



Better Outcomes Registry & Network
Registre et Réseau des Bons Résultats dès la naissance

Victories and Lessons Learned: Integrating the CANS[®]-DP-ASP with the BORN Information System

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What is the CANS[©]-DP-ASP?

- Child and Adolescent Needs and Strengths—
Developmental Profile – Autism Spectrum
Profile
 - Abbreviated to '**CANS**' for remainder of
presentation
- Communicative Tool
- Focus on Outcomes
- Over 50 peer-reviewed publications
demonstrating reliability and validity

What is the CANS[©]-DP-ASP? (cont.)

- 83 Items that Focus on Needs and Strengths
- **For strengths:**
 - 0 Centerpiece strength
 - 1 Strength that you can use in planning
 - 2 Strength has been identified-must be built
 - 3 No strength identified
- **For needs:**
 - 0 No evidence
 - 1 Watchful waiting/prevention
 - 2 Action
 - 3 Immediate/Intensive Action

What is the CANS[©]-DP-ASP? (cont.)

- Items are divided into several categories:
 - Life Domain Functioning (e.g., Family Functioning, Eating, Sleeping)
 - Cognitive Functioning (e.g., Attention, Decision-Making Skills)
 - Sensory Motor Functioning (e.g., Gross Motor, Coordination)
 - Communication (e.g., Receptive Language, Gestures)
 - Co-Morbidities (e.g., Depression/Anxiety, Attachment)
 - Maladaptive Behaviours (e.g., Aggression, Flight Risk)
 - Parent/Caregiver Needs and Strengths (e.g., Family Stress, Ability to Listen)
 - Child/Adolescent Strengths (e.g., Exploration, Interests)
 - Environmental Strengths (e.g., Community Involvement)

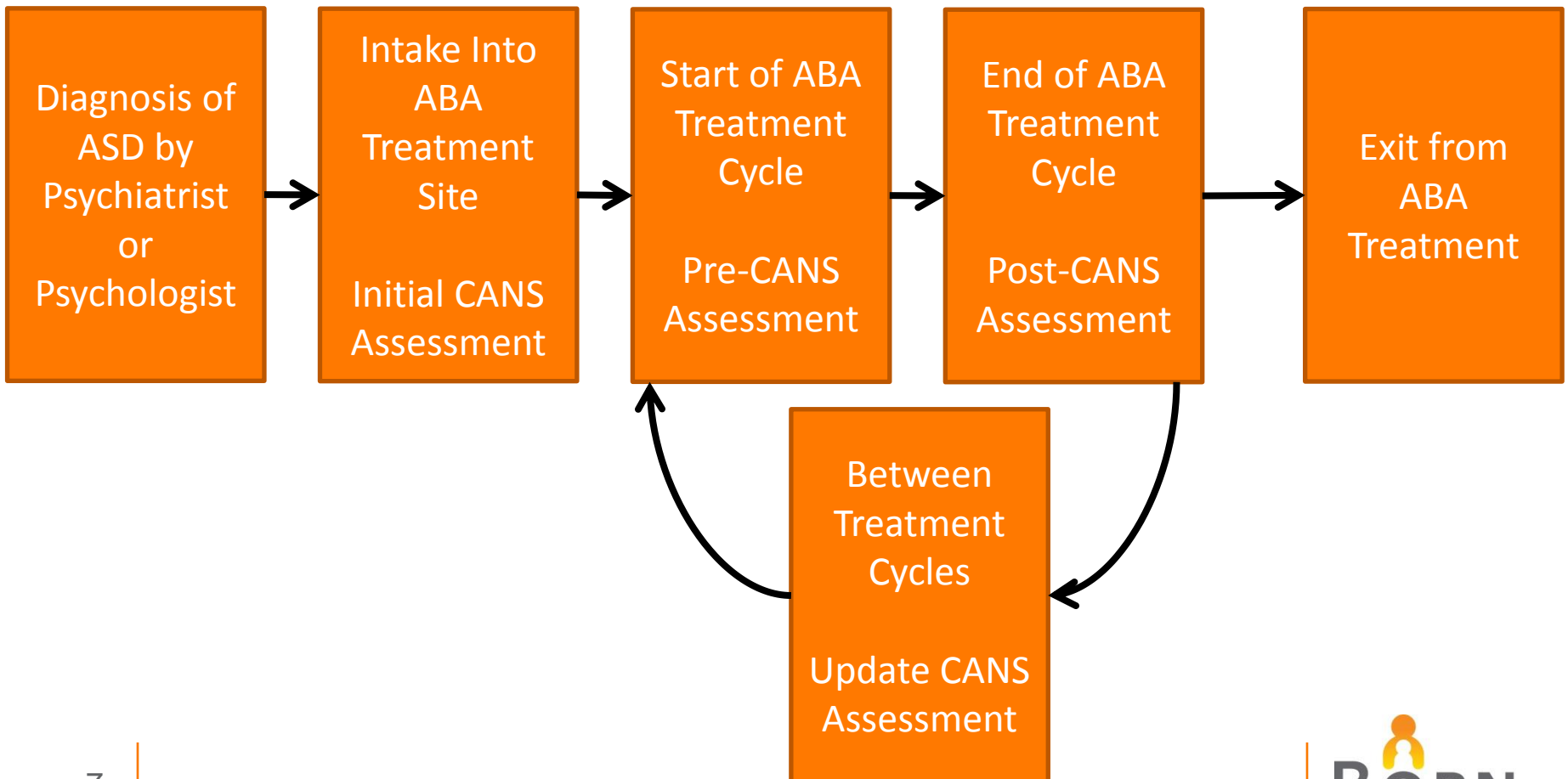
What is BORN?



Applied Behavioural Analysis (ABA) and Autism Spectrum Disorder

- Funded by the Ministry of Children and Youth Services (MCYS)
- Provides time-limited, skill-building services to improve communication, social/interpersonal, daily living and behavioural/emotional skills of children and youth with Autism Spectrum Disorder (ASD)

Applied Behavioural Analysis (ABA) and Autism Spectrum Disorder (cont.)



The Challenge

- There are 13 ABA treatment sites in Ontario funded by MCYS
- Some treatment sites were only using a subset of CANS items
- On-demand reporting was not available to examine outcomes of ABA treatment cycles at the child and agency level

The Solution



AUTISM PROGRAM
PROGRAMME D'AUTISME



13 ABA Treatment Sites

The Solution (cont.)

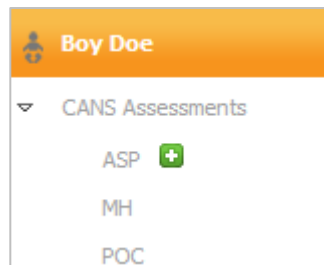
- BORN Information System (BIS) was updated to accept CANS data from 13 ABA treatment sites
- Creation of standardized reports at the child and agency level in consultation with the Autism Program at the Children's Hospital of Eastern Ontario (CHEO)
- Reporting outcomes to MCYS at a provincial level completed by CHEO Autism Program

Lessons Learned

- Integration Into Current Workflow
 - A CANS encounter was created for manual entry of the CANS assessments from a paper copy for agencies that do not have electronic processes
 - Those agencies that already entered data into an Electronic Medical Record (EMR) system could upload the CANS data into the BIS

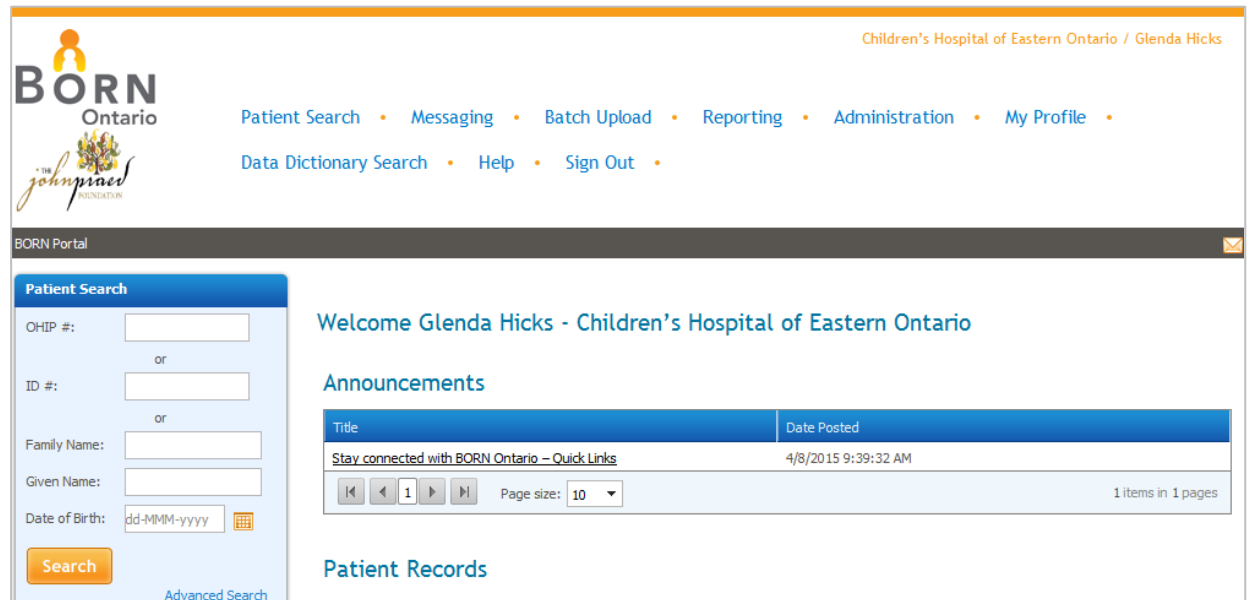
Lessons Learned

- Integration Into Current Workflow



Boy Doe

- ▼ CANS Assessments
 - ASP +
 - MH
 - POC



Children's Hospital of Eastern Ontario / Glenda Hicks

BORN Ontario

the johnsraies HOSPITAL

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BORN Portal

Patient Search

OHIP #:

or

ID #:

or

Family Name:

Given Name:

Date of Birth: dd-MMM-yyyy

[Advanced Search](#)

Welcome Glenda Hicks - Children's Hospital of Eastern Ontario

Announcements

Title	Date Posted
Stay connected with BORN Ontario - Quick Links	4/8/2015 9:39:32 AM

Page size: 10 1 items in 1 pages

Patient Records

Lessons Learned (cont.)

- Understand End User Needs
 - Initially encountered unanticipated issues with the reporting of CANS data
 - New data needs were identified that were not evident during initial development of reports
 - Issues were resolved with stakeholder engagement
 - Additional engagement at the start of the report development process may have avoided this issue

Lessons Learned (cont.)

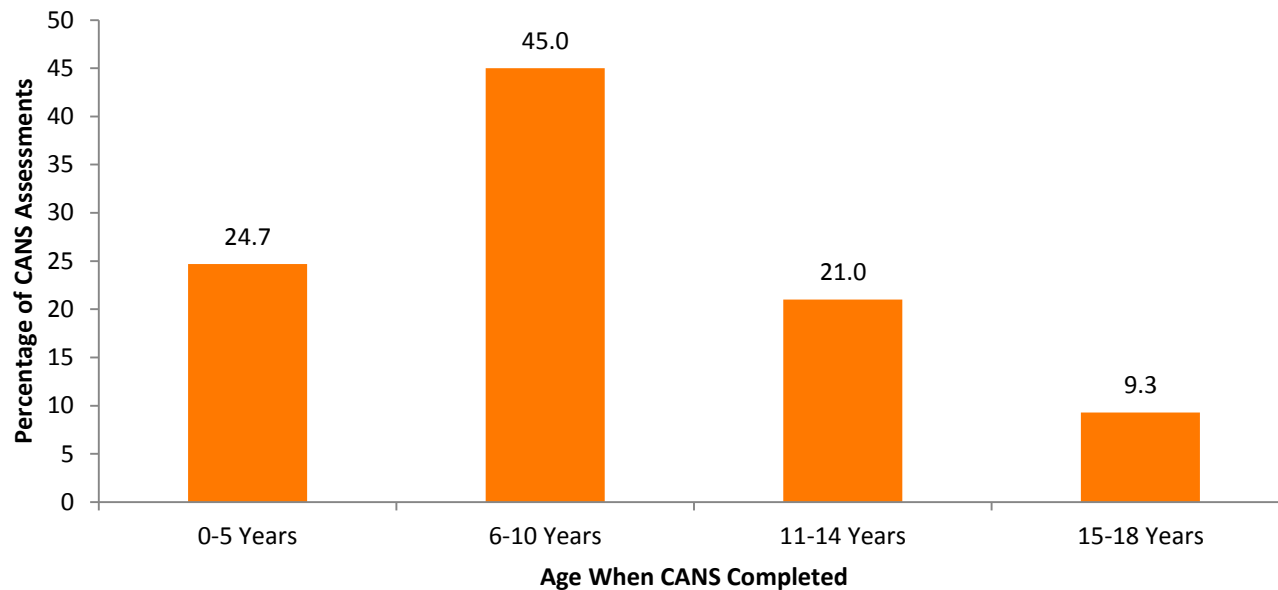
- Benefits of Collaboration
 - The CANS is a standardized assessment tool - the same form is used across the province
 - Some sites had customized the CANS to support clinic workflow
 - Collaboration on this project led to more uniform assessment practices across the province by:
 - Adapting how the CANS data is processed in the BIS
 - Providing the opportunity to facilitate sharing of practices across participating agencies

Victories

- All ABA treatment sites in Ontario are entering CANS data into the BIS
- CHEO Autism, as Lead Agency, is submitting provincial level reports to MCYS on ABA treatment outcomes using data in the BIS
- The initiative is supporting transformations in care for children and youth with ASD, and their families, across the province

Victories (cont.)

- 29,057 CANS Assessments Entered in the BIS representing 14,484 children and youth receiving ABA treatment services in Ontario



Victories (cont.)

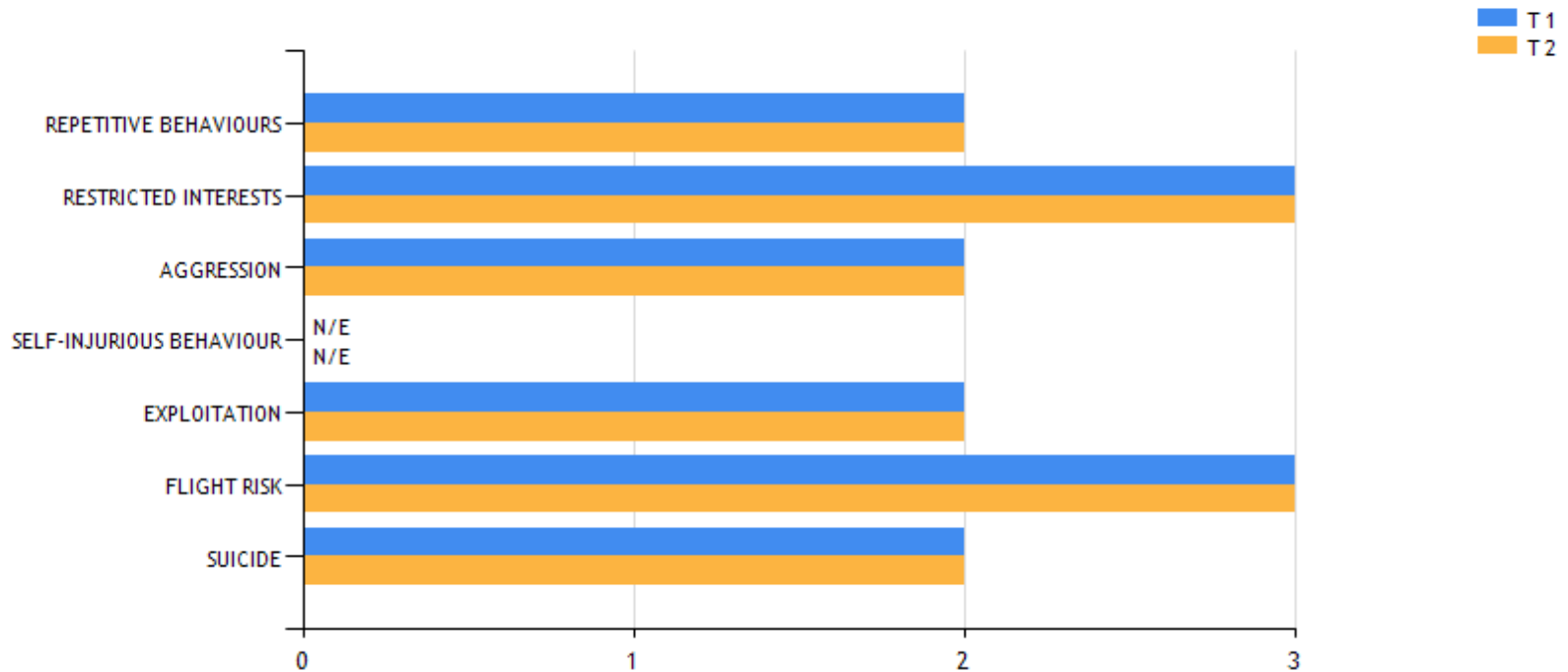
- Reporting at Child Level

		Assessment 1	Assessment 2
		20-Aug-2016	29-Nov-2016
Life Domain Functioning	1 Family Functioning	1	1
	2 Social Functioning	2	2
	3 Temperament/Emotional Responsiveness	0	0
	4 Eating	0	0
	5 Sleeping	0	0
	6 Elimination	0	0
	7 Parent Child/Adolescent Interaction	0	0
	8 Academic Achievement	1	1
	9 Academic Engagement	2	2
	10 School Attendance	0	0
	11 Classroom Behaviour	1	1
	12 Non-Classroom Behaviour	1	1
	13 Educational Fit	0	0
	14 Activities In Daily Living	1	1
	15 Adaptation To Change	1	1
	16 Transitions	1	1
	17 Sexual Behaviour	0	0
	18 Autonomy	2	2
Cognitive Functioning	19 Attention	2	2
	20 Decision-Making Skills	2	2

Victories (cont.)

- Reporting at Child Level

Maladaptive Behaviours Report



Victories (cont.)

- Reporting at Agency/Provincial Level

Summary of the Number of CANS Assessments Completed

Agency	# Pre/Initial CANS Assessments	# Post CANS Assessments	# Matching Pre/Initial & Post CANS Assessments	# Update CANS	Total Number of CANS Completed
Agency X	21	16	12	2	39

Summary of the Number of CANS Assessments Completed by Age Group

Age Group	# Pre/Initial CANS Assessments	# Post CANS Assessments	# Matching Pre/Initial & Post CANS Assessments	# Update CANS	Total Number of CANS Completed
0-5 Years	18	13	11	0	31
6-10 Years	1	2	0	1	4
11-14 Years	2	1	1	1	4
15-18 Years	0	0	0	0	0
Total	21	16	12	2	39

Summary of the Number of Post CANS Assessments Completed by Service Domain

Service Domain	# Post CANS Assessments	# Matching Pre/Initial & Post CANS Assessments
Activities of Daily Living	1	0
Communication	5	3
Social Skills	6	6
Emotion/Behaviour	0	0
Not Specified	4	3
Total	16	12

Victories (cont.)

- Reporting at Agency/Provincial Level

		Actionable at ASMT		Resolved	
		% (col)	n	% (col)	n
Life Domain Functioning	Average Items	46.3	8.3	6.9	1.3
	1 Family Functioning	41.7	5	8.3	1
	2 Social Functioning	58.3	7	8.3	1
	3 Temperament/Emotional Responsiveness	50.0	6	8.3	1
	4 Eating	58.3	7	8.3	1
	5 Sleeping	41.7	5	8.3	1
	6 Elimination	50.0	6	8.3	1
	7 Parent Child/Adolescent Interaction	41.7	5	0.0	0
	8 Academic Achievement	41.7	5	8.3	1
	9 Academic Persistence	50.0	6	8.3	1
	10 School Attendance	41.7	5	0.0	0
	11 Classroom Behaviour	41.7	5	16.7	2
	12 Non-Classroom Behaviour	50.0	6	8.3	1
	13 Special Education	41.7	5	8.3	1
	14 Activities In Daily Living	50.0	6	8.3	1
	15 Adaptation To Change	41.7	5	8.3	1
	16 Transitions	41.7	5	0.0	0
	17 Sexual Behaviour	50.0	6	0.0	0
	18 Autonomy	41.7	5	8.3	1
Cognitive Functioning	Average Items	41.7	0.8	8.3	0.2
	19 Attention	50.0	6	8.3	1
	20 Decision-Making	33.3	4	8.3	1

Victories (cont.)

- Ability to Export Data for Further Analysis
 - Agencies can export their data into an Excel spreadsheet
 - Spreadsheet is organized to make further analysis in Excel or statistical software (e.g., SAS, SPSS, R) user friendly and simple

Victories (cont.)

- Linking and matching of CANS data
 - As CANS data enters the BIS the records are run through the linking and matching algorithm
 - Allows BORN to link CANS assessments together for an individual child
 - Also possible to link a CANS assessments to a maternal pregnancy record and/or match it to a birth record for children born on or after April 1st, 2012

Long-Term Victories

- Research Examining Utilization and Usefulness of Reports
- Research Using Linked Datasets
 - BORN collects a variety of data from a variety of sources:
 - Prenatal Screening Results
 - Newborn Screening Results
 - Pregnancy and Birth Information
 - Well-Baby Visit Clinical Information
 - Facilitates examining health indicators across the maternal-newborn continuum

Summary

- Collaboration by BORN, MCYS, and ABA treatment sites has led to a system that supports the submission of all CANS assessments completed in Ontario to the BIS
 - Permits meaningful reporting on clinical outcomes at the child, agency and provincial level
- This work both facilitates and ultimately improves care for children and youth with ASD, and their families, in Ontario

Acknowledgments

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Thank You

