

Ontario Educators and Fetal Alcohol Spectrum Disorders: A Training, Resource, and Evaluation Project

Abstract

Appropriate school-based support is a critical piece in improving life-outcomes for all children, particularly those affected by Fetal Alcohol Spectrum Disorders (FASD). A 2010 needs assessment highlighted a lack of knowledge about FASD among Toronto public school educators. This paper reports on a new education resource and professional development session on FASD targeting schools around Ontario. Training and resource support was provided to 829 Ontario school staff with varying professional backgrounds and experience during the 2011/12 academic year. The training initiatives were evaluated through participant completion of questionnaires, and descriptive statistics were calculated. Participants were employed across eight school boards which represented enrollment in excess of 575,000 students, or an estimated enrollment of 5,750 (1%) FASD affected children. This initiative was the first learning session on FASD for most participants (75%), and 79% stated that both their own and colleagues' involvement in this initiative will help future job performance. Ninety-nine percent of respondents reported that the FASD resource serves an important function, may be a useful tool for educators, and that they would recommend it to colleagues. Finally, 93% reported that this initiative led to increased knowledge and confidence in the topic of FASD. This initiative demonstrates that school professionals benefit from resource support and training about FASD, and the Motherisk FASD Clinic module provides a solid, evidence-based, and cost-effective framework for the introduction and continued support on FASD in Ontario schools.

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The Motherisk Fetal Alcohol Spectrum Disorders (FASD) Clinic at The Hospital for Sick Children in Toronto assesses, diagnoses and provides follow-up support for affected children around Ontario. In 2010, a needs assessment pilot project report published by clinic staff highlighted a lack of knowledge about FASD in Toronto schools (Koren, Fantus, & Nulman, 2010). Amongst the recommendations made in the 2010 report was a call to increase initiatives addressing, "FASD education and awareness in schools... [and] advocacy for FASD patients" (pp. e84-85). In response, a psycho-educational Professional Development (PD) session for patients' schools around Ontario was developed by clinic staff (the *Introduction to FASD PD session*), along with a new resource titled, *Understanding Fetal Alcohol Spectrum Disorder (FASD): A Resource for Education Practitioners in Ontario* (Koren & Todorow, 2010). This new resource (2010), herein referred to as *Understanding FASD*, is an adaptation [with permission] of a Healthy Child Manitoba (2009) publication titled,

What Educators Need To Know About Fetal Alcohol Spectrum Disorder. The PD session was created to accompany *Understanding FASD* (Koren & Todorow, 2010) as a school-based resource and training initiative. Both of these training components, the PD session and *Understanding FASD* (2010), were to be evaluated in order to help inform future follow-up supports (e.g., training school personnel) that the clinic may provide or advocate for. These two components comprise the resource and training evaluation initiative described throughout this report.

The resource and training evaluation initiative was conducted to better support FASD affected patients, with its clear clinical support implications, but it was also embarked upon in order to help fill an ever-present gap in evidence-based FASD education and training. There is clear paucity in the area of peer-evaluated resources and training modules that aim to address FASD and directly support educators who work with affected populations. While some Canadian provinces have successfully enacted supportive training and resource programs for citizens based on internal systems of content review, other jurisdictions seem to need empirically supported materials in order to be persuaded to increase supports for FASD. Therefore, while no evidence-based and externally peer-reviewed resources are currently available that specifically target educators, this project aims to contribute to the cultivation of a much needed evidence-based culture in the field of FASD support and intervention.

The aforementioned paucity in literature on FASD resources and training sessions for educators does not mean to suggest that there are not well-regarded FASD resources in existence. On the contrary, there are plenty of generally accepted and highly regarded resources that were developed in Central and Western Canadian Provinces (Healthy Child Manitoba, 2009; Alberta Learning, 2004; British Columbia Ministry of Education, Skills and Training, 1996), for example. However, extensive literature review demonstrates that until this current study no FASD resource for educators as a whole (e.g., a full book, training module or workshop on FASD for educators) has been evaluated by an external group. This means that no report is available which demonstrates that the resources available to educators who

work with FASD affected children, or adults for that matter, are helpful, effective or even consistent in their messaging. This paper aims to address said gap, providing insight from hundreds of independent professionals on both a training module (PD session) that targets educators as well as reporting feedback from certified Ontario public education professionals about *Understanding FASD* (Koren & Todorow, 2010).

With the stated primary purpose of contributing to a culture of evidence-based and peer reviewed educational literature en route to establishment of best-practices in FASD, this project is accompanied by two secondary objectives: (1) To report on the quality of the *Introduction to FASD* PD session provided to teachers and other school-based professionals around Ontario; and (2) To report on education professionals' feedback about the usefulness and professional relevance of the recently published clinic resource, *Understanding FASD* (Koren & Todorow, 2010).

Materials and Method

The creation and delivery of this project involved multiple steps over the course of three years. In summary, clinic staff and collaborators developed a targeted presentation and a resource book about FASD. The presentation and resource book were provided for anonymized groups of Ontario public school staff (e.g., education practitioners) during the 2011/12 academic year. Participants were asked to complete two questionnaires, one about each component. Data from these surveys was then gathered for reporting purposes. The following subsections further detail each step.

Operational Definitions

For purposes of this paper, educator, educators or education practitioner refer to participants of this evaluation project. These terms may be used interchangeably, and intend to capture every potential participating school professional from substitute teaching staff, custodial staff or office administrators, to teachers, principals, school psychologists, or school board administrators. For a complete list of education practitioners included in this study, please refer to Table 2.

Literature Review

Literature searches for this project began in 2010, in order to locate peer-reviewed resources for educators that could be used by Motherisk to support Ontario patients. No such externally reviewed sources were located, though several resources (Healthy Child Manitoba, 2009; Malbin, 2006; Alberta Learning, 2004; British Columbia Ministry of Education, Skills and Training, 1996) were identified by clinical staff to have significant consistencies with our clinical staff experiences, and hence believed to be promising documents for our populations' use.

Despite that some jurisdictions, mainly in Canada (Alberta Government, 2008; Healthy Child Manitoba, 2013), reportedly have large investments into supporting FASD affected citizens and those that work with them, there is scant documentation of training program and resource evaluations worldwide. Extensive literature review consistently yields a complete absence of peer-reviewed, or even government published reports, which evaluate or aim to elucidate feedback on FASD literature and resources that target educators.

Development of the "Introduction to FASD" PD Session Targeting Ontario Educators

Motherisk has, for some time, been using and occasionally adapting an existing introductory presentation on FASD for educators to target specific subgroups (e.g., teachers, school psychologists, education assistants, bus drivers, etc.) as needed. This introductory presentation is approximately three and a half to four hours long and forms the basis of the introductory PD session used in this project. The major challenges in adapting the presentation for this project were as follows: The participant groups in every session would not be homogenous (i.e., representing different professional backgrounds); the presenters were generally blinded to the group/subgroups of educators until the day of presenting; and the presentation had to be no longer than three hours.

Therefore, the introduction to FASD for educators PD session to be developed and utilized for this project needed to be engaging for all, pro-

vide the right balance of background information to hook all potential school professionals, and provide at least an introduction to useful strategies when working to support affected individuals. The presentation format was broken down into three sections: "Introduction to FASD – Background"; "The impact of FASD on learning – What does FASD look like in the classroom setting?"; and "Planning for success for students with FASD." It was also adapted to integrate the FASD resource book, *Understanding FASD* (Koren & Todorow, 2010), as a helpful tool for educators to accompany the learning session and to be a guide following the presentation experience. The presentation was coupled with the resource book in this model so that participants could be encouraged to ask many questions along the way of the PD session, be provided with a hard-copy location in the resource that will address their inquiry, and ensure that each basic component of the PD session was understood before moving forward to the next. The complete PD session targeting Ontario educators may be accessed through training opportunities with The Motherisk Program.

Development of the FASD Educators' Resource Book – Understanding FASD

The previously mentioned literature review turned up numerous documents for educators about FASD. The Motherisk FASD Clinic, looking to build on existing practice and promising literature, ultimately narrowed the focus to one specific Healthy Child Manitoba (2009) document for educators that seemed most in-line with our clinic practice and was generally accepted as the gold-standard of resources for educators. It was believed that this particular resource, with minor adaptations, would aid our patient base and their Ontario educators most as it seemed to mirror formats and messaging (e.g., on topics such as equity or differentiated instruction) of other special education documents in our province. With respect to evidence-based resource potential, the Healthy Child Manitoba (2009) document also represented a promising starting point to the adaptation mission. The resource was, itself, initially an adaptation of a previous British Columbia Ministry of Education (1996) resource and was developed by a group of well-known clinicians

and school professionals that had been working to address FASD in the public school setting for well over a decade. It was also internally evaluated by a reputable group of FASD experts prior to publication.

The Motherisk FASD Clinic received written support and approval from the Manitoba Government authorizing clinic staff to revise, adapt and reproduce their highly reputable document, *What Educators Need To Know About FASD* (Healthy Child Manitoba, 2009). The stated purposes of adaptation were to; revise information to reflect an Ontario context (e.g., make sure resources and education system information was corrected for Ontario); expand the resource to include new and updated information on school-specific intervention research studies and a section on the importance of the school environment; and evaluate the usefulness of the resource for Ontario educators. In 2010, the new Motherisk resource, *Understanding Fetal Alcohol Spectrum Disorder (FASD): A Resource for Education Practitioners in Ontario* (Koren & Todorow, 2010), was published. This resource was utilized in this project's training initiative, and, like the PD session, evaluated by the participants of the study being reported on herein. The resource provides information through four main sections: Introduction to FASD; The impact of FASD on Learning; Planning for Success; Appendices. A more detailed summary of resource content as well as copies may be obtained through the provided link in the reference section of this paper.

Questionnaires

Questionnaires for this study were developed by Motherisk Clinic staff for the purpose of evaluating the PD session and *Understanding FASD* (2010). The first questionnaire (see Table 1, Questionnaire 1) consisting of 13 items had been developed by Motherisk in 2009 to gain feedback from participants of clinic presentations to schools. The only modification to the questionnaire for this research was that identifying information (e.g., participant names) was not recorded. The questionnaire was handed out during the PD session, and following the PD session participants were asked to complete it anonymously. The second questionnaire (see Table 1, Questionnaire 2) consisted of 42 items and was developed spe-

cifically for this project in early 2012. This questionnaire was an online survey sent to participants, approximately 6 weeks following their PD session. It was developed to elicit feedback that was more open-ended and to gain participant views on the usefulness of *Understanding FASD* (Koren & Todorow, 2010). Questions were focused on verifying participant awareness of FASD related topics, quizzing them on some basic FASD facts, eliciting views on the professional relevance and individual perception of learning attained through this project, and requesting feedback for revision and formatting suggestions for *Understanding FASD* (2010).

Project Recruitment, Delivery and Evaluation Layout

School boards in Ontario were invited to enroll their chosen staff members in this project and encouraged to expose a wide array of professionals to these professional development sessions. Participation in this project was free of charge and on a first-come basis. Our funding limitations allowed for up to 850 participants across what was hoped would be a representative sample of several school boards. These limitations were based solely on human resources and resource book availability for this project. Finally, while participating school boards would be known to project presenters and evaluation staff, individual participants were assured anonymity so that they would be more likely to provide honest feedback, or choose to withdraw altogether without fear of reprisal from their employer (school board).

Participants attended one presentation each, titled "Introducing Fetal Alcohol Spectrum Disorder for Schools" [referred to as the PD session]. Participants were provided with a copy of *Understanding Fetal Alcohol Spectrum Disorder (FASD): A Resource for Education Practitioners in Ontario* (Koren & Todorow, 2010) prior to the session starting. Throughout the PD session, presenters would make reference to the resource so that participants could easily locate where to find information on their own (e.g., from strategies to further information on diagnostic processes). At the end of the PD session participants were asked to fill out a feedback questionnaire (Questionnaire 1) about the presentation. Following the PD session, partici-

Table 1. Questionnaire Samples

<i>Questionnaire 1 (Completed in person following PD session)</i>	<i>Questionnaire 2 (Completed online approximately 6 weeks following PD session)</i>
<ul style="list-style-type: none"> • Participant information: Occupation, School Board, Number of years in the field • This was the first session I've attended about FASD during my professional career or training. • If answered "no" above, please estimate how many hours of training you have participated in prior to today. • I would be interested if my school/board were to offer more specified training. • I believe if I needed more information and support for FASD I know where to turn to. • Before this presentation, I believed that I may have students in my classroom affected by FASD • I believe I may have students in my classroom that are possibly affected by FASD • Will this training assist you in the performance of your job? • The presentation curriculum was straightforward and flowed well. • The presenters delivered the curriculum clearly • I found the most confusing aspects of the topic to be... • I found the most relevant information for me was... • 3 new things I learned from this session... • I would like to know more about... 	<ul style="list-style-type: none"> • Participant information: School board, occupation, current grade focus, # of years working in education • Have you read the resource, Understanding FASD...? • Including PD session, how many hours of FASD training have you participated in throughout your career? • Did you find the information and overall format of this resource to be consistent with other literature related to your occupation or role in the classroom environment? • FASD is believed to affect... (quiz question) • Do you believe that the information in the FASD resource compliments the strategies and approaches your own school board, professional college and/or the ministry of education promotes? • Do you think that any components of this resource conflict with policies at your particular board, college...? • Layout: Is this resource too "busy" looking (e.g., are pages too densely filled)? ...Do you feel the content in this resource flows: Is the information clearly delivered, easy to navigate, well organized... • Please identify the 2 section(s) you found to be most engaging and beneficial to your professional role...please identify the 2 sections you found to be most in need of improvement. • Do you like the research boxes and/or find them to be helpful? • FASD is the most common developmental disorder in North America (quiz question)

Note: All questions asked for Yes/No responses, with a third option of Unsure/Maybe/Somewhat depending on the phrasing of question. Additionally, space was provided for written answers where warranted.

Table 1. Questionnaire Samples (continued)

Questionnaire 2 (continued)
(Completed online approximately 6 weeks following PD session)

- Reflecting on your learning, before reading this resource how would you rate your level of understanding of FASD? ...Follow-up: after reading this resource how would you rate your level of understanding of FASD?
- Which of the following strategies were not recommended in this resource...? (quiz question)
- Would you agree that all students (not only FASD affected ones) might benefit from the information and strategies discussed in this resource?
- Are you likely to integrate some of the things you've learned or re-learned through this resource into your professional practice?
- Would you recommend this resource for use by other educators?
- Would you participate in further FASD training opportunities if they were offered to you?
- Compliments (optional) & Criticisms (required)

Note: The above is a sample of some questions from Questionnaire 2. Full questionnaire is 16 pages in length with multiple answer options. Please contact authors for a copy of full questionnaire if desired for replication of study.

participants were asked to find time to read through the book provided to them. Approximately six weeks following the PD session, participants received a link [forwarded by their school board] to an online survey (Questionnaire 2) prompting them for feedback on the resource book. All feedback was logged into a database, and double entered by research assistants. Data was then reviewed for reporting of descriptive statistics and thematic trends.

Results

The project, including the introductory PD session along with provision of the resource book for participants, was delivered 14 times to different groups of educators, from October, 2011 to May, 2012. Participants were invited and coordinated by participating school boards for PD sessions. While numbers in this area were not recorded for purpose of anonymity, attendees in some cases were participating in the session as a job requirement while others were present voluntarily (i.e., choosing this session over a different topic option during a school board professional development day). All participants were informed by their school board contacts and by project presenters that their feedback on the project was appreciated but not mandatory in any way. With further assurance of anonymity possibly contributing to high response rates, the following paragraphs summarize key findings approximated to nearest percentage, based on independent feedback from Ontario educators.

In total, 829 Ontario education practitioners with varying professional backgrounds and experience participated. During the PD session participants were provided with Questionnaire 1, which was completed by a total of 704 respondents (85%) (see Table 2). Approximately six weeks following their learning session, participants received a link Questionnaire 2. In all, 340 (41%) of those surveys were started and 268 (32%) were completed in full by participants.

Respondents were employed across eight Ontario public and Catholic school boards that included amongst them some of Canada's largest (in terms of geographic range, student enrollment, and human resources). Official 2012 figures show participating boards in this study

represented 576,000 (or 28%) of Ontario’s public school students (www.edu.gov.on.ca/eng/educationfacts.html; www.edu.gov.on.ca/eng/sbinfo/boardlist.html), or based on generally accepted FASD estimates of one in 100 (Public Health Agency of Canada, 2007; Canadian Paediatric Society, 2002), approximately 5,760 FASD affected students.

For 74% (n = 524) of respondents that completed Questionnaire 1, this was the first session they ever attended about FASD during their professional career. Of the approximately 25% (n = 174) who reported this was not their first session on FASD, only 15 (2%) had received ten or more hours of FASD training over the course of their careers, 101 (14%) reported one to three hours exposure to the topic when they were in university, and the remaining 8% (n = 58) were involved in 3-9 hours of courses or workshops.

Asked whether they would be interested if their board offered future training opportunities, 79% (n = 556) of respondents said “yes”

and only 2% (or 14 respondents) responded negatively; the remainder were unsure. Asked whether or not this training would assist in the performance of their job, 79% (n = 556) stated it would, 1% (n = 8) said it would not; the remaining 20% (n = 140) responded to the answer “possibly.” Respondents supported (77%, n = 556) that the PD session curriculum was fluid and straightforward, while a further 85% (n = 599) also felt the presenters delivered the PD curriculum clearly. Finally, gathered from the more qualitative portions of Questionnaire 1, 579 respondents (82%) made reference to one or both of the following themes; “wishing there was a longer session” or requesting a “second session that will focus more on strategies.”

The *Understanding FASD* (Koren & Todorow, 2010) follow-up survey, or Questionnaire 2, provided further feedback on both training needs as well as on the resource book itself. While this questionnaire had fewer respondents (partial completion n = 340, full completion n = 268), suspected in part because of its

Table 2. Participant Professional Backgrounds

Occupation	# of Respondents	Years Experience	# of Respondents
Education Assistants	220	1-3	51
Resource Teacher, MART, SERT	122	4-6	83
Classroom Teachers	111	7-9	82
Child Youth Worker	70	10-12	113
Principal	44	13-15	64
Vice Principal	11	16-18	35
Social worker	7	19-21	60
Psychologist	7	22-24	33
Early childhood educator	18	25	26
School Board Administrators (e.g., Superintendent, Special Education Director)	15	26-29	13
Speech language therapist	10	30-32	11
Occupational therapist	4	33-35	9
Guidance counselor	5	36-38	3
School Administrators (e.g., office staff)	5	39	0
Parent	4	40+	4
Unanswered	51	Unanswered	117
Total	704	Total	704

length, the feedback was remarkably consistent and positive with respect to the usefulness and relevance of the document. Ninety-nine percent of respondents on several items reported that the resource, was “easy to read, not difficult to understand and applied to their professional position at their school board” (n = 272 out of 274); reflected practice and philosophy that would be of benefit to all students, not just those with FASD (n = 277 out of 280); was consistent with other materials in Ontario that promote best practice in education (n = 282 out of 286); serves an important function, may be a useful tool for educators, and that they would recommend it to colleagues (n = 268 out of 270).

A key piece of Questionnaire 2 focused on understanding what parts of the resource resonated most with respondents. The participants shared that the “Strategies” sections (favoured by 61%), followed by the section on “The Impact of FASD on Learning” (47%), were top section choices for most. Educators also resoundingly supported the presentation of “Research Boxes” that summarize practical current intervention research in a reader-friendly format. Ninety-six percent (n = 275) of respondents reported they “enjoyed reading them” and/or “want to see more research boxes in future editions.”

For improvement and future adaptation of the resource, the identified top areas in need were the sections on “Planning for Success” (41%) and the “Appendices, Resources and References” section (39%). While only mentioned by two participants another notable area for improvement is to have the resource translated to French and Ontario First Nations dialects. With respect to improvement in the area of resources and references, 74% of respondents agreed that if there were a resource person or service available to them for consultation through their school board, they would likely use them/it. Another interesting aspect of this feedback section was that some participants noted information they received in previous [non-Motherisk] FASD sessions was outdated. For example, several participants related that in previous FASD learning session they attended, the presenters, “...showed those brain pictures you told us were now considered outdated and misleading” and “the presenters spoke about how kids with FASD have smaller brains....” Comments to that effect generally reflected

appreciation that the information presented through this project was up-to-date.

From the lens of FASD awareness, there was a strong interest and consistent feedback provided on the estimated prevalence of FASD, and associated primary and secondary disorders. For example, 91% of Questionnaire 2 respondents answered accurately that 50% of FASD affected persons have had disrupted school experiences (Streissguth, Bookstein, Barr, Sampson, O’Malley, & Young, 2004; Koren & Todorow, 2010), and 75% responded correctly that FASD is estimated to affect 1 in 100 (Public Health Agency of Canada, 2007; Canadian Paediatric Society, 2002).

Amongst the final items in Questionnaire 2, participants were asked to provide feedback relating to the potential efficacy of this entire project (the PD session and exposure to the resource book). On two follow-up items in particular (see Questionnaire 2, Table 1), participants were asked to self-assess their level of comfort and understanding of FASD, on a scale of 1 to 5 (1 – uninformed, 2 – very basic knowledge, 3 – gaining confidence, 4 – sense of mastering topic, 5 – relative expert). Respondent self-assessments on Questionnaire 2 reflected that prior to their involvement in this project, most (80%; or 238 out of 296) self rated in the 1 or 2 categories, and post project 93% (n = 274) rated in categories 2 or 3, with the largest increase being those rating themselves into the third category group.

Cost

The entire training and evaluation project costs totaled approximately \$11,200, or \$13.56/average per participant. This includes staff hours to prepare the project, driving time, presenter mileage, evaluation costs, resource printing costs, etc. This total does not take into account the initial costs incurred by the clinic to adapt the resource book. It also does not factor in the cost to school boards for providing staff for training. However, it should also be noted that the FASD training sessions were offered free of charge during regular professional development time, and therefore did not cost school boards any more than other educator training. Finally, while it may at first sight seem a high number when looking at the per participant

cost, consider that this identical format may be replicated to provide for hundreds of educators per session, rather than dozens. Furthermore, the resource book provided currently costs \$7.27 per copy to produce. Increased demand and participant numbers would further reduce these costs in the future.

Discussion

Motherisk is a clinical and research program that explores and disseminates evidence-based information related to FASD, among many other topics in maternal-fetal toxicology. With the declared absence of research literature on generally accepted best practices in education and FASD as a backdrop, the Clinic initiated this project to support patients around Ontario. The secondary purpose of this project was to help cultivate a much-needed evidence-based culture in the field of FASD support and intervention.

Despite the fact that FASD is believed to affect 1 in 100 students (Public Health Agency of Canada, 2007; Canadian Paediatric Society, 2002), and that several provinces currently invest millions of dollars into FASD and public education specific services annually (Alberta Government, 2008; Healthy Child Manitoba, 2013), this document is the first peer-reviewed article that reports independent educator [non-researcher or agency] feedback on literature and training on the topic. This report was created to share results and demonstrate the need to better support and prepare Ontario educators, all of whom are likely to interact with FASD-affected children throughout their careers. Educational professionals from around Ontario participated in this project and overwhelmingly endorsed that the project was of benefit to them. Given the number of suspected FASD affected children in the public school system (1 in 100), and the reported lack of prior training about FASD, this finding has important implications for children and families.

This evaluation provides evidence that the Motherisk FASD Clinic presentation and resource manual provide a solid, evidence-based, and cost-effective framework for the introduction and continued support of FASD education in Ontario schools. This approach to

FASD professional education in schools is a cost effective way of supporting FASD affected children in Ontario schools. School boards or public ministries needn't spend exorbitant sums on private resources when regional, clinical and public health agencies could be available to provide the service at more reasonable cost. A further benefit of utilizing this framework is that in relying on existing public health agencies to deliver the knowledge on FASD we can begin to address the challenges shared by some participants regarding outdated and inconsistent messaging about FASD. The biggest challenge hypothesized by utilizing non evidence-based training modules for FASD is that, at best, they may be somewhat accurate, while potentially misrepresenting the experience of many diagnosed children; and at worse, they may mislead and potentially negatively impact peoples attitudes and impressions about what it means to have FASD and potentials for support. Consistent and accurate messaging on the disorder is important if affected individuals are to be better supported in Ontario.

Although this project helped the Motherisk Clinic better understand how to support patients around Ontario by providing targeted supports to educators, this project also has some limitations. These include a lack of comparison or control group, limited information regarding participant motivators for involvement (e.g., voluntary or not), and inadequate funding and expertise within the research team to explore the differences between different cohorts of participants (e.g., why some respondents didn't complete the second questionnaire in high numbers; comparing responses from teachers with those of psychologists; or comparing the high response rate of this project with response rates in other education related research). Those limitations should be considered for future analysis of this work or if another group intends to replicate this approach. The project also highlighted some clear directions for future research and training in Ontario. For example, from a training perspective, given the budgeting for this project, it is entirely conceivable to provide training on FASD for all Ontario education practitioners on a continuous basis, for a modest (e.g., not a multi-million dollar) budget. From a research perspective, while feedback (both anecdotal and quantitative) on this project has supported the notion that

the training was meaningful for practitioners, once a model of this nature is implemented and maintained it would be important to learn how, if at all, it would impact long-term child educational outcomes. As well, future researchers could follow the provision of this initiative with Ontario educators to establish if there is there a meaningful shift in professional practice with students who are affected by FASD.

Since it was completed, over 7000 copies of *Understanding Fetal Alcohol Spectrum Disorder (FASD): A Resource for Education Practitioners in Ontario* (Koren & Todorow, 2010) have been disseminated around Ontario. It has now been evaluated twice; first internally, and now externally by independent Ontario educators. Future versions will build on the feedback received by participants, and only material that has been peer-reviewed will be included in future editions. The Motherisk "Introduction to FASD" presentation has also been given to over 1,500 professionals over the past three years, including those involved in this initiative. Overall, it is felt that our resources have been helpful to educators and will continue to be contributing factors in improved outcomes for patients. These resources are available for sharing with community agencies, upon request.

Importantly, previously unanticipated partnerships have also emerged out of this initiative. The Motherisk FASD Clinic has now partnered with several different school boards around Ontario in order to address areas such as FASD screening practices, assessment and diagnostic services, training, follow-up support, and creation of several new FASD classroom programs around Ontario. We have witnessed a thirst for more knowledge by educators on the topic, and that thirst has undoubtedly contributed to substantial increases in education partnerships and service around the province focused on FASD.

In publishing this report, The Motherisk Program hopes to contribute to a culture of evidence-based resources and practice development for FASD-affected populations living in Ontario, and worldwide. One needn't go far in the world of FASD to encounter blanket statements that aren't necessarily grounded in research (e.g., "kids with FASD can't learn certain things" or "don't understand cause and

effect"). Messaging of that nature is not evidence-based but is frequently presented around Ontario. In order to provide the best possible service and support for FASD affected individuals, and to honour and respect their reality, it is imperative that language and messaging on the disorder and associated evidence-based practices be verifiable and consistent. Ontario families, school boards, public agencies and FASD affected individuals desperate for training supports deserve publicly provided and scientifically grounded, accurate and valid information.

It is hoped that in the coming years, progress in Ontario will be seen in the area of FASD support, beginning with evidence-based training modules for professionals and caregivers. A viable, economic, cost-effective and evidence-based public option to support FASD professional development in Ontario does now exist. The simplest and most economic starting point, it seems, would be to work from a strengths-perspective and put to use the existing knowledge, expertise and partnerships we see around Ontario. Support from government ministries to structure and expand the work that public health and education agencies are already doing would be beneficial. In short time, with some support, current public health and education alliances around Ontario can flourish to support FASD affected citizens even more, and propel Ontario to be a world leader in the field.

Key Messages From This Article

People with disabilities: If you have had difficulty in school and have FASD, we hope this project helps you to be heard in the future. You have a right to be understood!

Professionals: FASD affects 1 in 100 Canadians. Several of your students or clients are likely undiagnosed, while few may be formally assessed. So why are most professionals not formally trained on FASD?

Policymakers: Children are entitled to equitable school experiences. 75% of respondents reported no prior career training about FASD. This project demonstrates practical, cost effective, and evidence-based ways to supporting FASD

affected populations in Ontario by training those who work with them.

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