten teacher from 2008 and class teacher from school in 2009 reported that Joseph is keen to interact with others but he is not always able to interact in an appropriate way (e.g. pushing into games and touching others.) He has difficulties taking turns and sharing and with coping with conflict resolution if play does not go the way that he expects. Joseph is reported to seek out teachers regularly, but to act inappropriately with them at times (e.g. wanting to touch adult's hair and faces.). He is noted to share his experiences and emotions with adults, sometimes interrupting teachers to gain their attention, before telling them how he is feeling. Teachers report that Joseph uses good eye contact, appropriate facial expressions and gestures, although he sometimes "peers" at other people's faces very intently, rather than making eye contact. Joseph will engage in parallel play and can play cooperatively with one or two other children, with support. Joseph is noted to prefer to play with girls and younger children than with other boys of his age. Generally, he was noted to be focused on himself in his interactions (egocentric).

During the assessments, Joseph was observed to have significant difficulties interacting with others appropriately. On meeting the coordinator for the first time at the start of the day, Joseph attempted to hit her, yet when he became engaged in more structured and predictable activities, he was able to interact more appropriately. He was observed to share information spontaneously with his mother, but showed a very limited interest in what others had to say or do. He presented with significant difficulties engaging in two way conversations, and tended to speak in a monologue about his own interests, using a flat tone of voice. He did not respond to opportunities to comment on team members' interests or experiences. When presented with a series of pictures depicting various social situations, Joseph showed limited ability to explain the scenarios and tended to focus upon details of the pictures, rather than the meaning of the whole picture. In other interactions, he tended to laugh at his own jokes, and to repeat these jokes, almost to himself, at various stages during the sessions.

Joseph was found to meet the criteria for qualitative impairments in reciprocal social interactions. While he shows some appropriate body language, he has not developed relationships with his peers to a level expected for his development, he shows poor social and emotional reciprocity and he shows poor sharing of enjoyment, interests and achievements.

Restricted range of interest/resistance to change

Individuals with Autism Spectrum Disorders present with restricted, repetitive and stereotyped patterns of interest, behaviour and activities. This is often manifested by encompassing preoccupations, which are abnormal in intensity or focus, stereotyped, repetitive motor mannerisms, or a persistent preoccupation with parts of objects. They may display ritualistic behaviour and a resistance to change in non-functional details of the environment. Abnormal sensory responses are also included in this area.

Joseph's parents reported that Joseph is focused upon daily routines and will notice any changes to these daily routines, although he does not tend to become distressed and will simply comment on the change (e.g. if driving a different way to familiar places). However, Joseph does have quite fixed and complex bedtime and mealtime routines that must be followed, otherwise he becomes distressed. For example, Joseph refuses to eat foods if they have touched each other on his plate or on his spoon. His parents also noted that Joseph only uses construction toys according to the manufacturers' instructions, and refuses to alter the kinds of constructions. e.g. building with Lego etc. Joseph also has a history of spending long periods of time in sorting his toys e.g. by colour and shape rather than playing with them in a more varied or imaginative way. Joseph was reported to have taught himself the names of letters and numbers at about three years of age.

With regard to sensory responses, Joseph is reported to become fixated on items that have light or sound components. His mother noted that she has to warn him if she is going to use noisy household appliances, because he becomes very distressed at the noise. His parents have also learnt to limit his access to television and computers because in the past he has become "hooked" on them and to become distressed when he was asked to stop his television/ computer activity. Further, Joseph does not like clothing tags, sticky hands or having his face wiped, he is reported to under-react to pain, and he can be heavy handed and rough with people and objects.

Joseph's school teachers reported that he has an intense interest in a computer game called "Language Market" and would play that game to the exclusion of all other activities, if he was allowed. He can become quite antagonistic when asked to stop, or to let other children have a turn, and has now been banned from playing the game at school. Joseph is reported to notice any changes in routines, but to manage the changes well. He is reported to respond better when he is allowed to complete any tasks before moving on to a new activity, regardless of the time that it takes him to complete the task.

In the classroom, and in the school yard, Joseph was observed to put his hands over his ears when exposed to loud or unexpected noises. He tended to overreact to being touched by others and had sometimes lashed out at other children in lines, when they had brushed against him. On the other hand, he persistently touched other children's hair or "bear hugged" them, even when reminded not to do so. Most days in the classroom, Joseph was noted to make repetitive noises by tapping his feet, tapping a pencil on the table or singing.

During the CAT session, Joseph was observed to have some unusual behaviours, including repeated body mannerisms (i.e. shrugging his shoulders repeatedly and tapping with his feet). He was very clingy to his mother in a number of the sessions and sought regular physical contact with her. He was noted to prefer to approach tasks in his own way rather than allowing others to direct him.

Joseph met the criteria of repetitive and stereotyped patterns of interests. He is reported to show restricted interests in computers and particular computer games, both at home and at school, and to show fixed and intense routines at home. In addition, Joseph shows unusual and intense sensory responses and some repetitive body mannerisms.

DEVELOPMENTAL ASSESSMENTS

Speech Pathology

Joseph's communication skills were assessed using the *Clinical Evaluation of Language Fundamentals – Preschool 2nd edition* and informal observations. Joseph was found to have fundamental language abilities within the Average range (60th percentile). *This means that he performed at the same level, or better than, 60% of children of his age.* He was observed to have

some mild articulation difficulties associated with his dentition (over-bite) and was noted to have difficulties with social language and understanding of non-verbal communication supportive of a diagnosis of Asperger Syndrome.

Psychology

Joseph presented as an interested and well motivated young boy. He showed an unusual and individualised approach to the assessment tasks and interacted closely with his mother throughout the session. He also showed a range of mannerisms, including shrugging his shoulders and repeatedly putting his hands on his hips. Joseph's intellectual functioning was assessed using the *Wechsler Preschool and Primary Scale (3rd Edition.)* His overall score was placed in the High Average range (77th percentile). However, Joseph was more engaged and motivated with responding to visually based items, than to verbally based items, as reflected in his scores:

- High Average Performance composite score (i.e. picture/ design based tasks -86th percentile)
- Average Verbal composite score (language based tasks -61st percentile)
- Average Processing Speed (prorated –paper and pencil based tasks -50th percentile).

Special Education

Joseph's academic abilities were assessed using the *Wide Range Achievement Test 4 (WRAT4)*. When compared to other children his age, Joseph scored in the Upper Extreme range for Word Reading (99th percentile) and in the Above Average range for Spelling and Math Computation (86th and 91st percentiles). He refused to attempt the Reading Comprehension subtest. These results mean that Joseph is performing well above levels expected at this age.

Paediatrics

Joseph has a number of past and current medical issues although he is generally fairly healthy. He has required surgery in the past for congenital foot problems (right talipes equinovarus –“club foot” and left metatarsus adductus, - a foot deformity in which the bones in the middle of the foot bend in toward the body). As a neonate, Joseph had quite floppy muscles (hypotonia), had some difficulty feeding and was noted to have some unusual facial features for which he was extensively investigated. Joseph continues to have intermittent review at the clinical genetics clinic but no overarching diagnosis has yet been suggested. Joseph has had reactions to a number of foods (eggs, cow's milk, soy milk) that have subsequently been removed from his diet. Joseph has also had difficulties with bladder and bowel control during the day, although he is dry at night and has no difficulties in the school environment. Joseph is of average height (112.5cm, 50th percentile) but has below average weight (17.5kg, 10th – 25th percentile), and low average to average head circumference (49cm, 2nd – 50th percentile). Apart from his slightly unusual facial features and moderately enlarged tonsils, physical examination was normal.

SUMMARY

Joseph was found to meet the criteria for a diagnosis for Asperger Syndrome. He presented with difficulties with his social interactions and a range of rigid behaviours. He has not developed relationships with his peers to a degree expected for his developmental level, he shows poor social and emotional reciprocity and poor sharing of enjoyment, interests and achievements. He is reported to show restricted interests in computers and particular computer games, both at home and at school, and to show fixed and intense routines at home. In addition, Joseph shows unusual and intense sensory responses and some repetitive body

mannerisms. Previously, Joseph has been diagnosed with delayed gross motor development associated with low muscle tone and sensory difficulties. The CAT assessment found that Joseph has intellectual functioning in the high average range. His communication and academic abilities are in line with these findings, also within the average to high average range. Recommendations include referral to Autism SA, ongoing Occupational Therapy and Physiotherapy interventions and medical follow-up.

RECOMMENDATIONS

- Joseph will be referred to Autism SA for ongoing support. Input regarding development of Joseph's social skills is highly recommended. Joseph's school may also benefit from input from an Autism SA consultant teacher. **Action: CAT to refer to Autism SA.**
- Joseph would benefit from follow-up with a Paediatrician. **Action: Ms Jones and Mr Smith to seek GP referral to a Paediatrician of their choice, if desired.**
- Under the "Helping Children with Autism" initiative, Joseph is eligible for Government funded Early Intervention until his sixth birthday (and possibly until his seventh). Further information can be obtained by meeting with an Autism Advisor from Autism SA. **Action: Ms Jones and Mr Smith to contact an Autism Advisor via Autism SA**
- Joseph will be eligible for Medicare benefits to be paid for up to 20 sessions (in total) with a Psychologist, Speech Pathologist or Occupational Therapist. In order to access these, Joseph will need to be seen by a Paediatrician under the Medicare system (privately) for an Autism management plan. It is suggested that Joseph return to his General Practitioner for a referral to a Paediatrician, requesting an assessment and management plan for Autism. **Action: Ms Jones and Mr Smith to arrange appointments with GP and Paediatrician**
- The "Helping Children with Autism" initiative also has funded a new website, which provides reviewed parenting information and resources. The website, at www.raisingchildren.net.au/autism, has three main features:
 1. Learning about Autism Spectrum Disorder – information to better understand the condition
 2. Parent Guide to Therapies – detailed descriptions of common therapies and interventions including reference to the evidence, safety and financial considerations; and
 3. Interactive ASD Service Pathfinder - to help parents navigate the relevant service and support systems in each State and Territory.

There are also online discussion forums to enable parents and professionals to share experiences and tips about raising children with ASD.

Action: Ms Jones and Mr Smith to access website as needed.

- In addition, the "Helping Children with Autism" initiative runs "Early Days", which are free workshops for mothers, fathers and other family carers of children aged six years and under who have or may have an autism spectrum disorder. Early Days workshops run over one full day. They are intended for mothers, fathers and other family carers of children who have recently been diagnosed with an autism spectrum disorder or who are starting the assessment and diagnosis process. Workshops are kept to small groups of 4 to 10 people and are run free of charge. Families will gain information to help them in the early days of their journey, including:

- learning about autism spectrum disorder and what it means for their child and family
- learning how the everyday things they do can make a difference to their child's development
- learning how to choose between therapies and get the most out of services.
- Parents and carers can register their interest via the website: www.earlydays.net.au, or via Early Days free call: 1800 334 155. **Action: Ms Jones and Mr Smith to access website and arrange a workshop as needed.**
- Joseph will continue to benefit from input from his current Occupational Therapy and Physiotherapy services. **Action: Ms Jones and Mr Smith.**
- Joseph may be eligible for a Mental Health Care Plan which would allow him access to Psychology support with 6 (up to 12) sessions per calendar year with a Psychologist for which a Medicare rebate applies. These sessions would assist Joseph and his family to address some of his current behavioural and toileting difficulties. **Action: Ms Jones to discuss with Mr Smith and their GP.**
- Given Joseph's restricted diet, an assessment of his nutritional status may be worthwhile by checking his blood count, iron studies and Vitamin B12 and Folate levels. **Action: Ms Jones to discuss with the family GP and arrange if desired.**
- Joseph eats a relatively restricted diet. Review by a dietician may be warranted to ensure that his current diet is meeting his nutritional needs. **Action: Ms Jones to consider and follow up, if desired.**

TEAM ASSESSORS:

Clinical Psychologist
 Paediatrician
 Occupational Therapist
 Speech Pathologist
 Special Education Consultant

I am happy to discuss these results, and can be contacted via (phone number).

CAT Case Coordinator

June 2009

Cc Parents, School, GP, CAT file, FMC Medical Records, Autism SA