



Partnering for Change

Implementation and Evaluation, 2013–2015

Submitted to the Ontario Ministry of Health and Long Term Care and the Ontario Ministry of Education by Dr. Cheryl Missiuna and Cathy Hecimovich, on behalf of the Partnering for Change Team.



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Executive Summary

A high-level overview, acknowledgements, a look at our team and how to get in touch.

Project Overview

This summary presents a high level overview of the Partnering for Change model and key points about the research approach that was used; lessons learned about real-world implementation of Partnering for Change; and highlights from our research findings.

- ✔ Partnering for Change is an evidence-informed model for delivering rehabilitation services for children with special needs in school settings.
- ✔ This project has demonstrated the success that is possible when strong partnerships are forged between researchers and the health care and education systems; research is integrated into actual practice and leads to sustainability and system change.

Project Description

- Partnering for Change (P4C) is an innovative, evidence-informed model that guides the delivery of rehabilitation services in school settings. The partnership involves educators, families, children and therapists collaborating to promote participation at school by changing daily activities, as well as the physical, social and learning environments, of children with special needs.
- The goals of P4C include early identification of children with special needs; building capacity of educators and families to understand and manage children's needs; preventing secondary consequences and facilitating self and family management; and improving children's ability to participate successfully in school, the community and at home.
- Health professionals — who in this study were occupational therapists — provide services in schools within a needs-based, tiered, response-to-intervention pyramid model. Services are offered along a continuum, which has the advantage of reaching many students who have not been identified yet while still providing students who have more complex needs with more individualized services. The therapist is present on a regular basis so students' responses to services are monitored regularly and adjusted as needed.
- P4C services include: class-wide health promotion and learning designed to help all students; small group screening and differentiated instruction; monitoring of children's responses and progress; collaborative problem-solving with educators to identify strategies and accommodations that improve participation of individual children; knowledge translation to educators to facilitate changes to physical, social and learning environments in schools; sharing strategies with and supporting families.

- Created by researchers at CanChild Centre for Childhood Disability Research and supported by the leadership of Cathy Hecimovich, CEO of the Central West Community Care Access Centre (CW CCAC), P4C was developed and tested using a participatory action research process. This process involved key stakeholders from government, health care decision-makers, occupational therapists, service provider organizations, schools, and families.
- Funded by the Ontario Ministry of Health and Long-Term Care, and the Ministry of Education, the P4C service model was implemented and evaluated from 2013–15 across three school boards within two CCACs (Central West and Hamilton Niagara Haldimand Brant).
- Fifteen occupational therapists (OTs) worked one day per week in 40 schools in Year 1; seventeen OTs worked one day per week in the same 40 schools in Year 2.

It has been an amazing experience having the OT here to work with the many students in my class. Without her support, my students would not have developed an increased sense of self-confidence. They are beginning to feel success in many areas not just academic. This is a life-changing service that is provided.

— Educator

Key Findings

- **Educators valued having an OT in the school on a regular basis.** Because every school had its own context and culture, we learned that the **OTs needed time for relationship building and knowledge translation** before moving to more individualized services.
- OTs were valued by educators because they were a consistent presence in the school. **Educator capacity was built incrementally** across the two-year period.
- P4C was an **equitable service**, reaching all children and families, including those who do not speak English, who are living below the poverty level, or had parents or family members working full-time.
- While more work is needed to reach and build the capacity of parents, those **parents who interacted with the OT were extremely satisfied** and used the resources that were provided.
- Results indicate that P4C, as delivered in this study, facilitates **equal access to services, eliminates wait lists at no additional cost, and serves large numbers of children with a diverse array of special needs.**
- Children were **identified earlier, served earlier**, and children with **many different types of special needs were able to be served.**
- Children in the study showed **improvements in all areas of school participation** and also greater participation in many activities at home and in the community.
- Parents reported a **decrease in their child’s overall emotional and behavioural problems.** Parents also reported a **reduction in inattention and hyperactivity.**

- **Occupational therapists increased their skills and knowledge**, particularly in their first year of providing P4C. They emphasized the time it took to transition to this model and the paradigm shift that is required in their practice. There is a **strong need for training and mentorship** of the OTs, which they valued and indicated was pivotal in their ability to implement this model successfully.
- The **OTs experienced job satisfaction** as a result of feeling part of the team, seeing the difference they were making and the ability to work to their full scope. This should lead to greater retention of experienced OTs in schools.
- **Process maps** documenting the pathway followed by children receiving OT services showed a **dramatic reduction in the time and cost** with regard to the number of people who need to be involved in the referral process. There are **far fewer steps in P4C** and there are **more “value added” steps for the family**.
- The many stakeholders involved in the research and implementation of this service model have indicated that the **core principles and features of P4C are relevant to other health professionals** and to development of an integrated framework for rehabilitation service provision in Ontario.
- Positive results in the 2013–14 year led the CW CCAC to expand provision of P4C to two additional school boards in the second year. In 2015–16, OTs will be delivering P4C in additional schools and school boards within both CCACs, demonstrating **sustainability** and the potential for this model to spread beyond the current research study.

A [webinar is available](#) that provides more detail about P4C and its relevance to the Ontario Special Needs Strategy.

Acknowledgements

The Partnering for Change team is grateful to the Ontario Ministry of Health and the Ontario Ministry of Education for funding this project and all of the partners, occupational therapists and families who made this study possible.

Study Partners

The Partnering for Change team would like to acknowledge the strong partnership of the Central West, Hamilton Niagara Haldimand Brant, and the Toronto Central Community Care Access Centres (CCACs), who have been instrumental in the success of this project.

Leaders from the Central West and Hamilton Niagara Haldimand Brant CCACs have been partners with us in this project and have provided funding for the OT health service to be delivered in the 40 schools participating in the project from the Hamilton Wentworth Catholic District School Board, Halton District School Board and the Peel District School Board.



Project Oversight Committees

The Partnering for Change team would like to thank the following members of the P4C Steering Committee who provided guidance, contributed suggestions, reviewed deliverables reports and provided financial oversight.

P4C Steering Committee

- **Cathy Hecimovich**, Chair, CEO, Central West CCAC
- **Stacey Daub**, CEO, Toronto Central CCAC
- **Melody Miles**, CEO, Hamilton, Niagara, Haldimand, Brant CCAC
- **Dilys Haughton**, Vice President Patient Care & Chief, Professional Practice, Hamilton, Niagara, Haldimand, Brant (HNHB) CCAC
- **Kimberley Floyd**, Director, Patient Care Services, Central West CCAC, Representative of the P4C Working Group
- **Mary Iannuziello**, **Elisa Diaz-Martinez**, and **Eleni Tsoutsias**, Ontario Ministry of Health and Long-Term Care
- **Maureen Cox** and **Crawford Dedman**, Ontario Ministry of Education

The Partnering for Change team would also like to thank **Debra Bell**, Ontario Ministry of Health and Long-Term Care; **Barry Finlay** and **Louise Sirisko**, Ontario Ministry of Education for contributing expertise, support and representatives to participate in steering committee meetings on their behalf.

P4C Working Group

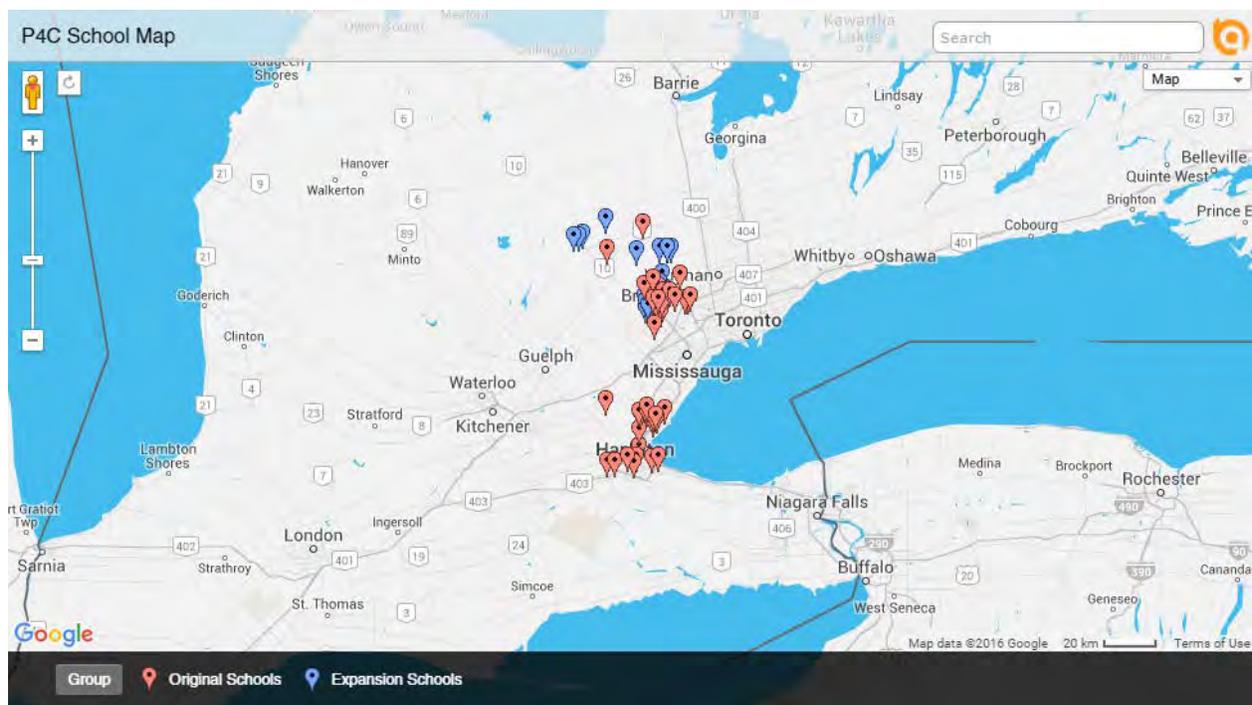
- **Deb Stewart**, Chair, P4C Project Manager
- **Kimberley Floyd**, Director, Patient Care Services, Central West (CW) CCAC
- **Dilys Haughton**, Vice President Patient Care & Chief, Professional Practice, Hamilton, Niagara, Haldimand, Brant (HNHB) CCAC
- **Susan Wynes**, Client Services Manager, CW CCAC
- **Frank Woodhall**, Client Services Manager, HNHB CCAC
- **Naomi Uy**, Business Systems Analyst, CW CCAC
- **Fatima Ul-Haq**, representative for Toronto Central CCAC (2014–2015)
- **Leah Dix**, P4C project coordinator

The Partnering for Change team would like to thank the members of the P4C Working Group. The working group was comprised of representatives from each of the three Community Care Access Centres who were involved in overseeing the implementation and evaluation of the P4C service.

Participating Research Schools

The research team also greatly appreciates the active involvement of leadership, educators, students and families of the Peel District School Board, the Halton District School Board and the Hamilton Wentworth Catholic District School Board who actively participated in research activities that enabled better understanding of the impact of this service.

Thank you to the schools who so willingly joined us in the implementation and evaluation project, from November 2013 to June 2015.



P4C Occupational Therapists

The research team greatly appreciates the efforts of the occupational therapists (OTs) who provided the P4C service during the project. The OTs were employed with Saint Elizabeth Health Care, VHA and CBI Home Health Care.

Children and Families

The research team is grateful to the children and family members who participated in the research study. The team would like to thank families for sharing their experiences with us.

Additional Acknowledgements

The P4C team is grateful to Aaron Awad for his design and development expertise in creating this report website. Thank you to Eliya Zhao for her contributions preparing the figures and graphs displayed within the report.

Research Team

The Partnering for Change research team is comprised of a multi-disciplinary group of scientists, staff and students.

Multi-disciplinary Research Team

The Partnering for Change team at CanChild includes:



Dr. Cheryl Missiuna

Ph.D., OT Reg. (Ont.)

P4C Principal Investigator, Professor, School of Rehabilitation Science (SRS), McMaster University, John & Margaret Lillie Chair in Childhood Disability Research



Cathy Hecimovich

M.Ed.

Principal decision maker, CEO Central West Community Care Access Centre



Nancy Pollock

M.Sc., OT Reg. (Ont.)

P4C Investigator, Associate Clinical Professor, SRS, McMaster University



Dr. Sheila Bennett

Ed.D.

P4C Investigator, Professor, Brock University, special educator



Dr. Wenonah Campbell

Ph.D., S-LP (C)

P4C Investigator, Assistant Professor, SRS, McMaster University



Dr. Chantal Camden

Ph.D., PT

P4C Investigator, Assistant Professor, Université de Sherbrooke



Dr. Robin Gaines

Ph.D., CCC-SLP, SLP(C), CASLPO

P4C Investigator, Clinical Investigator, CHEO Research Institute, Adjunct Appointment, School of Rehabilitation, University of Ottawa



Dayle McCauley

M.Sc.

P4C Investigator, CanChild Research Coordinator, McMaster University



Dr. John Cairney

Ph.D.

P4C Investigator, Professor, epidemiologist, McMaster University



Dr. Daria O'Reilly

Ph.D.

P4C Investigator, Associate Professor, health economist, McMaster University



Debra Stewart

M.Sc., OT Reg. (Ont.)

P4C Project Manager, Associate Clinical Professor, SRS, McMaster University



Leah Dix

M.Sc., OT Reg. (Ont.)

P4C Project Coordinator, CanChild, McMaster University



Cindy DeCola

B.A.

P4C Project Coordinator, CanChild, McMaster University



Sandra Sahagian Whalen

M.H.Sc., OT Reg. (Ont.)

P4C Mentor, occupational therapist



Kathy Wlodarczyk

M.Ed.

Doctoral student, SRS, McMaster University



Eliya Zhao

P4C Student Research Assistant, CanChild, McMaster University



Kaiwen Song

P4C Student Research Assistant, CanChild, McMaster University

Contact Us

Information about how to contact lead staff, scientists and partners.

Leah Dix
Project Coordinator
CanChild
McMaster University

Dr. Cheryl Missiuna
Principal Investigator
CanChild
School of Rehabilitation
Science
McMaster University

Cathy Hecimovich
Chief Executive Officer
Central West Community
Care Access Centre

 (905) 525-9140 x 26896
 dixlm@mcmaster.ca
 partneringforchange.ca

 missiuna@mcmaster.ca

 cathy.hecimovich@cw.cac-ont.ca

CanChild Centre for Childhood Disability Research



**School of Rehabilitation
Science**
McMaster University
1400 Main St. W, IAHS 408
Hamilton, Ontario
Canada L8S 1C7

 (905) 525-9140 x 27850
 (905) 524-0069
 canchild@mcmaster.ca
 canchild.ca

A [webinar](#) that provides more detail about P4C and its relevance to the Ontario Special Needs Strategy is also available.

What is Partnering for Change?

The Partnering for Change (P4C) model of service delivery is an innovative, collaborative, evidence-informed model that uses a needs-based, tiered approach to provide rehabilitation services for children with special needs in schools.

- ✔ P4C has involved stakeholders from health and education who are committed to use research findings to inform real-world change.
- ✔ P4C supports all children who are in school and promotes inclusive education.

The Partnering for Change Model

Partnering for Change is the name of a new model used to deliver rehabilitation services to children with special needs. It was developed over seven years in partnership with Community Care Access Centres, school boards, educators, health professionals, policy-makers and families.

- ✔ The Partnering for Change model is referred to by its acronym P4C which reflects both the partnership and the principles of the model.
- ✔ P4C promotes integrated, needs-based care for children with special needs during the school day.

A Model of Support

Partnering for Change is the name of both a new model for delivering integrated rehabilitation services for children with special needs and the program of research that has evaluated the development, implementation and evaluation of the Partnering for Change service model.

The Partnering for Change model is often referred to by its acronym P4C which reflects both the partnership and the principles of the model.

Partnering for Change was initially developed as a model of support for children with Developmental Coordination Disorder (DCD) because they were the largest group of children in Ontario who were on waitlists for School Health Support Services. Although this was the population of children first studied, the P4C model of service delivery has been shown to be of value for children with many diverse needs.

The P4C model describes the type of rehabilitation services that are delivered in schools to support students who struggle with everyday activities such as printing, cutting, dressing for recess, managing lunch items and knapsacks, and participating in physical education, daily fitness and playground activities. These students require additional support to participate successfully at school, at home, and in the community.

Partnering for Change Goals

The goals of Partnering for Change are to:

	<p>Increase early identification of students with special needs</p>
	<p>Build capacity of educators and families to understand and manage children's needs</p>
	<p>Prevent secondary consequences and facilitate self and family management</p>
	<p>Improve children's ability to participate successfully in school and at home</p>

Description of the Partnering for Change Model

The Partnering for Change model is an innovative way of delivering rehabilitation services to support **all** children with special needs, beginning in full day kindergarten. The service is provided in the context of the classroom, with the school as the “client”.

- ✔ P4C uses a tiered approach that allows OTs to reach far more children.
- ✔ P4C reflects partnerships and collaboration between health professionals, educators and families.

Illustrating the P4C Model

The Partnering for Change team used evidence from the literature to design a conceptual model that was tested in school settings and refined. The figure reflects the partnership that is needed between **therapists**, **parents** and **educators** to create environments that will facilitate successful participation for **all students**.

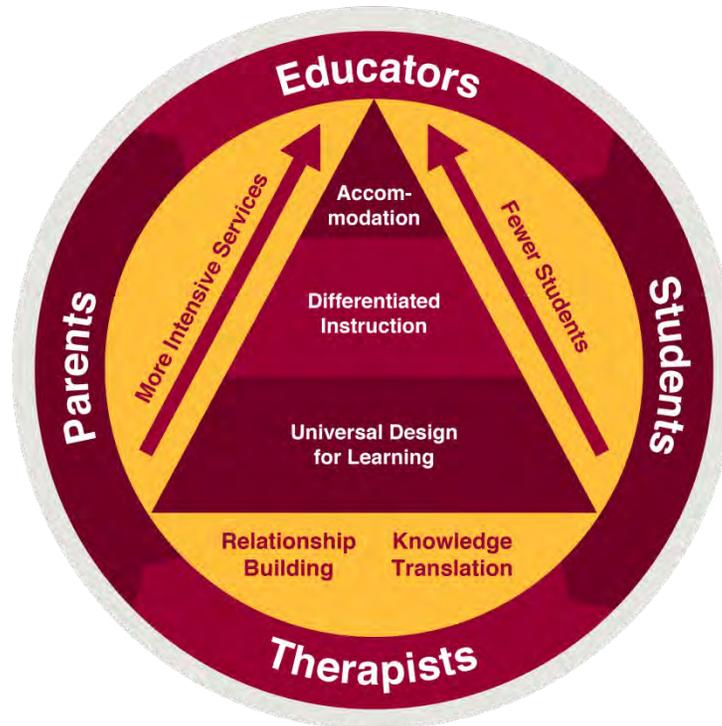
Working from a foundation that focuses on **relationship building** and **sharing of knowledge**, these partners collaboratively **design environments** that foster motor skill development in children of all abilities, **differentiate instruction** for children who are experiencing challenges and **accommodate** for students who need to participate in a different way.

While the school remains the target of intervention, allowing therapists to impact the greatest numbers of children, therapists are able to increase the intensity of the service that they provide as they coach educators and/or parents about individual students who have more complex needs. In this model, all collaboration and intervention occurs in the context of the school setting.

Description of the P4C Model

PARTNERING FOR CHANGE: P4C

Building Capacity through Coaching and Collaboration in Context



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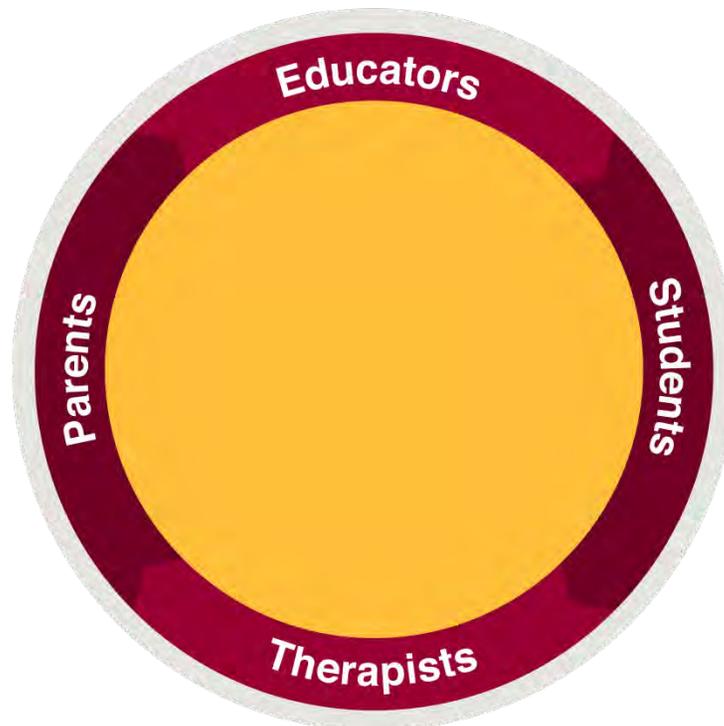
The Model Explained

The P4C acronym represents the “4 Cs” that comprise the Principles of Partnering for Change: Building Capacity through Collaboration and Coaching in Context.

The French translation maintains the P4C title and acronym: Partenaires pour le Changement. The principles (“4Cs”) are: développement de Capacites; Collaboration; and Coaching en Contexte.

[English PDF](#)
[French PDF](#)

PARTNERING FOR CHANGE: P4C
Building Capacity through Coaching and Collaboration in Context



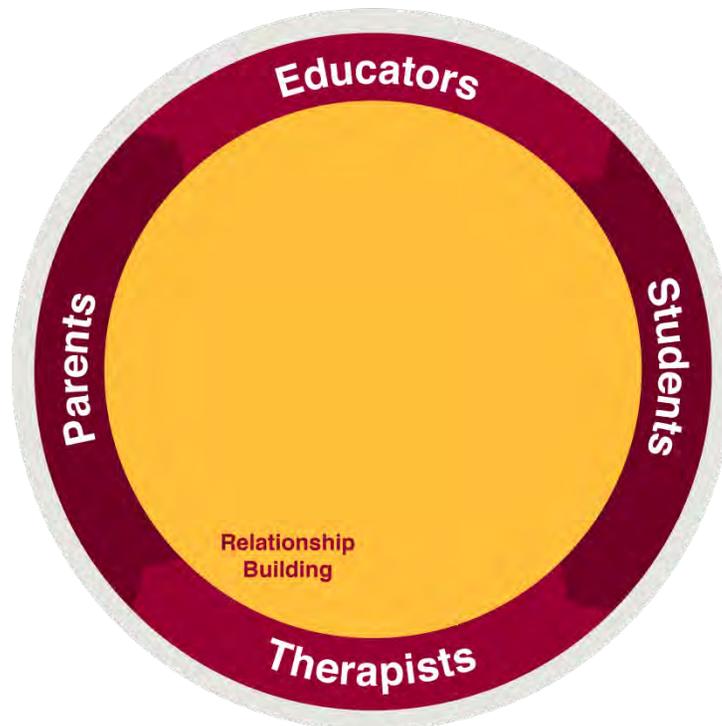
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Partnership

The outer circle of the P4C Model represents the partnership between educators, therapists, parents and students who work together to support children's participation at school and at home. By wrapping services around the student from the point of school entry, P4C aims to prevent more complex health and academic issues from developing.

Two core activities form the foundation for all other interventions offered within the P4C model, relationship building and knowledge translation.

PARTNERING FOR CHANGE: P4C
Building Capacity through Coaching and Collaboration in Context



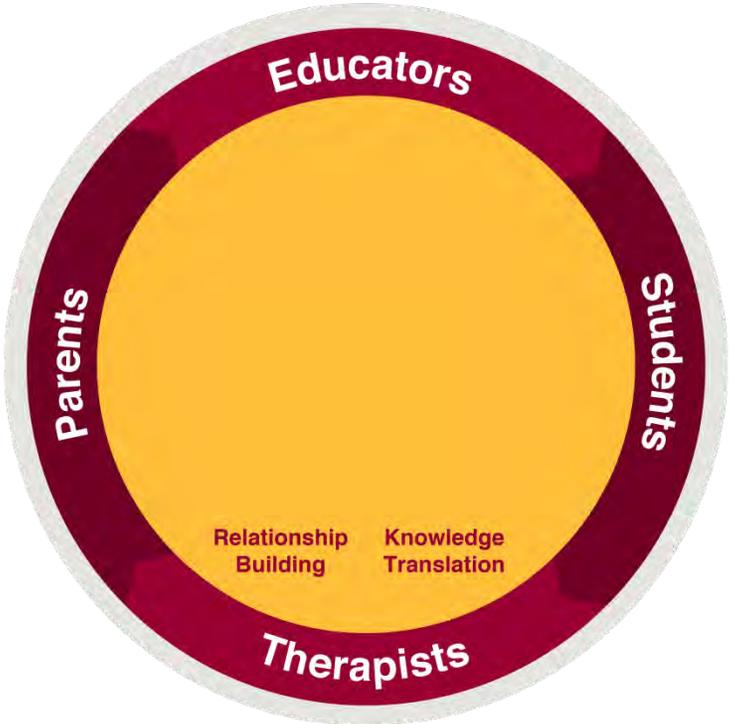
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Relationship Building

Our research shows that the therapist needs to be a regular and consistent presence in the school, available and seeking opportunities to connect with educators and parents. The therapist is responsive to the school's needs; provides services to students in the right place at the right time; offers regular and timely follow up.

Relationship building involves enhancing educators' understanding of the therapist's areas of expertise. This is done through hallway interactions, sharing of resources, as well as provision of short, lunch and learn sessions that are offered by the therapist in response to questions that arise during the day and topics of interest to the educator. Examples include: typical child development; pre-printing tasks, modifying activities or developmental red flags.

PARTNERING FOR CHANGE: P4C
Building Capacity through Coaching and Collaboration in Context

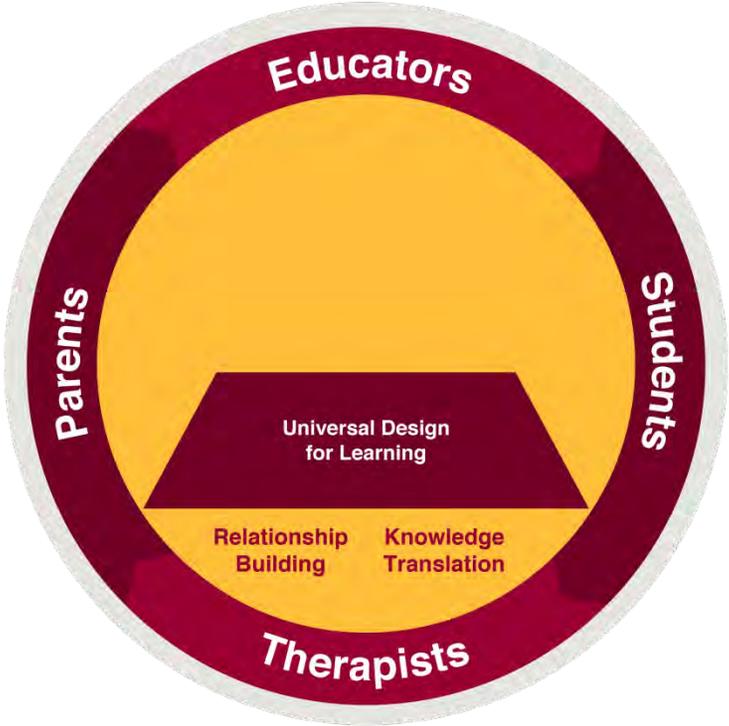


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Knowledge Translation

The health professional needs to be able to provide evidence-based information about how to support students' participation in a way that educators can use in the classroom and that a parent can use at home. The goal of Knowledge Translation is to build the capacity of others by problem-solving together, identifying and trying out strategies that enable successful student participation. A key difference in this model is that the therapist explains how, why, when, and where particular strategies work, sharing knowledge in order to facilitate understanding of the student's needs and actually demonstrating the solution in context. Educators and families can then apply these strategies when appropriate and adopt this knowledge in their day-to-day activities.

PARTNERING FOR CHANGE: P4C
Building Capacity through Coaching and Collaboration in Context



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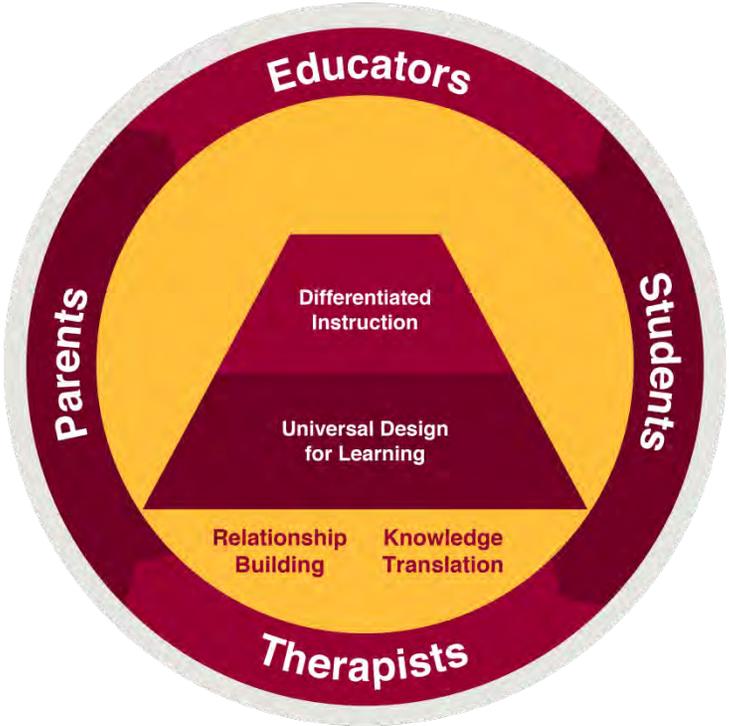
Universal Design for Learning

The types of services included in the P4C model are based on a Response to Intervention pyramid. Services in P4C are provided universally to support all children in a classroom, with increasingly intensive services being added for children whose needs are not able to be met through class-wide strategies. Because services are based on need, students with higher needs receive increasingly intense levels of support. The first tier, shown at the base of the response to intervention triangle, is Universal Design for Learning.

Universal Design for Learning (UDL) refers to an approach to designing educational materials, instruction and classrooms to benefit all students. Its purpose is to allow equal access to learning and to remove barriers that prevent students from participating or accessing the curriculum. Use of UDL principles leads to the development of educationally relevant strategies and tools that meet the needs of all learners who differ widely in their physical, cognitive, behavioural, and communicative abilities. UDL strategies are those that are “good for all and essential for some”.

UDL enhances the capacity of all students to fully engage in the education curriculum while simultaneously reducing the need for individual accommodations and remediation.

PARTNERING FOR CHANGE: P4C
Building Capacity through Coaching and Collaboration in Context



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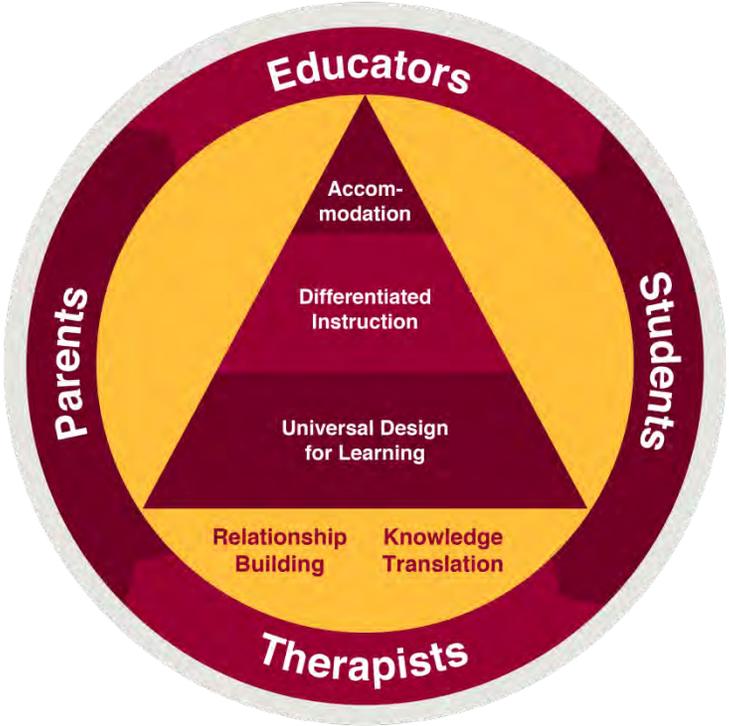
Differentiated Instruction

The second tier of the response to intervention triangle is Differentiated Instruction. At this tier, the therapist and educator begin to look at smaller groups of students who are having difficulty performing grade-level activities, despite prior exposure to class-wide strategies at the Universal Design for Learning tier.

Educators recognize that a child is struggling but may not always know why or what is the cause of the problems they are seeing. At the Differentiated Instruction tier, the educator and therapist collaborate to determine different practices that would be reasonable alternatives to the regular methods of instruction. They may also use small groups to introduce skills that are difficult for a few children and watch each week to see how each child responds to the intervention.

From a health care perspective, this tier is referred to as “determination of need” for more individualized services. If the child is determined to need more individualized intervention, health care consent must be received. Other processes may also need to go into place (e.g. notify principal, notify health care funder) and an individual file is opened for documentation purposes.

PARTNERING FOR CHANGE: P4C
Building Capacity through Coaching and Collaboration in Context



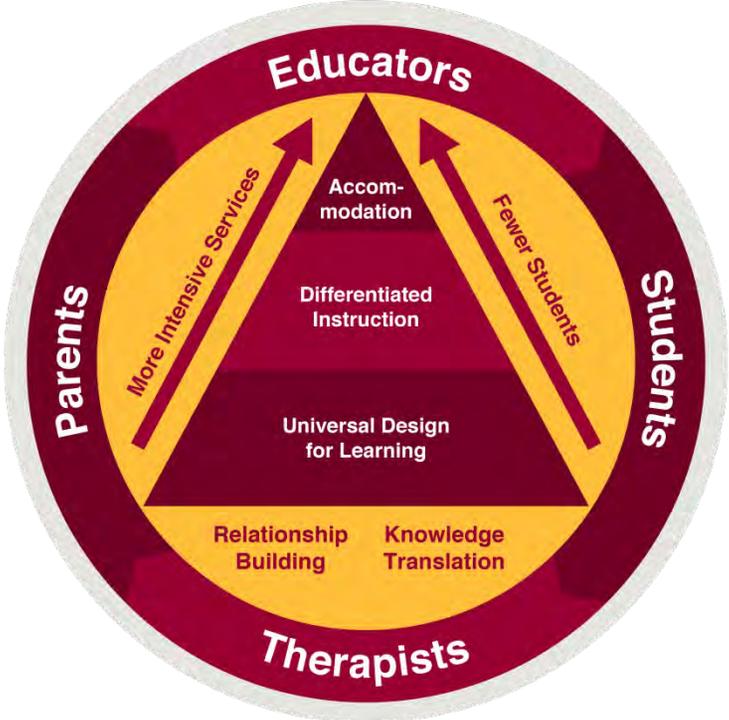
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Accommodation

The third tier at the top of the response to intervention triangle is Accommodation. At this tier, the therapist focuses on individual students who have more complex needs. If a child has been provided with appropriate experiences, yet continues to have difficulties, the therapist determines the need for services to be provided at this tier. The therapist works collaboratively with families and educators to provide appropriate accommodations that address continued concerns. At this level, health care consent is always sought and families agree to have their child receive service.

At this level, the therapist conducts observational assessment in context — wherever the issue is occurring. This process is called dynamic performance analysis, which means that the therapist actually tries implementing specific strategies involving a change in the task or environment; the child's response is monitored, and the outcome of the change is determined. If the strategy was not successful, something else is trialled. An important component in P4C is that therapists then communicate with the educator, parent and team about what was done, and why, to build capacity through knowledge translation. Strategies that are found to be successful may be noted on the child's Individual Education Plan so the next teacher is aware of the service that was provided.

PARTNERING FOR CHANGE: P4C
Building Capacity through Coaching and Collaboration in Context



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Needs-Based Intervention

In the final layer of the P4C model, arrows can be seen at the sides of the Response to Intervention pyramid. These arrows show that as the intensity of the P4C service increases, the number of students needing services at that level simultaneously decreases.

By using a tiered approach, the P4C model enables many diverse student needs to be met by ensuring that the level of support is needs-based and reaches all students – from those who need only classroom-wide supports to those who need customized strategies to maximize their potential.

Principles of the Partnering for Change Model

The principles of Partnering for Change are the four Cs: Building **Capacity** through **Collaboration** and **Coaching** in the school **Context**.

- ✔ P4C is a needs-based model that emphasizes building the partnership between health professionals, educators, children, families and care coordinators.
- ✔ P4C is responsive to local contexts and the culture of each school.

The Four Cs of P4C

The P4C model aims to build the **Capacity** of educators and families to support children with special needs in all spaces and places. Therapists do this by **Collaborating** with educators and families and **Coaching** in school **Contexts** that are important to the child — whether that be in the classroom, on the playground, in the gym or at home.

Partnering

The emphasis in P4C is not on assessment and treatment of an individual child. Instead, the therapist focuses on relationship building, knowledge translation, and development of true partnerships with the educator, student and family. The therapist can provide useful suggestions and strategies but it is the educator and family who spend time with the child each day and who will be there over the long term.

Capacity Building

Educators and parents are supported, through a collaborative approach, in learning to recognize atypical development and special needs. Strategies are introduced right away, without the need for formal assessment or identification, to prevent the development of secondary consequences. The P4C service is focused on **building parent** and **educator capacity**.

Knowledge is shared with educators to:

- facilitate their ability to identify children who have atypical development that suggests a health concern;
- enable job-embedded learning and best practices in educator professional development;
- build capacity for educators to deliver or respond to suggestions leading to Universal Design for Learning and Differentiated Instruction. This results in much more inclusive practice for **all** children, including those with special needs.

Knowledge is shared with families to:

- facilitate their understanding of their child's needs;
- enable learning about their child's health/developmental concern;
- support introduction and generalization of strategies that have been found to be successful at school or at home;
- build families' capacity to advocate for their child and self-manage their child's needs in order to prevent the development of secondary consequences.

In our study, we found that occupational therapists also need to build their own capacity to work successfully in this type of service model. This takes time!

Collaboration and Coaching

Health professionals are in school regularly and are available to collaborate with educators; on invitation, OTs coach and support educators directly in the classroom. Coaching builds on the existing skills and knowledge of educators and parents and leads to collaborative determination of solutions.

P4C therapists collaborate with educators and parents to:

- **prevent developmental and motor challenges** from becoming greater issues for the student and classroom (e.g. prevention of depression, anxiety, behavioural problems, deterioration in physical fitness, social isolation, school avoidance);
- **promote emotional well-being;**
- enable **timely and efficient** determination of accommodations that are required to maximize participation;
- **identify individual students' needs** and accommodations to fully demonstrate students' potential on tests and assessments including EQAO (e.g. provision of technology).

Coaching is used as a specific technique during interactions. Coaching means that the therapist determines what the educator and parent already know and builds on their skills and knowledge by collaboratively problem-solving through the reasons for the child's difficulties, the rationale for trying the suggested strategies, modelling the strategies, supporting their application and generalization and monitoring regularly to ensure that strategies are still working.

Families are valued partners who can connect with both the educator and P4C therapist when and as needs arise for the student. This enables the family to self-refer without waiting to be referred for service by other parties, eliminating wait times and complex paperwork.

In Context

Children are observed by the therapist in context, in the classroom, gym, playground and throughout the school; dynamic assessment and observation occurs wherever the child is and strategies are trialed at the time to make sure they meet the child's needs.

Evidence for the Partnering for Change Model of Service Delivery

Dr. Cheryl Missiuna, Cathy Hecimovich, and a multi-disciplinary team of researchers at CanChild conducted several previous studies of the Partnering for Change model.

- ✔ P4C is based on participatory action research studies dating from 2008.
- ✔ The P4C model is evidence-based and aligns with the 2010 Deloitte recommendations and the Ontario Special Needs Strategy.

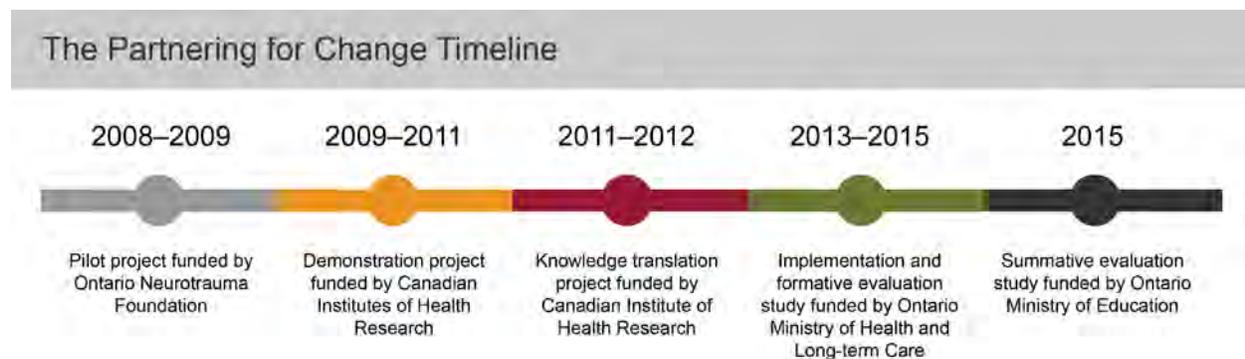
Addressing Needs

The Partnering for Change model was first developed by CanChild researchers, leaders from the Central West CCAC, and many other stakeholders to address the inequity and escalating

needs of children with Developmental Coordination Disorder (DCD) who represented a majority of the students waiting for services from occupational therapists.

What is Developmental Coordination Disorder?

Developmental Coordination Disorder (DCD) is a specific motor disability that affects about 5% of all children — that is, about one student in every classroom. DCD significantly impacts a child’s ability to complete everyday motor-based academic and self-care tasks such as printing, using scissors, lacing up shoes, opening a knapsack, managing lunch containers or putting on outdoor clothing. DCD is a chronic health condition that occurs in children with a normal range of intellectual abilities: it persists throughout adolescence and may eventually affect social interactions, school completion rates and vocational choices.¹ While DCD is present from very early in life, children’s difficulties become most apparent when they enter full day kindergarten and encounter new motor challenges and increased requirements for independence. Without appropriate support at school, children with DCD, their families, and their educators struggle and become frustrated. Secondary academic, mental health, and physical health issues develop, which make children’s needs more complex and difficult to cope with as they progress into intermediate grades. [More information about DCD can be found on the CanChild website.](#)



Publications

The evidence describing the Partnering for Change model served to guide the current study and is well documented in peer-reviewed publications.

Campbell, W.N., Missiuna, C., Rivard, L., & Pollock, N. (2012). **“Support for Everyone”:** **Experiences of occupational therapists delivering a new model of school-based service.** *Canadian Journal of Occupational Therapy*, 79, 51–59.

Missiuna, C., Pollock, N., Campbell, W.N., Bennett, S., Hecimovich, C., Gaines, R., DeCola, C., Cairney, J., Russell, D., & Molinaro, E. (2012). **Use of the Medical Research Council Framework to develop a complex intervention in pediatric occupational therapy: Assessing feasibility.** *Research in Developmental Disabilities*, 33(5), 1443–1452.

Missiuna, C., Pollock, N., Levac, D., Campbell, W., Whalen, S.S., Bennett, S., et al. (2012). **Partnering for Change: An innovative school-based occupational therapy service**

delivery model for children with developmental coordination disorder. Canadian Journal of Occupational Therapy, 79, 41–50.

1. American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders (5th ed.) Washington, DC: Author.

Partnering for Change in Practice

In the Partnering for Change (P4C) model of service delivery, a rehabilitation professional has regular, dedicated time to support the whole school community. In the P4C research project, an occupational therapist (OT) delivered services one day per week at each participating school for two school years.

- ✔ P4C services are delivered in a timely way where the children are — in schools.
- ✔ OT services are multifaceted and focused on the whole school, educator, and child.
- ✔ P4C OTs collaborate closely with educators to facilitate participation of children with special needs.
- ✔ Parents and educators can contact the P4C OT directly at the school to request services.

What Does the Therapist Do in a School?

In the Partnering for Change model, occupational therapists (OTs) work collaboratively as part of the school team with the school as the “client.” The P4C OT is not focused solely on providing direct one-to-one intervention; many more strategies are used to support the participation and success of *all* children.

- ✔ The P4C OT is available at the school regularly to address educator and family concerns.
- ✔ The P4C OT works in natural context and so is present in the classroom, hallway, gym and playground.
- ✔ The P4C OT builds capacity of educators through job-embedded learning so that opportunities for professional development occur naturally in the classroom.
- ✔ The P4C OT provides resources and education to families to facilitate improved management of children’s needs at home.

Working Collaboratively

Occupational therapists bring knowledge about the health or developmental conditions that cause children with special needs to struggle in the school environment. Specific contributions provided by the P4C OTs in this project include:

Facilitate earlier identification of children with special needs by working with educators in full day kindergarten and primary grades

Working alongside the educator, the P4C OT observes young students participating in daily activities at their coat hook or locker, in the classroom, on the playground and/or in gym. The OT helps educators as they learn to observe developmental differences in motor skills. The OT helps identify students whose motor difficulties are impacting on learning or participation.

Collaborate in the determination of individual student needs and learning profiles

The P4C OT familiarizes the educator with new strategies that work within the classroom to help students succeed. Therapists may collaborate with the educator on increasing the physical accessibility of their classroom or help with the design of activity centres that promote sensory,

cognitive, and motor development. These activities support students with varied needs; for example, some students may benefit from learning to use self-regulation strategies. Other students may need to learn essential skills such as: dressing for the playground; managing backpacks, lockers and lunch containers; participating in Quality Daily Fitness; turning a doorknob or the pages of a textbook; scissor cutting; printing; copying from the board; keyboarding; or using a ruler or drawing.

Aid in the development of differentiated instructional strategies

For students having difficulty with classroom activities, P4C OTs problem-solve with the educator and facilitate the use of effective strategies. P4C OTs make recommendations around instructional, environmental and assessment accommodations to facilitate student success and skill development.

P4C OTs can also teach a whole class lesson for an activity that requires motor coordination (e.g. cutting with scissors, printing, cursive writing, keyboarding, or the Quality Daily Fitness routine). This modelling helps transfer knowledge to educators about instructional strategies for students with motor or attentional challenges and provides examples of different ways to support students.

Recommend materials, tools and/or technology to facilitate learning

OTs have expertise in the adaptation of materials and tools to help children function to the best of their ability. Adaptations to seating and desks, writing implements, paper, student agendas, worksheets, and storage of personal belongings are commonly recommended strategies. Use of a computer, tablet, or other forms of technology may be recommended to help with writing. OTs can complete the necessary forms to request a laptop or other accommodation.

Enhance educator capacity through provision of in-services, educational workshops and resources

By sharing knowledge and working collaboratively with educators, P4C OTs enhance educator capacity. This may occur informally through working together to problem-solve about a single student, or by the OT teaching the full class. It also may occur more formally via “lunch ’n learns”, workshops, or in-services. OTs also develop and share resources at a school or school board level.

Support parents in understanding their child’s challenges

Children experiencing challenges at school usually struggle with activities at home and in the community as well. Because the P4C OT is in the school on a regular basis, she can meet with families who provide another perspective on fully supporting a child. P4C OTs help families to set or modify expectations, provide evidence-based educational resources (in multiple languages), and suggest strategies to help the family enhance the child’s participation at home and in the community.

P4C OTs share resources and speak with parents at “preparation for kindergarten evenings” and school “open house” nights. P4C OTs also may present a topic of interest at a “parents’ night” or as an evening workshop.

Provide access to community resources that can support the student, the family and the educator

OTs can serve as a bridge between the health care system and the educational system. They bring knowledge of child development, anatomy and physiology, mental and physical health conditions, and developmental disorders. They also are aware of health care and other services available to families in the community and can facilitate access to these services.

Practice is Different in Partnering for Change

The Partnering for Change (P4C) model uses a tiered approach; **all** children in the school are initially supported, with more intensive services being offered to the children most in need. Services are provided in many different ways that contrast substantially with traditional models of school-based OT service. As a result, children do not have to wait to access the P4C service.

- ✔ P4C OTs follow a work load, not a case load, model that facilitates inclusion of *all* children in the school.
- ✔ P4C OTs are responsive to the needs of both children and educators.
- ✔ P4C OTs consider a broader range of issues that may be impacting the child including self-care, written productivity, self-regulation, socialization, leisure and community participation.
- ✔ P4C OTs spend the whole day in one school so time is not lost for travel.

Lunch and Learn

The P4C OT offers an experiential “lunch and learn” for educators as soon as she or he starts in a school to share the P4C OT’s areas of expertise and to describe the change in role from the direct one-to-one intervention model. P4C OTs provide examples of some of the very practical and useful suggestions that can be implemented immediately in the classroom.

The P4C OT engages in school activities and spends time in the classrooms to get a feel for each school’s culture, classroom activities, educators’ style and curriculum expectations. This enables the P4C OT to introduce strategies that complement the educator’s teaching style and learning needs and allows the P4C OT to identify “teaching moments” that facilitate uptake and transfer of new knowledge by the educator. The P4C OT also learns from observing each educator as they manage their classroom.

The P4C OT engages in classroom activities such as:

- offering to plan and bring activities to a classroom centre (e.g. pre-printing, printing, drawing, fine motor) and to work with all students as they rotate through that centre.
- offering and demonstrating tips/strategies that the educator can immediately use in the classroom as a whole, or with specific students with special needs.
- teaching a lesson to the whole class to model strategies for the teacher.
- observing children’s responses and difficulties while the educator teaches the class.

- providing materials to support the implementation of a tip or strategy. For example, the P4C OT may glue adapted lined paper into notebooks or build a holder for an alphabet strip to be placed vertically on a desk.
- working with children in a group or individually, according to the needs of the child, educator and class.

Core Attributes of the P4C Model

Occupational therapy services delivered in the P4C model are based on a tiered approach and differ significantly from the type of service that OTs have previously provided. There are “core” or essential attributes that distinguish the P4C model of service from other school-based OT models of service. Essential attributes of the P4C service align with the principles of the model: **to build capacity through collaboration and coaching in context.**

The attributes that were identified during this project are presented and grouped according to the principles of the P4C model.

In the P4C model, the occupational therapist:

Builds Capacity

- Supports educators in designing educational activities consistent with universal design approaches.
- Supports educators in differentiating instruction.
- Builds the educator’s capacity to identify children with atypical development that may be indicative of a health condition.
- Facilitates the educator’s capacity to generalize successful strategies and implement accommodations.
- Supports families in the implementation of successful strategies at home, at school, and in the community.

Through Collaboration

- Uses a collaborative approach to communication and problem-solving, demonstrating respect for the expertise of the educator.
- Demonstrates an understanding of the school and classroom culture.

And Coaching

- Explicitly communicates the rationale for utilizing trialed strategies to build the capacity of the educator.
- Models techniques to try when teaching a skill within the classroom.
- Coaches the educator to support the implementation of strategies within the classroom.
- Follows-up with educators regarding strategies previously trialed.

In Context

- Spends time at the school each week.
- Modifies the environment in line with universal design principles to benefit all learners.

- Uses regular curriculum activities (e.g. journaling, circle time, construction centre) for screening / dynamic assessment / differentiation / intervention.
- Uses Dynamic Performance Analysis as their primary assessment method.
- Delivers intervention in context (e.g. classroom, playground, gym).

The P4C OT is available on a regular basis at the school and is often invited to in-school team meetings. This enables collaboration between educators and the P4C OT for children requiring additional support to participate successfully.

The P4C OT observes children who are having difficulty in “real time” and in context. He or she informs educators and parents of concerns, obtains health care consent and can immediately support the child and educator during the therapist’s regular time at the school. The child does not have to be put on a wait list for service and can be seen in a timely fashion. If there is a P4C OT in a school, there should be no waitlists.

Role of the OT at Each Tier of the P4C Model

P4C services are provided universally to support all children in a classroom, with increasingly intensive services being added for children whose needs are not met through whole class strategies of differentiated instruction.

- ✔ Services included in the P4C model are consistent with a Response to Intervention paradigm.
- ✔ Services are based on need so children with higher needs receive increasingly intensive levels of support.

Universal Design for Learning: What does this look like in the P4C model?

The tier at the base of the response to intervention triangle is Universal Design for Learning (UDL). Therapists and educators collaboratively **design and change physical, social and learning environments** that facilitate participation and foster skill development in children of all abilities.

The therapist may:

- do a desk audit to ensure that each child’s desk is suited to his/her size.
- improve the physical accessibility of the classroom.
- help to design activity centres that promote sensory, cognitive, and motor development.
- teach a large group lesson that models different ways to support students.
- modify the Quality Daily Fitness routine to ensure that all of the skills included are developmentally appropriate for the younger students. That way everyone, including the junior and senior kindergarten children, can participate.

A video that shows how a Partnering for Change health professional supports Universal Design for Learning can be found [here](#).

Additional information and examples of how P4C OTs use universal design for learning principles are available in a recent publication:

Missiuna, C., Pollock, N., Campbell, W., Dix, L., Sahagian Whalen, S., & Stewart, D. (2015). **Partnering for change: embedding universal design for learning into school-based occupational therapy.** *Occupation Therapy Now*, 17(3), 13-15.

Differentiated Instruction: What does this look like in the P4C model?

When using differentiated instruction, the P4C therapist may work with a small group of students and determine (differentiate) among those children. Which children are having trouble with a task due to lack of experience versus which children have more specific developmental needs such as motor coordination or attentional difficulties? Over a few weeks, the therapist and educator monitor children's responses to any strategies that are suggested.

For example: a child who is having difficulties using scissors in the classroom may not have used them at home and may simply need extra instruction and opportunity to practice in order to acquire that skill. Another child may be having difficulties using scissors in the classroom but may need more direct teaching or the option to use different types of scissors. Other children may have underlying challenges with motor skills and will require specific accommodations.

Together, the educator and therapist try different strategies to determine how to support the child in a scissor-cutting activity and to decide if there is a need for additional intervention for this child. **This determination of need is done in context** and is also based on the therapist and educator's observation of the child on the playground, in the gym and in other classroom activities.

A video of a therapist using differentiated instruction can be found [here](#). The therapist and educator begin to look at smaller groups of students who are having difficulty performing grade-level activities, despite prior exposure to class-wide strategies at the Universal Design for Learning tier.

Accommodation: What does this look like in the P4C model?

By the time the accommodation level is reached, the P4C therapist would have tried strategies in the classroom or gym in collaboration with the educator, and determined that a child had more complex needs and required more individualized health care involvement and support. The therapist would obtain health care consent from the family to provide additional support. Accommodation-level intervention might be used with a child individually, in a small group setting, or may consist of provision of specific information, environmental adaptations and strategies. All suggestions are documented and shared with the educator and family.

Students receiving this level of support may require access to technology or accommodations during class activities. These suggestions are built into the child's Individual Education Plan (IEP). In all cases, families are aware of issues and have provided health care consent so the student can have these strategies and accommodations put in place. If the P4C OT determines

that there is a need for involvement of another health or education professional, that recommendation can be made.

True Story: P4C Results in Student Success

The Partnering for Change (P4C) occupational therapists (OTs) were able to provide varying levels of support for children and educators throughout the two years of service provision at the school. Children whose needs were not met through whole class strategies received increased service and support to enable improved participation.

Trevor's Story*

OTs delivering the P4C model provide services that result in increased child participation and success at school. One of the most powerful ways to convey what the P4C service looks like is to present a true story of one child in this study.

**Names have been changed.*

Grade One

The OT was amazing. She provided great tools and resources to support Trevor. She was very patient and consistently concerned about his progress...we were very lucky to have her in our school for support!

— Educator

The P4C OT was invited into Ms. Marsh's Grade 1 class in October 2013 to observe the students participating in varied motor-based activities, including printing and gym. A few students were having challenges with printing, scissor use, organizing their belongings, ball catching and/or movement in gym. The P4C OT and teacher decided it would be helpful if the OT modelled strategies to incorporate when teaching motor-based tasks. The P4C OT taught two full class lessons on letter formation using a multisensory approach, with step-by-step verbal instructions, hands-on materials and visual demonstration. Ms. Marsh began to use these strategies as she supported her students in developing their printing skills.

Trevor continued to struggle, holding the pencil in an awkward manner with a slight tremor, exerting excessive pressure, forming the letters in inefficient ways, having a slouched posture at his desk. He struggled with organizing his work on the lines and on the page. In gym, the P4C

OT observed Trevor to frequently fall, bump into other students and have difficulty with throwing and catching a ball. The P4C OT noticed that Trevor's "cubby" was disorganized, with many items on the floor rather than on the hooks, and that he was the last one into the classroom after outdoor time. The P4C OT reviewed these "red flags" for Developmental Coordination Disorder (DCD) with Ms. Marsh and provided her with some reading material. They decided together that the P4C OT should contact the family to determine if there were motor concerns at home, and to obtain informed consent for the P4C OT to work more closely with Trevor, his teacher and family to support his motor development and successful participation at school and home. The family confirmed challenges with Trevor's ball skills, use of tools such as scissors and dressing skills. Throughout Grade 1, the P4C OT worked with Trevor in the classroom to trial strategies to support the development of scissor skills, typing and printing skills, ball skills in gym and independence with clothing, lunch and knapsack management. The P4C OT shared successful strategies with Ms. Marsh and his family through regular discussions and the provision of written resources, tips and strategies.

Grade Two

In Grade 2, concerns increased about Trevor's impulsivity and his ability to attend and focus. The P4C OT was asked to consult around self-regulation strategies. The Sensory Profile was completed and additional strategies were implemented, including frequent movement breaks, a cushion on his chair to provide movement when seated, the use of fidget toys and a quiet area for work completion. The P4C OT provided an equipment recommendation to the school identifying the appropriate sensory tools for Trevor. She continued to support Trevor, implementing strategies such as changing the location of his desk to improve visual access to the board, modifying his agenda with adapted paper, continuing to support the development of his written productivity with paper/pencil and use of technology.

Comparing the P4C Service with Typical Service Provision

In the traditional model, the earliest Trevor would be referred for P4C OT support would be in Grade 1. The teacher would present his case to an in-school team meeting and complete a package of information to accompany the OT referral to the CCAC. He would remain on a 1-2 year wait list for service, likely not seeing an OT until late Grade 2 or more likely Grade 3.

Over the two years when he was receiving P4C service, Trevor completed Grade 1 and 2. The P4C OT worked with Trevor in the classroom or gym on curriculum-based activities on 16 occasions. She consulted with educators on 12 occasions and with Trevor's mother in person or on the telephone on 11 occasions. Successful strategies were shared, Trevor's progress was monitored and collaborative problem-solving and coaching were part of these consultations in order to build the capacity of Trevor's mother and teacher to manage new challenges as they arose. Issues that were addressed spanned all areas, including:

- self-care tasks such as teaching shoelace tying and managing the zipper on his knapsack

- written productivity including strategies such as use of adapted paper, multi-sensory teaching techniques and the introduction of technology and keyboarding
- organization of materials through the use of colour coding, and graphic organizers
- sports and leisure through step-by-step instruction for new motor skills in gym, and the recommendation of a summer camp to master bike riding
- sensory tools and strategies to support self-regulation, focus and attention
- environmental changes including location of locker and desk

On the Movement Assessment Battery for Children-2, which was administered in April 2015 (end of Grade 2) as part of this research project, Trevor scored below the first percentile, indicating a definite motor impairment. The P4C OT identified these motor challenges early in Grade 1 through observation and dynamic performance analysis in the classroom, hallways and gym; supported educators and family in understanding the impact on Trevor's participation and performance at school and home; and worked collaboratively to identify strategies and accommodations to support Trevor's performance.

At the end of the project, Trevor's mother reported that she had received information from the OT verbally and in writing which increased her understanding of her son's needs. She also shared resources with other family members. On a scale of 1 (not at all) to 7 (to a very great extent), Trevor's mother gave a score of 7 to the question *"Were you satisfied with the Partnering for Change Occupational Therapy Service?"*

Trevor's Grade 2 teacher wrote *"The OT was amazing. She provided great tools and resources to support Trevor. She was very patient and consistently concerned about his progress. She communicated with mom on a need-to-know basis and provided strategies for the home. We were very lucky to have her in our school for support!"*

What is the Partnering for Change Study?

The Partnering for Change (P4C) Implementation and Evaluation study examined the impact of delivering the P4C model in 40 schools, within two Community Care Access Centres (CCACs) and three school boards over the course of two school years. Data were collected from educators, parents, CCAC and school systems, and occupational therapists (OTs) to: describe the children identified using this model; determine child outcomes; measure change in the capacity of educators and families to support children's participation; and understand the costs, supports and barriers to implementation of this model.

- ✔ The P4C research project is based on an integrated approach to knowledge translation and use of participatory action research to ensure relevance to varied stakeholders who are interested in best practice for children with special needs.
- ✔ Quantitative and qualitative research methodologies were utilized to enable determination of child, parent, educator and system outcomes, and to understand the supports, barriers, and activities required for effective, transformative service delivery.
- ✔ The P4C research project is evidence-based and is supported by a multidisciplinary team of researchers.

Description of the Research Study

The Partnering for Change: Implementation and Evaluation study received funding from the Ontario Ministry of Health and Long-Term Care (2013–2015) to examine the impact of the P4C model in 40 schools within three school boards through partnerships with the Central West and Hamilton, Niagara, Haldimand, Brant Community Care Access Centres. The Ontario Ministry of Education funded further evaluation of the P4C model of service in the 2014–2015 school year.

- ✔ Schools that participated in the project varied in size, location and socioeconomic distribution to enable consideration of the model's impact in different school settings and school cultures.
- ✔ Two Community Care Access Centres (CCACs) funded the services to enable study of different service provider organizations and varied processes for managing caseloads and waitlists.

Partnering with CCACs

For the two years of the P4C Research project, occupational therapy health services were provided by two Community Care Access Centres:

- **Central West (CW) CCAC**, at 20 schools
- **Hamilton Niagara Haldimand Brant (HNHB) CCAC**, at 20 schools



The project began with the establishment of a Steering Committee to provide governance, advice, and review of deliverable reports for the two years of the study. A multi-disciplinary team of scientists at CanChild worked with partners in the CCAC. A Working Group was established to develop the specific steps needed for implementation and careful evaluation of the P4C model. The Steering Committee and Working Group also included representation from Toronto Central CCAC. As the project evolved, it became apparent that providing P4C services in schools in the Toronto District School Board was not feasible at that time; however, Toronto Central CCAC continued to be very supportive of the P4C project.

A detailed ethics proposal was submitted to the Hamilton Health Sciences and McMaster University Research Ethics Board. Once approval had been obtained, similar proposals were submitted for review by both CCACs and then by each of the three school boards. Ethics approval was renewed each year. Any changes to the research process were submitted as amendments and received approval.

Once approval was received from all ethics boards, members of the P4C research team and representatives from each CCAC met with school board administration to describe the study and to determine which schools would be involved. Throughout the project, investigators and P4C staff gave numerous workshops and presentations at school board or CCAC levels to support the paradigm shift that was taking place through this transformation of service provision.

Occupational therapy services provided via the model were funded by CW and HNHB CCACs, and were delivered and evaluated in 40 elementary schools across three school boards.



Arnott Charlton
Caledon Central
Dunrankin
Eldorado
Grenoble
Marvin Heights
Palgrave
Ridgewood
Sir Winston Churchill
Springdale

Brant Hills
C.H. Norton
Dr. Charles Best
Glenview
John T. Tuck
Lakeshore
Mohawk Gardens
Paul A. Fisher
Ryerson
Tecumseh

Annunciation of Our Lord
St. John Paul
Immaculate Conception
Our Lady of Lourdes
Our Lady of Mount Carmel
St. Brigid
St. David
St. Joachim
St. Luke
St. Patrick

Beryl Ford
Conestoga
Eastbourne
Fairlawn
Madoc
Massey Street
Ridgeview
Russell D. Barber
SouthFields Village
Terry Fox

Expanded Service

In the 2014–2015 school year, the Central West CCAC expanded the OT service to 20 schools in two additional school boards, Upper Grand District School Board and Dufferin-Peel Catholic District School Board. At the conclusion of the study, P4C was being offered in 60 schools across five school boards.

Workshops and Presentations

Invited Presentations about Partnering for Change

McGillivray, P., Gagnier, C., Talag, A., & Delaney L. (accepted). **Promising Practices in School Based OT: A Panel Discussion.** Presentation to be given at the 2015 Ontario Society of Occupational Therapists (OSOT) Conference, Kingston, ON. September, 2015.

Bennett, S., & Missiuna, C. (2015). **Partnering for Change: An Innovative Service with Relevance to the Special Needs Strategy.** Invited presentation given at the Regional Superintendents of Special Education Conference, Niagara on the Lake, Ontario. May, 2015.

Campbell, W. (2015). **Partnering to Implement a New School-Based Health Care Service Delivery Model: Lessons Learned from Implementation Science.** Invited presentation given at the Chedoke Grand Rounds, Chedoke Hospital, Hamilton, ON. May, 2015.

Campbell, W. (2015). **Partnering to Implement a New School-Based Health Care Service Delivery Model: Lessons Learned from Implementation Science.** Invited presentation given at the School of Rehabilitation Science Research Rounds, McMaster University, Hamilton, ON. April, 2015.

Missiuna, C., Bennett, S., & Floyd, K. (2015). **Partnering for Change: An Innovative Service with Relevance to the Special Needs Strategy.** Invited presentation given to the Toronto and Area Regional Office (TARO) Regional Special Education Advisory Committee (RSEC) at the Peel District School Board office, Mississauga, Ontario. February, 2015.

Missiuna, C., & Campbell, W. (2015). **Partnering for Change: An Innovative Service with Relevance to the Special Needs Strategy.** Invited presentation given at the Special Needs Strategy biweekly meeting for 18 invitees from the MOHLTC, EDU, MCYS and MCSS, Toronto, Ontario. February, 2015.

Missiuna, C., Bennett, S., & Campbell, W. (2015). **Partnering for Change: An Innovative Service with Relevance to the Special Needs Strategy.** Invited presentation given for the Special Education Policy and Programs Branch, Ministry of Education, Toronto, Ontario. January, 2015.

Ainsley, J., & Patterson, K. (2015). **Are they ready to write?** Invited presentation given for the Love of Literacy Conference, Burlington, Ontario. April, 2015.

Floyd, K., & Haughton, D. (2014). **Partnering for Change: From Research to Implementation in the School Health Support Service Program.** Invited presentation given at the Ontario Association of Community Care Access Centres (OACCAC) Conference, Toronto, Ontario. June, 2014.

Missiuna, C., Campbell, W., Gaines, B. R., & Pollock, N. (2014). **A new approach to school-based intervention for children with Developmental Coordination Disorder.** Invited presentation given to the Peel District School Board Speech Language Pathologists, Mississauga, Ontario. January, 2014.

Dix, L., Missiuna, C., Pollock, N., & Campbell, W. (2013). **Partnering for Change: Working to build capacity through coaching and collaboration in school contexts.** Invited presentation given to the Peel District School Board Special Education Resource Teachers, Mississauga, Ontario. December, 2013.

Missiuna, C., & Pollock, N. (2013). **Partnering for Change: Identifying and managing children with Developmental Coordination Disorder.** Invited presentation given to the Peel District School Board Psychologists, Mississauga, Ontario. November, 2013.

Pollock, N., Campbell, W., & Missiuna, C. (2013). **Partnering for Change: Building capacity through coaching and collaboration in school contexts.** Invited presentation given to the Peel District School Board Special Education Advisory Committee, Mississauga, Ontario. November, 2013.

Missiuna, C., Dix, L., Pollock, N., & Campbell, W. (2013). **Implementing and evaluating Partnering for Change: Project overview.** Invited presentation given to the Peel District School Board Itinerant Teachers and Consultants, Mississauga, Ontario. November, 2013.

Dix, L., Missiuna, C., Pollock, N., & Stewart, D. (2013). **Partnering for Change: Working with children with Developmental Coordination Disorder.** Invited presentation given to the Hamilton Wentworth Catholic District School Board, Hamilton, Ontario. November, 2013.

Peer Reviewed Presentations and Workshops

Camden, C., Campbell, W., Stewart, D., Dix, L., McCauley, D., & Missiuna, C. (accepted). **Implementing a new school-based occupational therapy service delivery model: What do stakeholders say about access, service quality, and sustainability.** Poster to be presented at the 2015 Canadian Association of Paediatric Health Centres (CAPHC) Annual Conference, Quebec City, Quebec, October, 2015.

Wlodarczyk, K., Pollock, N., Dix, L., Campbell, W., Sahagian Whalen, S., & Missiuna, C. (2015, July). **Classroom strategies and support for children with Developmental Coordination Disorder.** Poster presented at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Stewart, D., Hecimovich, C., Pollock, N., Campbell, W., Camden, C., Bennett, S., Gaines, R., McCauley, D., Cairney, J., O'Reilly, D., Floyd, K., Haughton, D., Wlodarczyk, K., Dix, L., DeCola, C., & Missiuna, C. (2015, July). **Partnering for Change: An innovative and evidence-based model for managing children with developmental coordination disorder in school settings.** Poster presented at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Gaines, R., Campbell, W., DeCola, C., Pollock, N., Bennett, S., Camden, C., McCauley, D. & Missiuna, C. (2015, July). **Evaluating the Partnering for Change service delivery model: Teachers' pre-intervention evaluation of school functioning in children with Developmental Coordination Disorder.** Poster presented at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Missiuna, C., Campbell, W., Pollock, N., DeCola, C., & McCauley, D. (2015, July). **Finding the children who "fall through the cracks": Describing children with developmental coordination disorder who are identified using the Partnering for Change service delivery model.** Oral presentation given at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Missiuna, C., Pollock, N., Whalen, S.S., Dix, L., & Stewart, D. (2015, July). **Innovations in management of Developmental Coordination Disorder in the schools: What does it take to shift occupational therapy practice?** Poster presentation given at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Campbell, W., Bennett, S., Camden, C., Gaines, R., Pollock, N., McCauley, D., DeCola, C., Cairney, J., & Missiuna, C. (2015, July). **Children with suspected Developmental Coordination Disorder: What do parents and teachers say about their social-emotional and behavioral functioning?** Poster presentation given at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Campbell, W., Camden, C., Stewart, D., Graham, E., Dix, L., & Missiuna, C. (2015, July). **Evidence-Based Management of Children with DCD: What Can Implementation Science Offer?** Oral presentation given at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Camden, C., Campbell, W., Stewart, D., Hecimovich, C., Dix, L., Floyd, K., Haughton, D., Graham, E., McCauley, D., & Missiuna, C. (2015, July). **Implementing the “Partnering for Change” service delivery model: What do stakeholders say?** Oral presentation given at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Bennett, S., Campbell, W., Camden, C., Dix, L., Pollock, N., Wlodarczyk, K., & Missiuna, C. (2015, July). **School-based educators and occupational therapists collaborating to support students with developmental coordination disorder (DCD).** Oral presentation given at the 11th International Conference on Developmental Coordination Disorder (DCD 11), Toulouse, France.

Camden, C., Campbell, W., Stewart, D., Dix, C., McCauley, D., & Missiuna, C. (2015, May). **Processus d’implantation et résultats associés au modèle de services “Partnering for Change” pour les enfants d’âge scolaire: Qu’en pensent les principaux acteurs?** Oral presentation given at the Congress in Adaptation-Rehabilitation Research, Boucherville, Quebec.

Camden, C., Campbell, W., Shikako-Thomas, K., & Thomas, A. (2015, May). **Bridging the Research-to-Practice Gap with Implementation Science: Perspectives of Rehabilitation Clinician Scientists.** Canadian Association for Health Services and Policy Research (CAHSPR) Conference, Montreal, Quebec.

Campbell, W., Camden, C., Stewart, D., Graham, E., Dix, L., & Missiuna, C. (2015, May). **Partnering to Implement a New School Health Service Delivery Model for Children with Chronic Conditions: Reflections and Lessons Learned.** Oral presentation given at the annual conference of the Canadian Association of Health Services and Policy Research (CAHSPR) Conference, Montreal, Quebec.

Camden, C., Campbell, W., Stewart, D., Dix, L., McCauley, D., & Missiuna, C. (2015, May). **Implementing a new school-based occupational therapy service delivery model: What do stakeholders say about access, service quality, and sustainability?** Poster presented at the annual conference of Canadian Association for Health Services and Policy Research (CAHSPR) Conference, Montreal, Quebec.

Floyd, K., & Haughton, D. (2015, May). **Partnering for Change: From Research to Implementation in the School Health Support Service Program.** Presentation given at Achieving Excellence Together — the 2015 Ontario Association of Community Care Access Centres (OACCAC) annual conference, Toronto, Ontario.

Pollock, N. (2015, May). **Partnering for Change: An innovative and evidence-based model for school-based occupational therapy.** Presentation given at the Child Health Symposium at Western University, London, Ontario.

Floyd, K., & Haughton, D. (2014, November). **Partnering for Change: From Research to Implementation in the School Health Support Service Program.** Poster presented at the Health Quality Transformation Conference, Toronto, Ontario.

Bennett, S., & Wlodarczyk, K. (2014, November). **Partnering for Change: Building Educator Capacity and Improving Outcomes for Students with Developmental Co-ordination Disorder**. Oral presentation given at the Ontario Council for Exceptional Children (CEC) 58th Annual Special Education Conference, Niagara Falls, Ontario.

Wlodarczyk, K. (2014, November). **All for one and one for all: Coaching Education for Change**. Oral presentation given at the CanChild Family Engagement Day, Hamilton, Ontario.

Pollock, N., Carson, S., Gerber, L. (2014, November). **Identification, Diagnosis and Management of Children with Developmental Coordination Disorder**. Presentation given at the Annual Scientific Assembly (ASA) 52, Premier Family Medicine Conference, Toronto, Ontario.

Campbell, W. (2014, November). **Moving Research Evidence into Practice: Practical Tips & Strategies From Implementation Science**. Presentation given at the American Speech-Language Hearing Association Annual Conference, Orlando, Florida.

Missiuna, C., Pollock, N., Hecimovich, C., Bennett, S., Gaines, R., Campbell, W., Stewart, D., Camden, C., McCauley, D., DeCola, C., Dix, L., Whalen, S., Wlodarczyk, K., & Cairney, J. (2014, June). **Partnering for Change: An innovative model for providing OT services in school settings**. Paper presented at the 16th International Congress of the World Federation of Occupational Therapists, Yokohama, Japan.

Rivard, L., Camden, C., Pollock, N., & Missiuna, C. (2014, June). **The utility of a new online clinical tool for physiotherapists managing children with developmental coordination disorder: Impact on self-reported knowledge, skills, and practice**. Paper presented at the Annual Congress of the Canadian Physiotherapy Association, Edmonton, Alberta.

Camden, C., Rivard, L., Pollock, N., & Missiuna, C. (2014, May). **Promoting activity and participation: Development and impact of an online educational resource for clinicians working with children with developmental coordination disorder**. Paper presented at the 19th Congress of the French Society of Physical Medicine and Rehabilitation and the 19th European Congress of Physical Medicine and Rehabilitation, Marseille, France.

Campbell, W., Missiuna, C., Pollock, N., & Gaines, R. (2014, May). **Partnering for Change: An innovative model of collaborative service delivery**. Poster presented at the 2014 Bi-Annual Convention of the Canadian Association of Speech-Language Pathologists and Audiologists, Ottawa, Ontario.

Missiuna, C., Pollock, N., Hecimovich, C., Gaines, R., Bennett, S., Campbell, W., Camden, C., Cairney, J., & DeCola, C. (2013, October). **Partnering for Change: transforming health services for children with DCD**. Poster presented at the European Academy of Childhood Disability Conference, Newcastle, United Kingdom.

Camden, C., Wilson, B., Kirby, A., & Missiuna, C. (2013, June). **Best practice principles in Developmental Coordination Disorder: A scoping review**. Paper presented at the DCD X International Conference on Developmental Coordination Disorder. Ouro Preto, MG Brazil.

Missiuna, C., Pollock, N., Hecimovich, C., Whalen, S., Gaines, R., Bennett, S., Campbell, W., Levac, D., Rivard, L., DeCola, C., & Cairney, J. (2013, June). **Partnering for change: Transforming health services for children with developmental coordination disorder in school settings**. Poster presented at the DCD X International Conference on Developmental Coordination Disorder, Ouro Preto, MG Brazil.

Missiuna, C., Pollock, N., Camden, C., Rivard, L., Wlodarczyk, K., Wilson, B., Gaines, R., Bennett, S., DeCola, C., & Cairney, J. (2013, June). **Developing and evaluating resources to promote understanding of DCD**. Resources presented at the DCD X International Conference on Developmental Coordination Disorder, Ouro Preto, MG Brazil.

Camden, C., Rivard, L., Missiuna, C., & Pollock, N. (2013, June). **Evaluation of an online workshop to support evidence-based physiotherapy management of children with DCD.** Paper presented at the DCD X International Conference on Developmental Coordination Disorder, Ouro Preto, MG Brazil.

Rivard, L., Camden, C., Missiuna, C., & Pollock, N (2013, June). **Knowledge-to-Action: involvement of physiotherapists in developing an online workshop to support management of children with DCD.** Paper presented at the DCD X International Conference on Developmental Coordination Disorder, Ouro Preto, MG Brazil.

Rivard, L., Camden, C., Pollock, N., & Missiuna, C. (2013, May). **Knowledge-to Action: Involvement of physiotherapists in developing an online workshop to support management of children with developmental coordination disorder.** Poster presented at the Canadian Child Health Clinician Scientist Program 11th Annual Symposium, Toronto, Ontario.

Rivard, L., Camden, C., Pollock, N., & Missiuna, C. (2013, May). **Knowledge-to Action: Involvement of physiotherapists in developing an online workshop to support management of children with developmental coordination disorder.** Poster presented at the McMaster University Faculty of Health Sciences 2013 Research Plenary, Hamilton, Ontario. *Poster awarded an Excellence in Poster Presentation Award.

Wilson, B., Kirby, A., Camden, C., & Missiuna, C. (2013, May). **Best Practice Principles in Developmental Coordination Disorder: A scoping review.** Extended discussion presented at the Canadian Association of Occupational Therapists' National Conference, Victoria, British Columbia.

Invited Keynote Speeches

Missiuna, C. (2014, May). **Implementing and Evaluating Partnering for Change: Project Overview.** Keynote speaker at a forum in Cardiff, Wales.

Missiuna, C. (2014, May). **Putting the “O” back in: The Challenges and opportunities of occupation centred practice.** Keynote speaker at the Association of Occupational Therapists Conference. Wexford, Ireland.

Missiuna, C. (2014, May). **Count me in: Putting the “O” back in OT.** Keynote speaker at the Research in Child and Youth Occupations Conference, London, England.

The P4C Occupational Therapy Service Evaluated

Occupational therapy services delivered in the Partnering for Change (P4C) model differ significantly from the type of service that occupational therapists (OTs) have previously provided. Although OTs still provide strategies and suggestions for individual children with special needs, in a response to intervention pyramid, the OT works first on translating knowledge about universal design for learning and supporting educators in differentiating instruction. This tiered approach reaches far more children.

- ✔ Although tiered-models of rehabilitation service using principles similar to Partnering for Change are being used in other regions of Canada and the United Kingdom, they are not being systematically evaluated.
- ✔ Children receiving P4C services were seen immediately, whether they were referred by the Community Care Access Centre (CCAC) from waitlists or were identified by the P4C OT as needing health care service.

A Paradigm Shift

In Year 1, 15 OTs provided P4C services, one day each week at the same elementary school. OTs were assigned to each school and provided services starting in November, 2013.

Staffing changes resulted in additional OTs being trained and providing service in the second year of the study. In Year 2, 17 OTs provided P4C services at the same frequency (one day per week) in the same 40 elementary schools; some OTs had fewer schools than in the previous year. These OTs were able to start at their P4C school during the last week of August, 2014 to enable relationship building and support with classroom design.

The research ethics board requirements and discussions with the College of Occupational Therapists of Ontario resulted in the following process: All parents in each school received a letter at the start of each school year describing the P4C Model of service. The letter explained the role of the P4C OT and informed parents about the types of activities and services that the P4C OT would be providing. The letter clearly stated that, if any child was having more problems learning motor skills than was typical for his/her age; parents would be contacted. Families were also provided with contact information if they had any questions. Families whose children had not received service but who were concerned that their child had motor challenges were also invited to contact the P4C OT or project coordinator (family or self-referral). This letter served to notify families about the OT services being provided at the Universal Design for Learning and Differentiated Instruction tiers of the P4C Model.

During the project, children in each school who were on either the active caseload or waitlist of the CCAC for school health occupational therapy services (and who were anticipated to have motor coordination difficulties) were transferred to the P4C OT for service. Parents of these children provided consent first to the CCAC and then to the P4C OT in order to receive P4C health care services. Children who were passed on to the P4C OT had been on the waitlist from one to two years on average.

The P4C OTs also observed children in classrooms and, in collaboration with educators, identified additional children who required occupational therapy services. P4C OTs contacted parents directly to seek health care consent and then informed the CCAC that the child would be able to receive P4C services right away. There is no need for a waitlist in the P4C model of service. The family also knows who will be providing the service and has spoken to that OT to give health care consent.

At the end of Year 1, early results were examined and discussed with the Steering Committee and the Working Group, as well as designated representatives from each school board. Any recommended changes were implemented (e.g. a presentation and question-and-answer session was given by investigators to familiarize all principals in the Peel District School Board with the P4C Model). OT training and mentorship was also modified to enhance the OTs' ability to provide P4C services. Some school and CCAC procedures also changed in Year 2 and are described in the [Findings section](#).

Occupational Therapist Training in the Research Study

Occupational therapists delivered school-based services to children in 40 schools in a different way; moving from a direct, one-to-one intervention model targeting motor impairment to a population-based approach. The OTs who delivered the Partnering for Change (P4C) service

received extensive training and support. A comprehensive educational and mentorship program developed by the research team and expert clinicians facilitated this significant shift in practice.

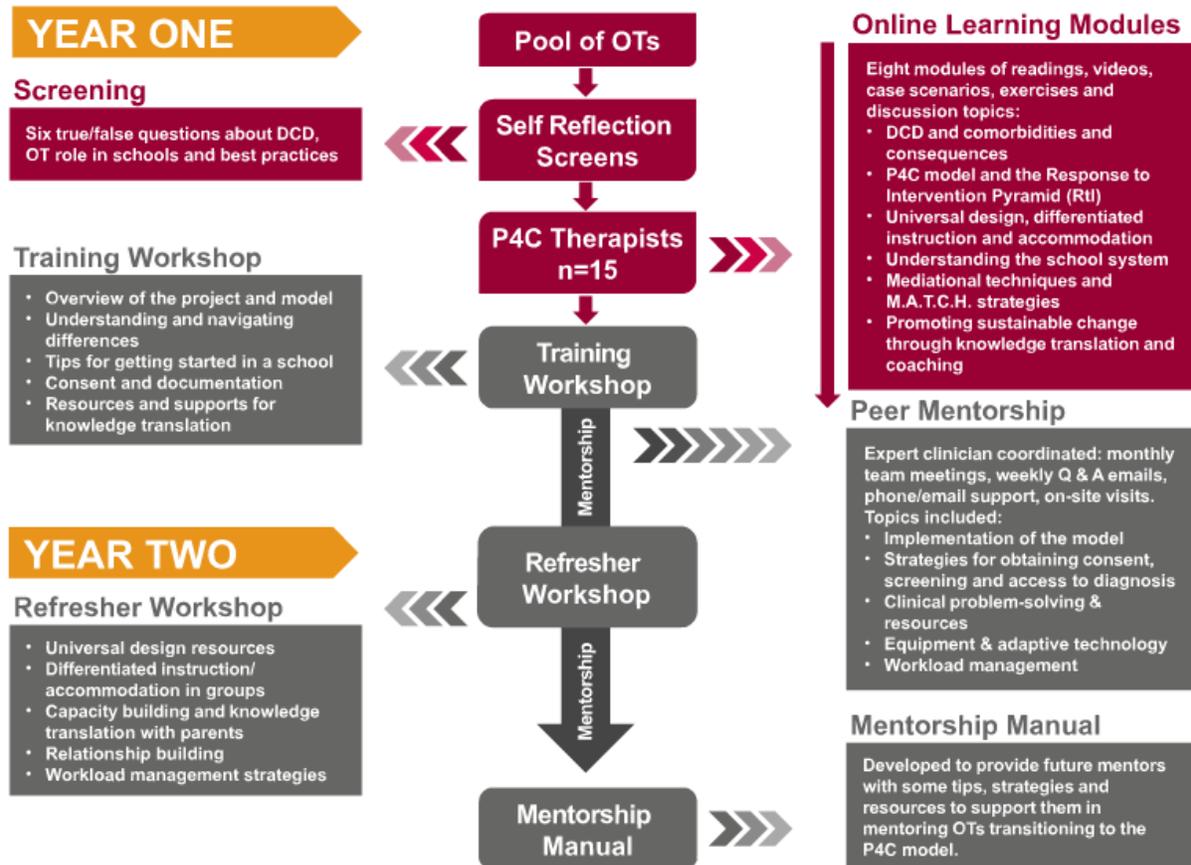
- ✔ All P4C OTs attended training workshops and received ongoing mentorship each month.
- ✔ P4C training was evidence-based and delivered by expert clinicians who had prior experience delivering the P4C model of service.

Extensive Training

All 22 of the OTs who provided P4C services across the two years of the project participated in training at the start of each school year, completed eight learning modules, and received ongoing mentorship from an expert OT who led monthly meetings in each region. It is important to note that the study initially focused on service provision to children who had Developmental Coordination Disorder (DCD). The focus shifted in Year 2 to include other children with diverse special needs.

- **Module 1:** Developmental Coordination Disorder (DCD) (Part 1)
- **Module 2:** DCD (Part 2) Secondary Complications and Co-Occurrences
- **Module 3:** Introduction to the P4C Model and Promoting Sustainable Change
- **Module 4:** Understanding the Ontario School System: Speaking the Same Language
- **Module 5:** Understanding the P4C Model: The Response to Intervention Pyramid (Rtl)
- **Module 6:** Assessment within the P4C Model
- **Module 7:** OT Skills for the Tip of the Rtl Pyramid – Mediation Techniques and M.A.T.C.H. Strategies
- **Module 8:** Promoting Sustainable Change through Knowledge Translation and Coaching

This diagram illustrates the process used to select, train and support OTs as they provided the P4C service. The OTs providing service at the expansion schools in Year 2 also completed the eight learning modules and participated in a training workshop at the start of service provision.



Partnering for Change Evaluation Process

The Partnering for Change model was evaluated over two years to enable collection of important information that will guide further strategic planning and program implementation within school health. Evaluation consisted of measurement of child, family, educator, occupational therapist and health system outcomes using multiple standardized assessments, questionnaires, focus groups and interviews.

- ✓ Qualitative and quantitative methodologies were used to enable multiple perspectives to be explored and to ensure a thorough understanding of the processes, outcomes and benefits of the P4C model.
- ✓ Data were collected from educators, families, occupational therapists, and children in all elementary schools that received the P4C service.

Research Objectives

Research objectives were identified at the beginning of the study and were addressed and evaluated during the two years:

- Build capacity in school boards, schools and among educators
- Build capacity among families for self-management

- Describe children who are identified and served using the P4C Model
- Describe any change in individual child outcomes
- Identify any barriers to implementation and developing solutions
- Determine the cost of Partnering for Change service delivery

Methods of Evaluation: Quantitative

Quantitative evidence was collected from parents, educators and OTs over two school years: Year 1 (November 2013 to June 2014) and Year 2 (September 2014 to June 2015).

Describing the Children, Individual Child Outcomes and Parent Capacity-Building

Families were recruited into the study during Year 1. Data were collected from parents in the first year to describe the children and in the second year, to understand the specific impact for children receiving the P4C service. OTs seeking consent for a child to receive health care services asked families if they were willing to hear more about the research study. Families were informed that participation in the study was voluntary and would not impact delivery of the P4C health service. Those families who agreed to hear more information about the study received a phone call from a project coordinator describing the study. 392 families agreed to receive information about the study. The project coordinator (rather than the OT) obtained additional consent from families for participation in the study.

The OTs obtained health care consent for 592 children to receive the P4C service:

- 346 families who provided health care consent did not want to be research participants.
- 246 families who provided health care consent also agreed to be part of the two year study.

Parents who consented to participate in the study completed pre- and post-standardized measures in Year 1 (T1) and Year 2 (T2); pre-measures were completed in the first year as parents enrolled in the study and post measures were completed in the spring/summer of the second year.

They were asked to complete questionnaires either in hard copy or electronically in order to:

- capture demographic information about their family,
- describe their child's coordination issues in activities at home (DCD-Questionnaire) (collected once),
- describe their knowledge about DCD (Parent Knowledge Questionnaire),
- determine their child's participation in different settings: Participation and Environment Measure — Children and Youth (PEM-CY),
- report observations of their child's behaviour: Strengths and Difficulties Questionnaire (SDQ).

At the end of the study, parents were asked some additional questions about capacity and their satisfaction with the P4C OT service.

At the beginning of Year 2, 30 research participants were lost to follow-up. Most of these were children who had moved to middle school or had moved to non-P4C schools. This left 216 participants for the remainder of the study.

The premise of P4C is that OTs can use their knowledge of health and development to observe children's difficulties and do not need to administer standardized assessments in order to suggest and try out solutions in context. For the purpose of describing the children who were served in this study, however, additional consent was obtained from parents to enable a trained research assessor to complete the Movement Assessment Battery for Children (MABC-2) near the end of Year 2. Permission was sought again only from parents who had returned parent packages in Year 1 and who had provided consent. Trained research assistants completed the MABC-2 with 152 children whose families had provided consent for this additional activity.

Educators of the children who were in the study were asked about their Knowledge, Skill and Experience, and about their observations of the child's behaviour (Strengths and Difficulties Questionnaire) and the child's participation in the school (School Function Assessment).

Educators completed these measures at 3 time points:

- when the child was referred into the study in Year 1 (T1)
- the fall of Year 2 when the child was in the next grade (T2)
- the spring of Year 2, usually by the same teacher (T3)

Building Capacity Among Educators

Educators at the 40 research schools who did not have research children in their classroom were also asked to complete an Educator Knowledge, Skill and Experience Questionnaire at four time points:

- fall of 2013; at the start of Year 1 (T1)
- spring of 2014; at the end of Year 1 (T2)
- fall of 2014; at the start of Year 2 (T3)
- spring of 2015; at the end of Year 2 (T4)

Building Capacity Among Occupational Therapists

Twenty two different occupational therapists delivered the P4C service during the two year study: twelve (12) OTs delivered the P4C service for two years; ten (10) OTs delivered it in either Year 1 or Year 2.

All OTs providing the service were asked to complete an Occupational Therapist Knowledge, Skills and Experience Questionnaire at 3 time points:

- fall of 2013; at the start of Year 1 (T1)
- spring of 2014; at the end of Year 1 (T2)
- spring of 2015; at the end of Year 2 (T3)

At the end of Year 2, the OTs completed an Effectiveness of Training measure, to evaluate the effectiveness of the training and mentorship provided. The OTs also completed a Goal Attainment Scale at the end of Year 2, to report their reflection on the extent to which they achieved the goals of P4C in each school.

Describing the Cost of Delivering Partnering for Change

OTs completed an electronic Daily Log for every day they provided P4C services at their assigned research school to record OT services delivered at all levels of the P4C pyramid. A total of 1207 daily logs were collected in Year 1 and 1443 daily logs in Year 2, indicating the total number of days that OTs provided service each year.

OTs also noted on the electronic Daily Log requests they were receiving regarding children with special needs who were not currently receiving P4C but who could be served with the P4C model. In Year 2, these other types of children were added to the P4C OT workload and more children were transferred from the CCAC waitlist. New children continued to be added so that 806 children were considered to be clients of the CCAC across the period of the study (530 in Central West; 276 in HNHB).

Methods of Evaluation: Qualitative

In order to truly understand the implementation process, qualitative evidence was collected from many key stakeholders across the two years. Qualitative data was obtained via stakeholder interviews and focus groups to understand the barriers encountered and to derive potential solutions.

Focus Groups

The occupational therapists (OTs) delivering the P4C service participated in a focus group during each year of service delivery and provided “Pearls of Wisdom” at the conclusion of the study for future OTs; future funders and managers of a P4C model of service; and the P4C research team.

Interviews

Semi-structured qualitative interviews were completed with key stakeholders from the health care and education systems during both years of the project to enable increased understanding of how implementation of the model was experienced. An Implementation Science Framework was used to guide the selection of interview questions. Thematic analysis of the Year 1 interviews informed revision of training and dissemination materials used during Year 2 of the project.

Across the two year study, 51 interviews were conducted by investigators and/or trained staff with:

- 14 education stakeholders (e.g. school board superintendents, principals, special education teachers),
- 12 health care stakeholders (e.g. decision-makers, managers, clinical coordinators),
- 5 occupational therapists,

- 3 research team members,
- 17 educators who had opportunities for collaboration with P4C OTs in support of children with special needs in their classrooms.

Additional data and information was also collected through regular email interactions, phone calls and meetings at multiple levels within the CCACs regarding: health system change, value for money, integration of the service approach and access to timely care.

Implementation Science Framework

Some of the most important evidence that was collected during this study came from systematically interviewing many stakeholders, at all levels of the health and educational systems, as well as the occupational therapists. Interview questions, both for individual interviews and focus groups, were based upon an Implementation Science Framework developed by the research team. Themes that emerged provide guidance for future implementation and sustainability.

- ✔ An implementation science framework was used for thematic content analysis of the interviews and focus groups.
- ✔ Stakeholders at all levels of the health and education system participated willingly in individual interviews.

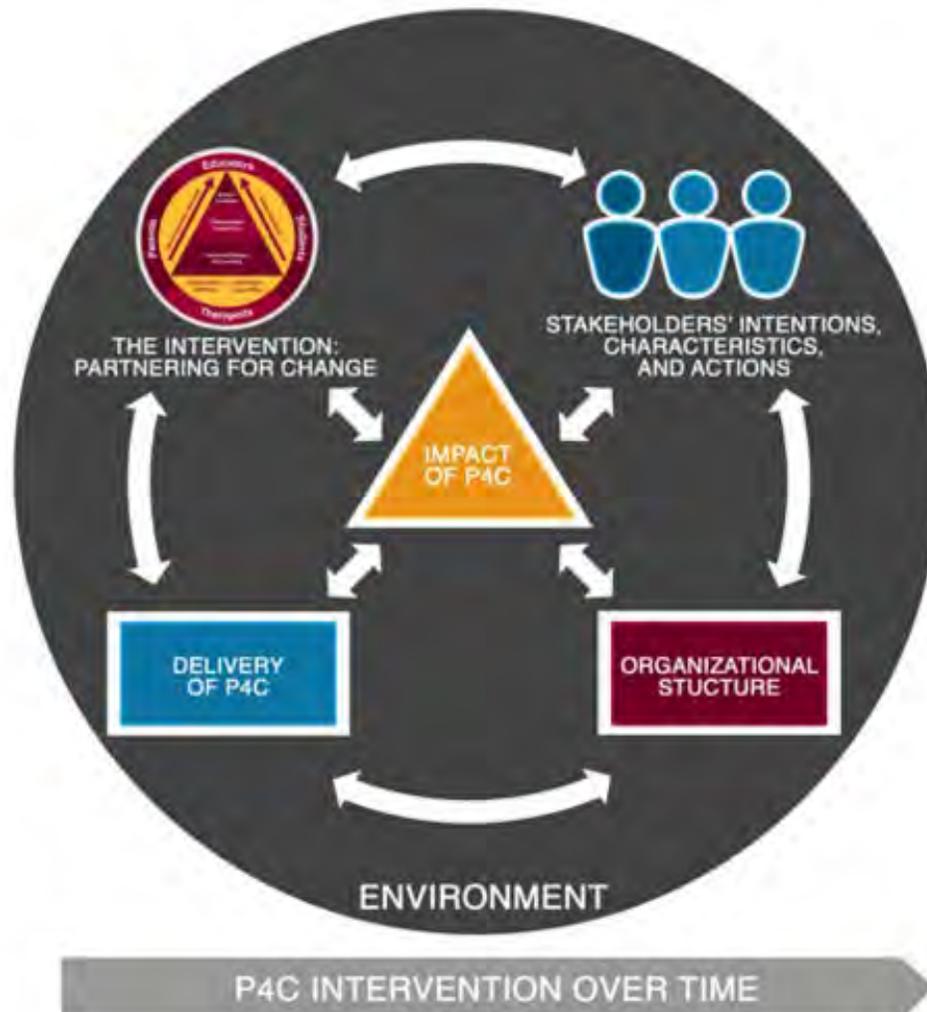
Managing Complexity

Organized action system theories and a socio-constructivist approach to change management served as the basis for the implementation science framework developed by members of the research team. The framework was used to highlight the complex interactions between the factors that influence implementation and the sustainability of the model.^{1,2}

This framework was used to analyze data from many different sources, including 51 interviews and the OT focus groups. Organized action systems theories suggest that individuals and teams from different systems (e.g. health care, education, social services) interact within organizational structures and environmental contexts to produce services and to achieve goals.

Implementation of a new service such as P4C requires management across several systems; knowledge and competencies change along the way at many levels within each system. There is reciprocal influence of the structures that are already in place: of each of the stakeholders and systems, and of the actions that are taken throughout the change process. Studying these interactions allows us to identify specific aspects of implementation of the P4C service and of the elements in each system that might need to change for it to be successful. Themes identified through the content analysis informed Lessons Learned.

A Framework for Studying the Change-Management Process



P4C Intervention

The new service that is being studied using this framework is Partnering for Change, as it was originally designed. It encompasses all the principles of the model itself, the recommendations and the evidence sustaining it, as well as the recommended interventions delivered by the OTs.

Stakeholder Actions, Characteristics and Intentions

This section includes all of the stakeholders involved with P4C (e.g. decision-makers, educators, OTs, principals, client services managers, care coordinators, etc.). The actions of people involved with P4C may be influenced by their organization's structures, resources and regulations; but people can also influence the organization and the environment. Ultimately, decisions are made around the processes involved in delivering P4C, and the outcomes of the intervention. The characteristics of the stakeholder, as well as their perceptions of the P4C

service and of the change required to deliver it, will influence their actions. The intentions of each stakeholder are dynamic and evolve; they include multiple and competing intentions but are focused on the organization's goals and on providing the best care.

Organizational Structure

Organizations (e.g. CCACs, school boards, service provider organizations etc.) are framed in a box since they consist of structures, administrative processes and resources that might be more difficult to change. However, people in those organizations can, by their actions, modify these structural elements to facilitate the implementation process. Their role within the organization, the organizational culture and many other elements in organizations will also come to play.

Service Delivery

The actual production of the P4C service results from the actions of many stakeholders. It is influenced by decision-makers (e.g. how much of the intervention is produced) as well as by the actual knowledge, skills and beliefs of the OTs as they deliver the P4C services. The outcomes of P4C are a result of the OT interventions, and of the way in which P4C was implemented. These outcomes may change, if P4C is implemented differently.

Impact of P4C

What we are trying to determine through interview data, is the extent to which each of these other factors influences the impact of P4C services. Similarly, the success of the P4C intervention can impact on stakeholders' intentions and actions and may lead to organizational change.

Environment

P4C as a new model is being delivered in a societal, political and economic context that influences the delivery of services and the uptake of P4C. The P4C project and its partnerships may also influence the way we think about rehabilitation services for children with special needs. The Ontario Special Needs Strategy is an important part of the current environment in the province.

Intervention Over Time

The arrow at the bottom of the figure represents the evolution of the P4C model over time. The change management and participatory action research activities over the past seven years have influenced the P4C model of service delivery. It is a dynamic and iterative process. In studying the change management process, we are interested in capturing **pre-implementation, implementation and sustainability**.

1. Camden, C., Swaine, B., Tétreault, S., & Carrière, M. (2011). **Going beyond the identification of change facilitators to effectively implement a new model of services: Lessons learned from a case example in paediatric rehabilitation.** *Developmental Neurorehabilitation*, 14(4), 247-260.
2. Camden, C., Campbell, W., Stewart, D., Dix, L., McCauley, D., & Missiuna, C. (2015, May). **Implementing a new school-based occupational therapy service delivery model: What do stakeholders say about access, service quality, and**

sustainability? Poster presented at the annual conference of Canadian Association for Health Services and Policy Research (CAHSPR) Conference, Montreal, Quebec.

Additional Research Activities

During the P4C study, members of the P4C research team provided supervision for Master's Level occupational therapy students completing evidence-based projects (EBP). EBP projects were completed during the study on topics that emerged during the larger project: development of a P4C fidelity measure; the features required for future program evaluation.

- ✔ Essential attributes that distinguish the P4C service from other school-based services are captured in the fidelity measure that is being developed.
- ✔ Program evaluation conducted by organizations evaluating the P4C model of service delivery should include: workload measurement, chart reviews and feedback from families and educators.

Research to Develop a Fidelity Measure

Two of the student projects were focused on developing tools that can soon be used to determine how closely OTs who are providing the P4C model of service adhere to the principles and intent of the model. This process is defined as measuring the fidelity of the service model and is necessary to ensure that P4C is being delivered consistently and reliably over time and across OTs.

The first student project, completed in 2014, used a consensus approach to identify the “core” or essential attributes that distinguish the P4C model of service from other school-based OT models of service.¹ This project was a necessary first step in identifying what unique features would need to be measured in the fidelity tool.

The second student project, completed in 2015, continued this research by developing a process for measuring how the P4C core attributes are implemented. The focus of this study was to develop a checklist that could be used to observe an OT's activities in a school and to record the presence of behaviors consistent with the P4C core attributes. Student research indicated that the core attributes of the P4C service could not all be captured by an observational checklist.² Therefore, it was recommended that a compilation of “fidelity measures” be used that will consist of observation, OT self-report, documentation review, and surveys completed by parents and educators.

Research led by two P4C investigators will continue in 2015–2016 to further develop these measures and to evaluate their reliability and validity.

Research to Inform Program Evaluation

During Year 2 of implementation of the P4C model of service, the Central West CCAC chose to expand and offer P4C in 20 additional schools. A research need emerged: how to effectively evaluate the implementation of the P4C model of service in the expansion schools. Student OTs proposed several ways to evaluate the quality, accountability and outcomes of the P4C service. Consistent with the fidelity research findings, it was recommended that multiple methods of

evaluation be introduced including: workload versus caseload evaluation, chart reviews, and the potential role of CCAC care coordinators in obtaining parent and educator feedback.³

1. Castle, L., Hodson, N., LeBlanc, S. & Poulson, V. (2014). **Recipe for success: Identifying the core ingredients of P4C.** Hamilton ON: McMaster University.
2. Clarke, T., McKibbin, M., So, B., & Warren, E. (2015). **Development of a fidelity measure for Partnering for Change.** Hamilton ON: McMaster University.
3. Lei, J. & Wong, K. (2015). **Partnering for Change: Development of evidence-based recommendations for future program evaluation within the Central West Community Care Access Centre.** Hamilton ON: McMaster University.

Findings from the Partnering for Change Project

Implementation of the Partnering for Change (P4C) model of service delivery resulted in earlier identification of children with special needs. Children who received the service demonstrated increased participation at school. Children with motor coordination challenges and other co-occurring health conditions, who had not previously been recognized, were identified when the occupational therapist (OT) spent regular time observing them in school. No formal assessments or diagnoses were required for service.

- ✔ Far more children were reached by P4C OTs using a tiered approach.
- ✔ Children's ability to participate more independently improved across the school year.
- ✔ Children who were in need of service were identified at a younger age in the P4C model. Relatively more girls were also identified.
- ✔ Children were seen by the P4C OT many times in a year, if needed. The frequency of service was based on need rather than a "one size fits all" approach.

What Was Achieved?

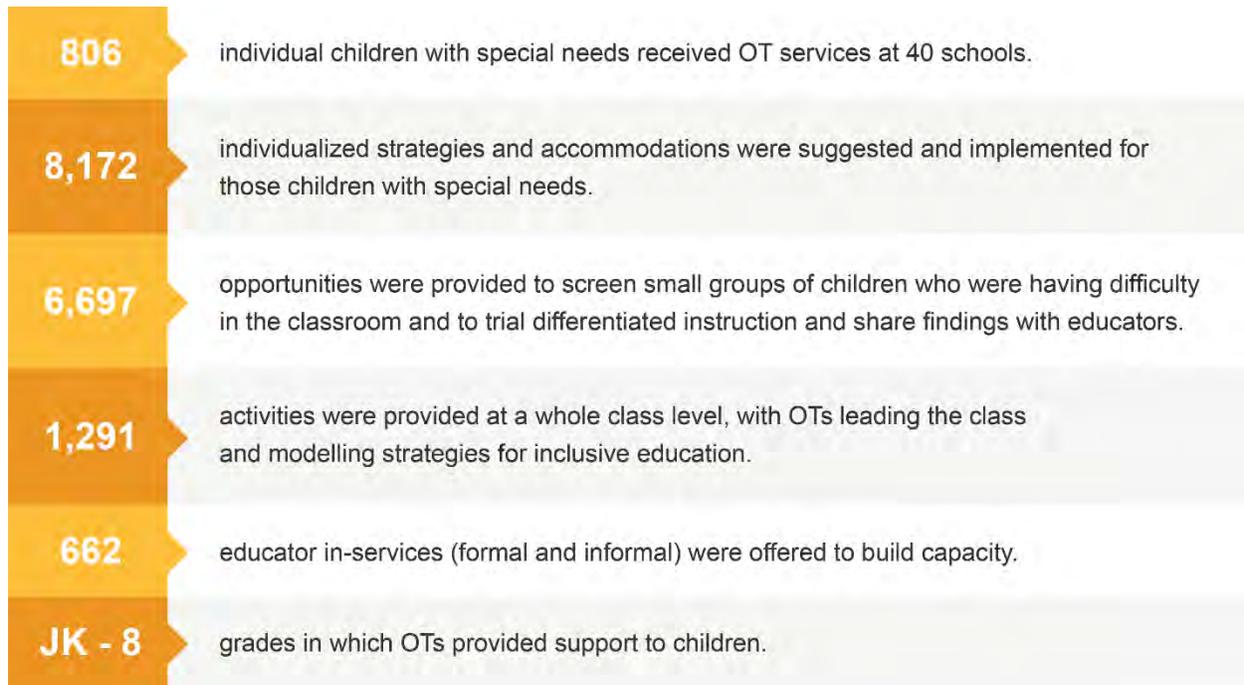
Partnering for Change occupational therapists provided expertise at all levels of the P4C model during two years of service to 40 participating elementary schools. This resulted in more children being reached, children with special needs being seen more frequently as needed, and support being provided in varied ways, depending on the child's unique needs. Additional services, such as informal and formal educational sessions, were offered to build capacity of educators and families to manage children's needs.

- ✔ The services that the OT provided across the two-year period were consistent with the tiered, needs-based focus of the model.
- ✔ Many children were reached at a classroom, group and individual level.

Daily Logs

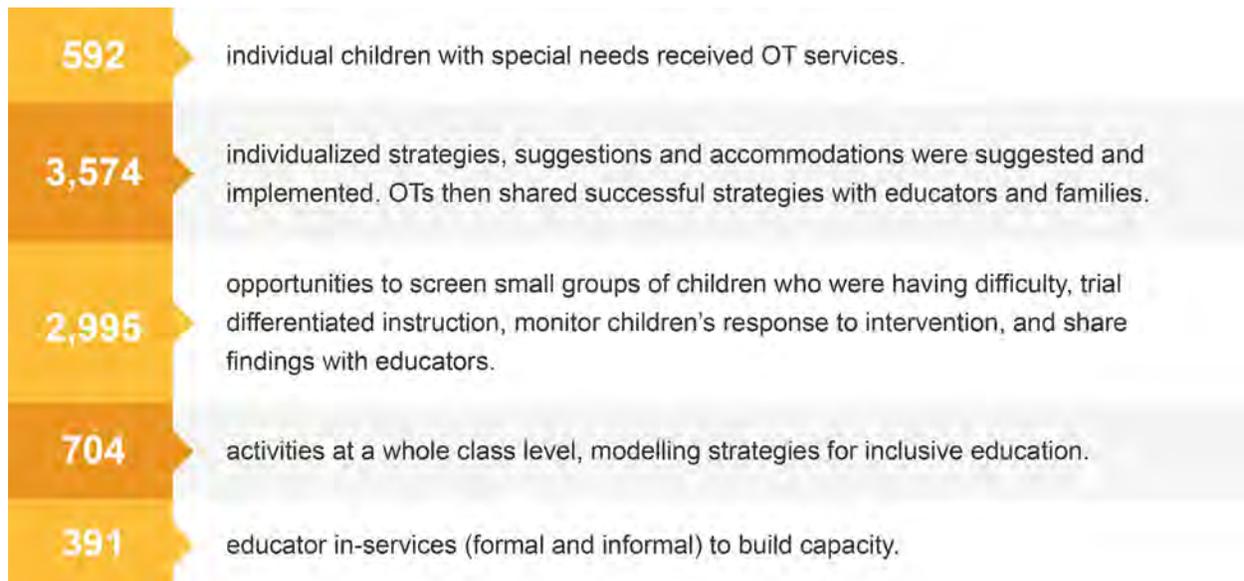
Each working day, P4C OTs recorded the services that they provided to the schools in an online daily log. They were asked to report what they did with their time: working at a full classroom level; working with small groups either to differentiate instruction or to screen children to determine their need for more individualized services; working at the accommodation level in support of individual children for whom health care consent had been received; and providing education to build capacity. We know from reviewing a random selection of charts that the daily logs under-estimated the services that were provided.

Across the two years of the study, the daily logs show:



Year 1 Services

Starting in November 2013 and continuing for the remainder of the 2013–2014 school year, 15 OTs delivered the P4C service one day per school per week (1,207 workdays in total) in 40 schools. They provided:



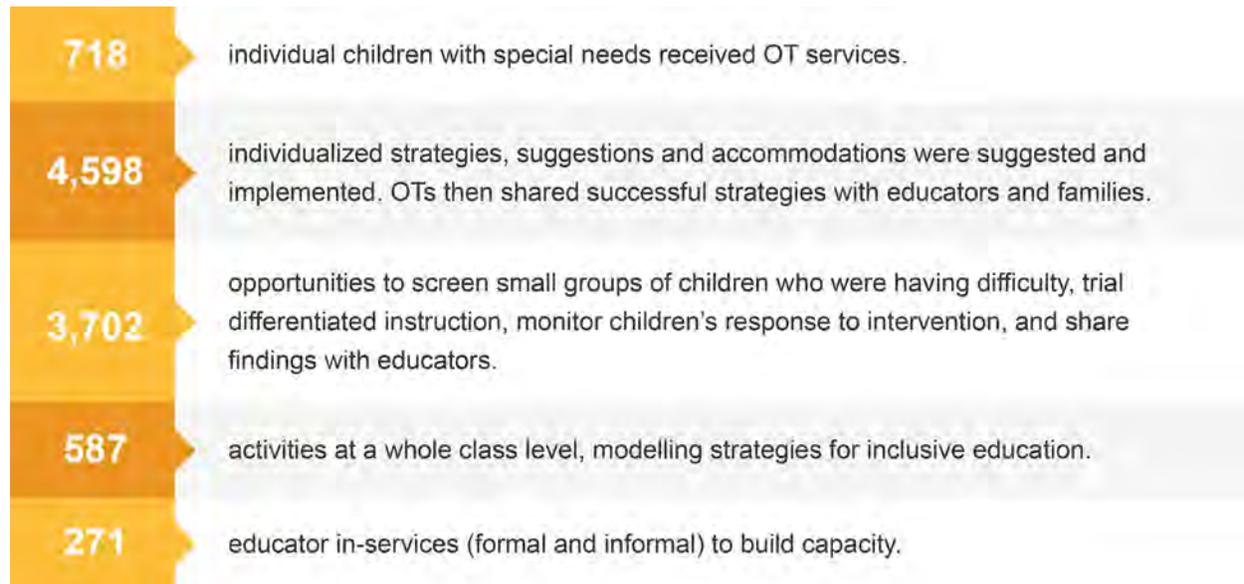
In Year 1, the number of times services were provided in support of children who were at the individual accommodation level ranged from 1–22. On average, each child received 5.8 services but there was wide variability. This shows that children were seen many times, if needed. Also included in this count are times when the OT may have supported individual children indirectly

by communicating with families and educators, arranging technology or preparing resources. Importantly, this number does not reflect services children would have received via activities and suggestions that happened either at the Universal Design for Learning (UDL) or Differentiated Instruction (DI) tiers of the model, before the OT sought consent to provide more intensive services. The variability in the average number of OT services offered to individual children is consistent with the needs-based approach utilized in this model.

Children who were identified as struggling by their educator were seen quickly and did not need to wait for service. **Wait lists for OT services were eliminated in all P4C schools.**

Year 2 Services

In the 2014–2015 school year, staffing changes resulted in some of the P4C OTs maintaining fewer schools. In total, 17 OTs delivered the P4C service one day per school per week (1,443 workdays in total) in 40 schools and provided:



In Year 2, OTs maintained the children identified in Year 1 but also worked with educators to identify other children who were finding school activities to be challenging. These children may have been identified as needing occupational therapy for varied reasons in Year 2. Support of the 806 children who received service at the individual accommodation level ranged from 1–23 activities per child. For example, one visit may have consisted of a check-in with next year's teacher to ensure that the Individual Education Plan (IEP) suggestions remained relevant and that no new issues had emerged. Another activity might have been a meeting with the parent and teacher. OTs also continued to provide whole class and small group activities in which these same children might have participated; these additional services are not captured in counts of visits. An average of 6.1 services were provided to any individual child at the accommodation level. There was even greater variability noted with respect to the number and type of services offered in Year 2; however, as noted previously, this is consistent with a needs-based approach.

Comparison of Year 1 and Year 2 Services

The P4C OTs were assigned to and provided support to the same elementary school during the two years. The OT daily log data show that more educator in-services and whole class activities were offered in the first year of service, in comparison with data from Year 2. This finding is consistent with the emphasis in Year 1 on the two core activities that form the foundation for all other interventions offered within the P4C model: relationship building and knowledge translation. More in-services and educational activities were required in the initial year because the OT needed to familiarize the school community with the role of the P4C OT. Fewer educational activities or in-services may have been needed in Year 2 as a result of increased educator capacity or because there was reduced staff turnover at some schools, which lessened the need for education about the differences in the P4C OT role.

The OTs engaged in more UDL-focused whole class activities in Year 1 to support educators in adjusting the social and physical environment of their classrooms or their method of instruction to further support students with motor, attentional or other challenges.

While still necessary in Year 2, fewer whole class activities were needed, perhaps because educators integrated learning from Year 1 into the design of their classrooms and educational curriculum in Year 2. P4C OTs clearly engaged in more screening activities in the first year to identify children in need of more intensive support. Children with greater needs continued to be supported in Year 2; as a result, more individualized strategies were provided for children at the accommodation level.

The OT daily logs illustrate the many varied activities required of a P4C OT. This would include providing in-services and “lunch and learn” educational opportunities; attendance at in-school resource team meetings; and communication with families. The varied activities that comprise the role of a P4C OT have implications for workload management and planning, and are illustrated further in [Making a Difference for Health and Education](#).

Description of the Children

In Year 1, 241 children were accepted by P4C OTs from active client lists and waitlists at the Central West or Hamilton Niagara Haldimand Brant Community Care Access Centres (CCACs). P4C OTs, using observation and collaboration with educators, identified 351 additional children who had not previously been identified and/or referred by the school but who were having difficulty participating. A detailed description is available for 246 children who became research participants.

- ✔ OTs identified children almost one year earlier and identified a higher proportion of girls than were typically referred to the CCAC.
- ✔ When children were identified, they received service right away, with no need for the school to complete a referral to the CCAC.
- ✔ Waitlists were eliminated at no additional cost.
- ✔ Many of the children who displayed coordination difficulties also had other co-occurring health conditions.

Research Participants

The first year of P4C service began in November 2013. Children in each school who were on either the active caseload or waitlist for school health occupational therapy services (and who were referred to the CCAC for fine motor difficulties or were anticipated to have motor coordination challenges) were transferred by the CCAC to the P4C OT for service. Parents of these 241 children provided consent first to the CCAC and then to the P4C OT for the P4C health care services. The P4C OTs also observed children in classrooms and collaborated with educators to identify 351 additional children who required occupational therapy services.

During the first year, the OTs obtained health care consent for all 592 children to receive the P4C service. A Project Coordinator approached these families and asked them to become research participants. 392 families agreed to receive information about the study:



Waitlist and Newly Identified Comparison

We compared the children who were transferred to the P4C OTs in Year 1 from each CCAC (children who were either designated to receive active service that year or children who were still on the waitlist) with the children who were identified by P4C OTs and educators over the first school year.

	Active/Waitlist	Newly Identified	Total
Children who received P4C service in Year 1	241	351	592
Consented to participate in study	115 (48%)	131 (52%)	246
Boys	97	91	188
Girls	18 (15.6%)	40* (30.5%)	58
Mean Age (Range)	8.62 years (5 to 12 years)	7.81* years (4 to 13 years)	8.19 years

* Age of identification and relative proportion of girls differs significantly from active/waitlist children.

Table 1 Children referred from the CCAC waitlist compared with Children newly identified as needing service by the P4C OT and an Educator

As can be seen in Table 1, the two participating CCACs transferred 241 children to the P4C service; an additional 351 children were identified directly by P4C OTs in collaboration with educators. There was no difference in the percentage of families who consented to participate in the study in either group. Of great interest, there was a statistically significant difference in the proportion of girls identified by OTs through direct observation of children in the school as compared to the number of girls transferred by the CCACs. This suggests that girls are less likely to be referred to the CCAC through the existing referral system.

However, the most important finding is that **P4C led to earlier identification of children with special needs, with no formal assessment or screening mechanism**. Not only were the children on average almost one year younger than those on the waitlist, but they received service right away, without having to be referred and put on a lengthy waitlist. Children were identified as early as junior kindergarten. In other models of service delivery, children often have to be in Grade 1 before they can be referred.

Children Participating in the Study

The OTs helped to recruit 246 children and families into the study by the end of May 2014. While new children continued to be identified and to receive health care consent throughout Year 2, no additional children were recruited into the study.

The 246 research participants did not differ in any important way from the 592 children who were referred to and received OT services in the first year with regard to age, sex, the CCAC that was providing service, or the school board that they attended.

Characteristics of Children in the Study	
Boys	188 (76%)
Girls	58 (24%)
Mean Age (Range)	8.19 years (4 to 13 years)
Grade Range	Junior Kindergarten to Grade 8
Number of Children by School Board	
Peel District School Board	153 (62%)
Halton District School Board	46 (19%)
Hamilton Wentworth Catholic District School Board	47 (19%)
Number of Children by Community Care Access Centres	
Central West CCAC	153 (62%)
Hamilton Niagara Haldimand Brant CCAC	93 (38%)

Table 2

Describing the Families

Parents of the children who were research participants were asked to complete a number of questionnaires, either online or in hard copy. Multiple reminders and phone calls were made to increase the rate of response. Of the 392 families who agreed to receive information about the study, 246 families (63%) returned completed packages of questionnaires when their child was recruited into the study.

Again, a comparison of these 246 children with the 592 children showed no significant differences in age, sex, CCAC, or school board. Therefore, we can presume that the description

of the 246 children and families who responded is likely representative of the larger group who consented to be in the study, but we cannot say so with absolute certainty.

From the 246 parent responses, we know that:

- Most families understood and spoke English in the home (79.7%); other languages were spoken by 19.5% of families; no research families spoke French as their first language.
- 214 (87%) of the respondents were mothers; 28 (11.4%) were fathers.
- The majority of families included two parents (81.7%); in most families, both parents worked outside of the home for pay (72%); 61 (24.8%) had one spouse who was caring for the family full-time.
- Most families had two or three children.
- In approximately 20% of families, neither partner had post-secondary education.
- Income of families was quite evenly distributed across income levels with a median income of \$60,000 to \$80,000; 19.5% were below the Ontario poverty level for families.
- 62% of respondents were in Peel; 19% were from Halton; 19% from Hamilton-Wentworth.
- The majority of the children in the study were first (38.6%) or second (39.4%) born.
- 78% of children were born full-term; 19.1% were preterm.
- Very few children had been reviewed by an Identification Placement Review Committee (IPRC); 14% were reported to have a designation of exceptionality.
- 38% of children had an Individualized Education Plan (IEP) at the beginning of the study.
- According to parent report, nearly 60% of children had an IEP at the end.

Co-occurring Diagnoses of the Children

Children were invited to enter the study because they were experiencing motor coordination challenges. Parents were also asked about any other diagnoses/formal identification that their children might have.

Based on parental report, speech/language difficulties were most commonly noted, with Attention Deficit Hyperactivity Disorder (ADHD) and Learning Disabilities also frequently co-occurring.

Co-occurring Diagnoses	Active / Waitlist, N=115	Newly Identified, N=131	Total, N=246
ADHD	21 (18%)	27 (21%)	48 (20%)
Speech / Language	33 (29%)	26 (20%)	59 (24%)
Learning Disabilities	24 (21%)	23 (18%)	47 (19%)
Autism Spectrum Disorder	4 (3%)	3 (2%)	7 (3%)
Other	47 (41%)	67 (51%)	118 (48%)

Table 3

Children who had “other” co-occurring diagnoses included children with visual or hearing impairments, and a variety of genetic and medical syndromes; about 12% of children were noted by parents to have anxiety. Seventeen children (7%) had already received a diagnosis of Developmental Coordination Disorder from a physician. Parents could identify more than one co-occurring diagnosis; in fact, in addition to motor coordination challenges, 56% of children were reported to have from one to three co-occurring health or developmental conditions. There were no important differences in the diagnoses reported by parents across the two sources of referral.

Detailed Description of Research Participants

Parents were asked to complete three questionnaires regarding their observations of their child’s coordination, behaviour and participation at home. In addition, the child’s educator was asked to complete questionnaires about children’s behaviour and about their ability to participate at the same level as other children in specific school settings.

Recommendations for Training OTs to Deliver the P4C Model of Service	
Activities Required	Recommendations
Identification of Occupational Therapists (OTs)	It is ideal to screen OTs to gauge their interest in and compatibility with the type of services offered in the P4C model
Completion of P4C modules	<p>P4C OTs should complete all P4C modules prior to OT starting at a P4C school.</p> <p>The modules were licensed to the Ministry of Health and Long-Term Care (MOHLTC) for use during the P4C research project, with the licensing agreement expiring March 31, 2015. Additional copies must be purchased to meet copyright and licensing agreements.</p> <p>New modules and updated content are expected to be available in January 2016.</p>
Attendance at a P4C Training Workshop	P4C OTs should complete a full day training workshop prior to starting to deliver the P4C service.
Shadow an experienced P4C OT	It is recommended that all new P4C OTs spend a day shadowing a P4C OT with experience.
Offer monthly mentorship meetings for all P4C OTs	<p>It is essential that P4C OTs participate in monthly mentorship meetings during at least the 1st year of providing the P4C service to enable problem solving and peer support.</p> <p>The monthly meeting should be led by an OT experienced in delivering the P4C model of service. This is necessary to successfully implement a new and very different model of service.</p>
Offer mentorship as needed for individual support.	It is essential that individual OTs have access to an experienced P4C OT who is available to provide ongoing support for new and existing P4C OTs. It is recommended that the mentor is available: for chart reviews; to provide support by telephone, email or in person meetings; and to visit a school as needed to support the P4C OT.
Ensure opportunity for P4C OT self-reflection.	It is recommended that new and existing P4C OTs reflect on their ability to deliver the P4C Model of service as intended and to consider how they are achieving the goals of the model.

Table 4

Parent Report of Coordination Issues

The Developmental Coordination Disorder Questionnaire (DCDQ) is a 15-item measure that was modified, with the permission of the author, so that the title said “Coordination Questionnaire”.¹ The DCDQ has been shown to have adequate reliability and validity. Parents were asked about activities that they might observe at home and to rate each statement as “not at all like my child” (1) to “extremely like my child” (5). Of the 246 parents, 239 (97.1%) completed this questionnaire.

	Active / Waitlist	Newly Identified	Probable DCD	Total Children
DCD Q scores below cutoff	60 (54%)	72 (57%)	132 (55%)	239
Boys	50	47	97	
Girls	10	25*	35	
DCD Q scores below cutoff, by age band				
5–8 years	11 (18%)	30 (42%)*	41 (31%)	106
8–10 years	35 (58%)	29 (40%)	64 (48%)	98
> 10 years	14 (23%)	13 (18%)	27 (20%)	35
* The percentage of children below 8 years of age who were identified by the P4C OT differs significantly from children referred from active or wait lists				

Table 5

There was an important difference in how many young children were identified by the OTs, and how many more girls were identified, relative to the children on the waitlist. Once again, this shows that the P4C OTs found lots of younger children who were struggling; there were significantly more younger children in the newly identified group in comparison to the children referred from the participating CCACs.

Only 55% of parents rated their child’s ability to perform these motor tasks as being well below what you would expect for their age and stage of development. It is possible that this questionnaire is less sensitive for children seven years of age or younger. Universal design for learning and working with children in small groups would be likely to be more beneficial when children are young and parents have not yet identified a concern.

For children older than eight years of age, however, parents seemed to be more aware that their child was having motor difficulties. In particular, parents reported differences in activities that

might also be performed at school: printing or writing being illegible or the child being very slow; taking more effort to print and using incorrect pressure on the pencil; difficulty cutting out shapes. Of interest, parents of older children did not report many difficulties with self-care or gross motor tasks that are likely to be observed at home. The problems reported by parents were more consistent with issues likely to be observed by educators. It is possible that educators had shared their concerns with parents by the time the child was in Grade 2 or 3.

Parent and Educator Report of Child Behaviours

The *Strength and Difficulties Questionnaire (SDQ)* is a 25-item measure used to screen for behaviour problems in children aged 4–17 years.² The measure is composed of five scales including: emotional symptoms, conduct problems, hyperactivity, peer problems, and pro-social behaviours. Higher scores on each scale indicate greater presence of the trait. Higher scores in the first four scales therefore reflect more behavioural problems; however, the pro-social scale measures positive behaviours and so is expected to be high. The SDQ has adequate reliability and has shown convergent validity with other childhood measures.

In the Partnering for Change study, parents completed the SDQ at two time points. The results of the first time point are presented here, when the child was first referred to the study; educators also completed the measure at this time. From our original sample of 246 children, 193 were rated on the SDQ by both parents and educators at the start of the study.

Parents and educators generally agreed with respect to their ratings for most of the domains covered by the SDQ. For example, irrespective of whether they were on a waitlist or identified by OTs, hyperactivity was viewed by both parents and educators to be the most noticeable behavioural problem for children. The concern about hyperactivity is consistent with the parent report about co-occurring diagnosis of ADHD. Conduct problems and peer problems were not viewed as a significant concern by either group.

Parents and educators differed in their evaluation of children's pro-social (positive) skills; specifically, educators were more likely to view children as less socially skilled than were parents.

Interestingly, parents whose children were referred to P4C by the OT were more likely to report concerns about emotional problems than were educators. Although this subscale score was not elevated to a clinical level, it is consistent with the higher rate of anxiety diagnoses reported in this group of children. This suggests that children who are struggling but not been identified as having difficulties could be developing secondary emotional issues such as anxiety.

The SDQ was re-administered in the second year of the study. Here, the outcome of interest was whether or not there was a change in children's behaviour over the two-year time frame. This change is described in [Individual Child Outcomes](#).

Children Referred from Active Service/Waitlist

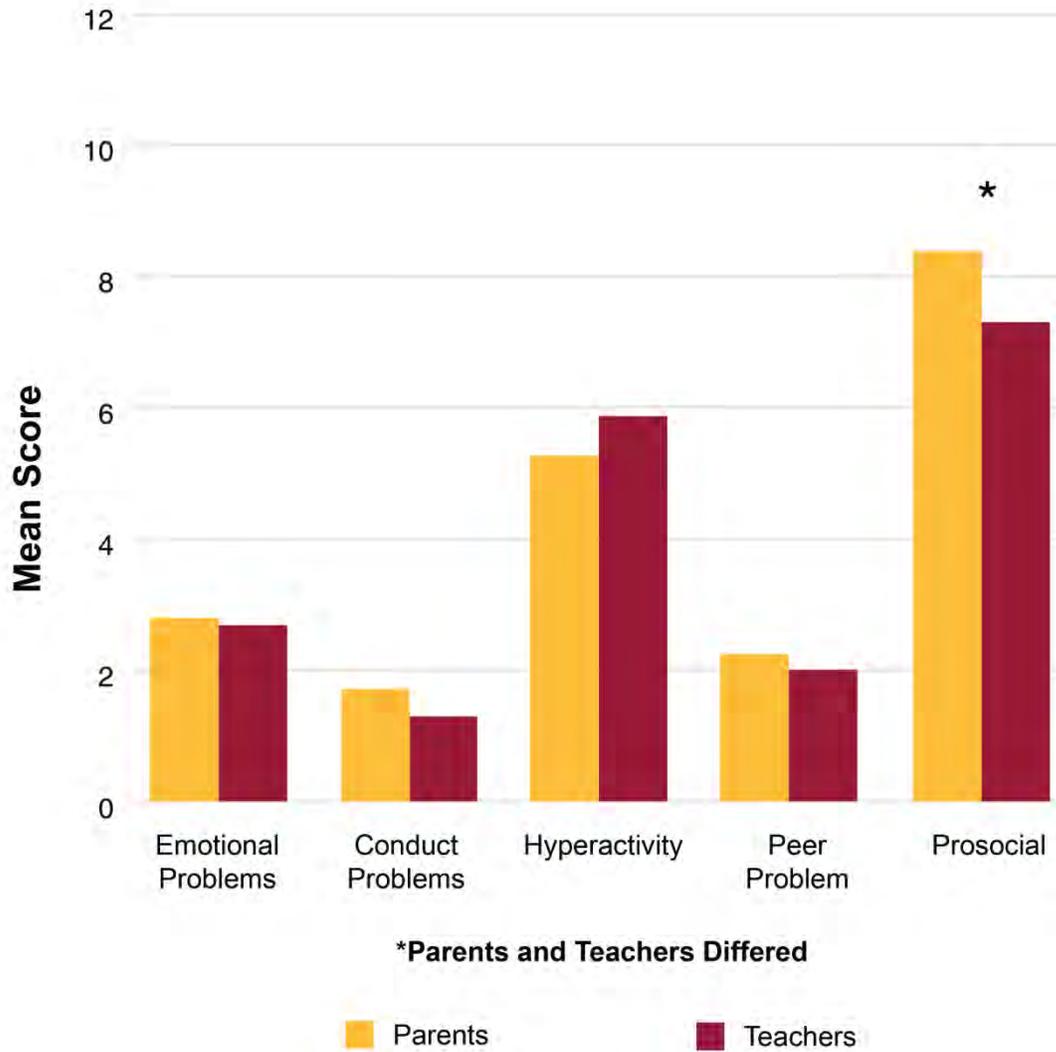
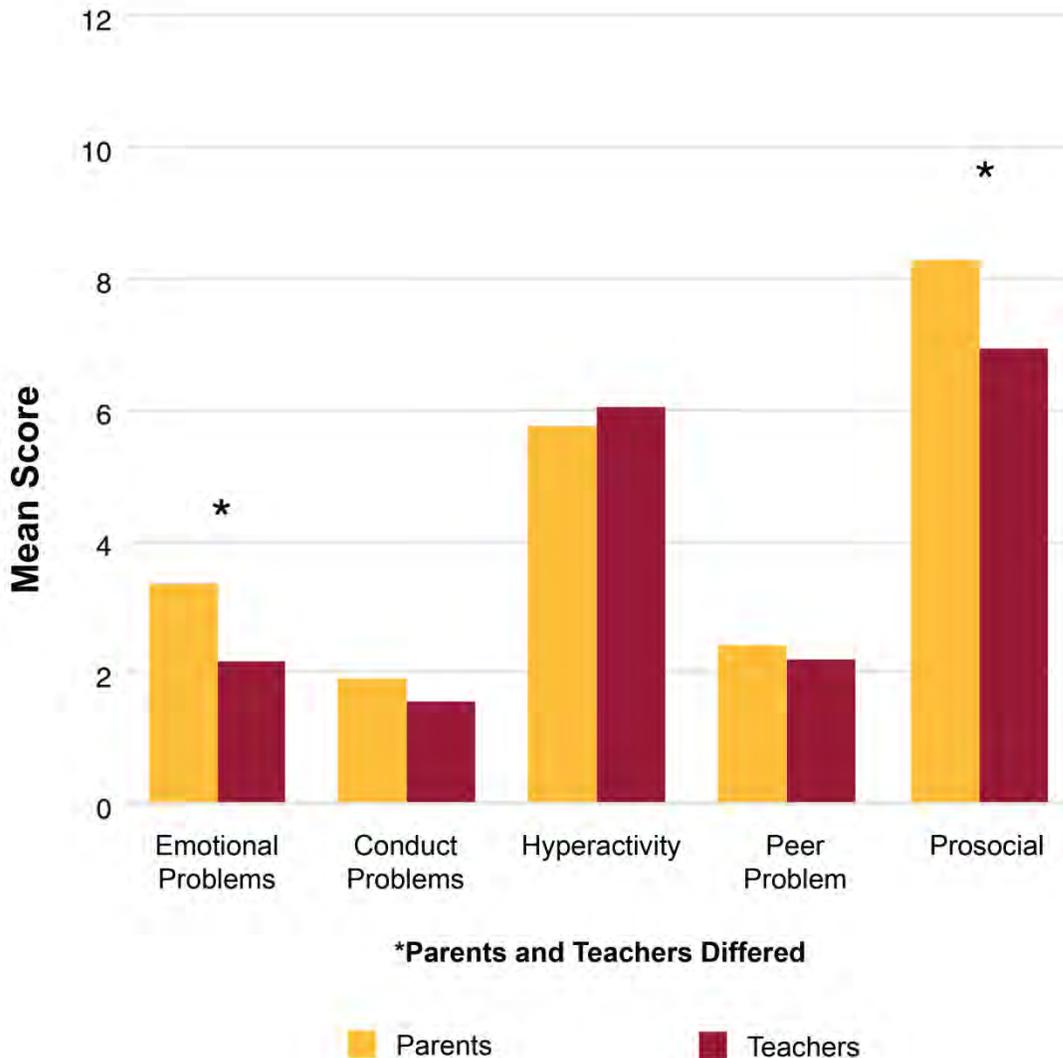


Figure 6

Children Identified by P4C OT

Figure 7
Parental Report of Participation in Activities at Home and in the Community

The *Participation and Environment Measure for Children and Youth* (PEM-CY) looks at participation in three different settings: home, school and community.³ The original PEM-CY has been shown to be a reliable and valid measure of participation and environment that is appropriate for a broad range of children.⁴ With permission of the authors, modifications were made to the PEM-CY including wording changes and a reduction in the number of items and categories. The school section was eliminated as it was being captured by the School Function

Assessment. The other changes were made to enable ease of administration and online completion.

At the outset of the study, almost all children were rated by their parents as participating in all activities captured by this measure in a relatively typical way. They participated more frequently in activities at home rather than in the community. The outcome of interest was whether there was a change in the frequency with which they participated in various activities over the duration of the study. This change is described in [Individual Child Outcomes](#).

Educator Report of Participation in School Settings

Educators were asked to complete the *School Function Assessment* (SFA), which measures the extent to which the child requires assistance from adults to participate at school.⁵ The SFA helps to identify tasks that either support or hinder participation in the school setting.

In Year 1, educators reported that 179/246 children were in regular classrooms and 14 were in self-contained classrooms (two did not report this information). At the start of the study, many children were reported to be having some degree of difficulty participating in school activities without adult assistance. Only 33% of children were rated as participating much like the other children. Children were noted to have the most difficulty participating fully in the classroom, on the playground and during transitions to different activities or locations. Fewer difficulties were reported in managing bathroom routines, mealtimes or taking a bus or car to and from school. There was great variability in participation with most children requiring some adult assistance and some requiring constant supervision to participate.

Educator report of children's participation at the beginning of the study was compared with the report of the educator who saw the child in the next grade, at the beginning and end of Year 2. Changes did occur and are presented in [Individual Child Outcomes](#).

1. Wilson, B. N., & Crawford, S. G. (2009). **The developmental coordination disorder questionnaire**. Retrieved 03/23, 2009, from dcdq.ca.libaccess.lib.mcmaster.ca
2. Goodman, R., Meltzer, H., Bailey, V. (1998). **The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version**. *European Child & Adolescent Psychiatry*, 7, 125-130.
3. Coster, W., Law, M., & Bedell, G. (2010). **Participation and Environment Measure — Children and Youth (PEM-CY)**. Boston, MA: Boston University.
4. Coster, W., Bedell, G., Law, M., Khetani, M., Teplicky, R., Liljenquist, K., Gleason, K., Kao, Y. (2011). **Psychometric evaluation of the Participation and Environment Measure for Children and Youth**. *Developmental Medicine and Child Neurology*, 53,1030-1037.
5. Coster, W., Deeney, T., Haltiwanger, J., Haley, S. (1998). **School function assessment**. San Antonio, TX: Psychological Corporation.

Individual Child Outcomes

Across the study period, parents and educators completed standardized measures to provide their perspective on the child's behaviour and performance over time. Findings showed children with coordination difficulties were better able to participate and function in all school settings at the end of the study. Parents also reported improvement in behaviour and an increased ability to participate at home and in the community.

- ✔ Educators reported that most children were participating better in classroom settings.
- ✔ Parents reported fewer difficulties and children participated in more household chores, preparation for school and organized physical activities.
- ✔ Parents reported a decrease in hyperactive and inattentive behaviours.

Measuring Outcomes

Parents and educators were asked to complete several standardized measures to enable measurement of individual child outcomes. It was hypothesized that children who received the P4C service would have improved individual outcomes.

In Year 2 of the study, when the research team began to collect these measures, we realized that a large number of children in the study had moved to non-P4C schools so were lost to follow up. At the conclusion of Year 2, 89 of the 592 children had moved; 30 of these children were research participants. Almost all of these children moved from Grade 5 or 6 to middle school. If P4C had been available in middle schools, these children would have been able to continue to receive service. This resulted in 216 children remaining as research participants at the end of the study. They did not differ significantly in age, sex, CCAC or school board from the 592 children who were provided with this service so they are believed to be representative of the entire study sample.

Individual Child Outcomes Reported by Parents

Behaviours in the Home

Parents completed the *Strengths and Difficulties Questionnaire* at the beginning and end of the study. In general, parents reported that their children had low levels of behavioural problems and displayed high levels of prosocial behavior throughout the study period. That being said, parents did consistently note a decrease in hyperactivity and fewer emotional problems over time. While we cannot conclude with certainty that these changes in behavior occurred specifically due to P4C, these outcomes are very encouraging because they indicate that parents saw improvements in their child's behaviour at home during the time period of this study.

When interpreting these results, it is important to note that children in this study were selected on the basis of observed difficulty with motor-based activities: most children did not exhibit clinically significant behavioural concerns and were considered to be demonstrating positive social behaviours, even at the outset of the study (e.g. generally well behaved; usually does what adults request). This generally positive behavioural profile may reflect, in part, the young

age of the participants in this study. Other studies suggest that secondary consequences (including peer and emotional problems) tend to escalate over time. Thus, it may be that these types of issues are less prominent in younger children and, therefore, are less likely to be reported by parents.

Now that this baseline has been established, it will be important to track changes for this group of children over time to determine if there is any change in emotional and peer problems, or if the children who received the P4C service continue to display low levels of behavioural and emotional challenges. This warrants further study.

Strength & Difficulties Questionnaire - Parent Report

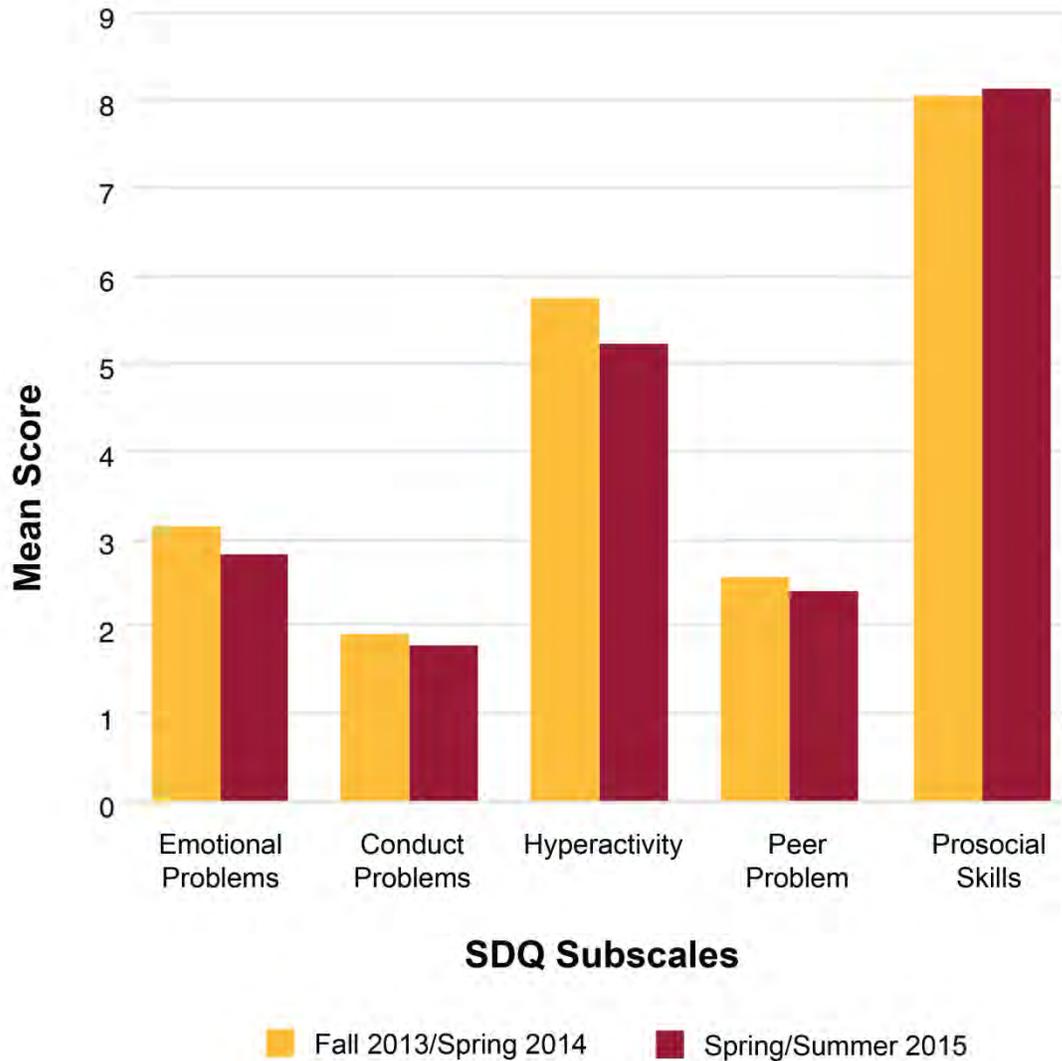


Figure 1

These findings also suggest that, while the OT is at the school, the OT should have interaction with parents through family or team meetings. The reduction in subscale scores suggest that gains achieved at school may transfer into success at home. Parents reported fewer problems in all domains, but further research is needed in this area.

Change in Participation in Activities at Home and in the Community

Parents completed the *Participation and Environment Measure for Children and Youth* (PEM-CY) at the beginning and end of the study. There was a consistent increase in the extent to which children participated in tasks in the home. In particular, children participated in more household chores and tasks involved in preparing for school and organized physical activities. Of great interest, parents reported that their children were doing homework less frequently! Explanations for this finding could include educators having a better understanding of children and their needs or children improving their written productivity and ability to complete work at school.

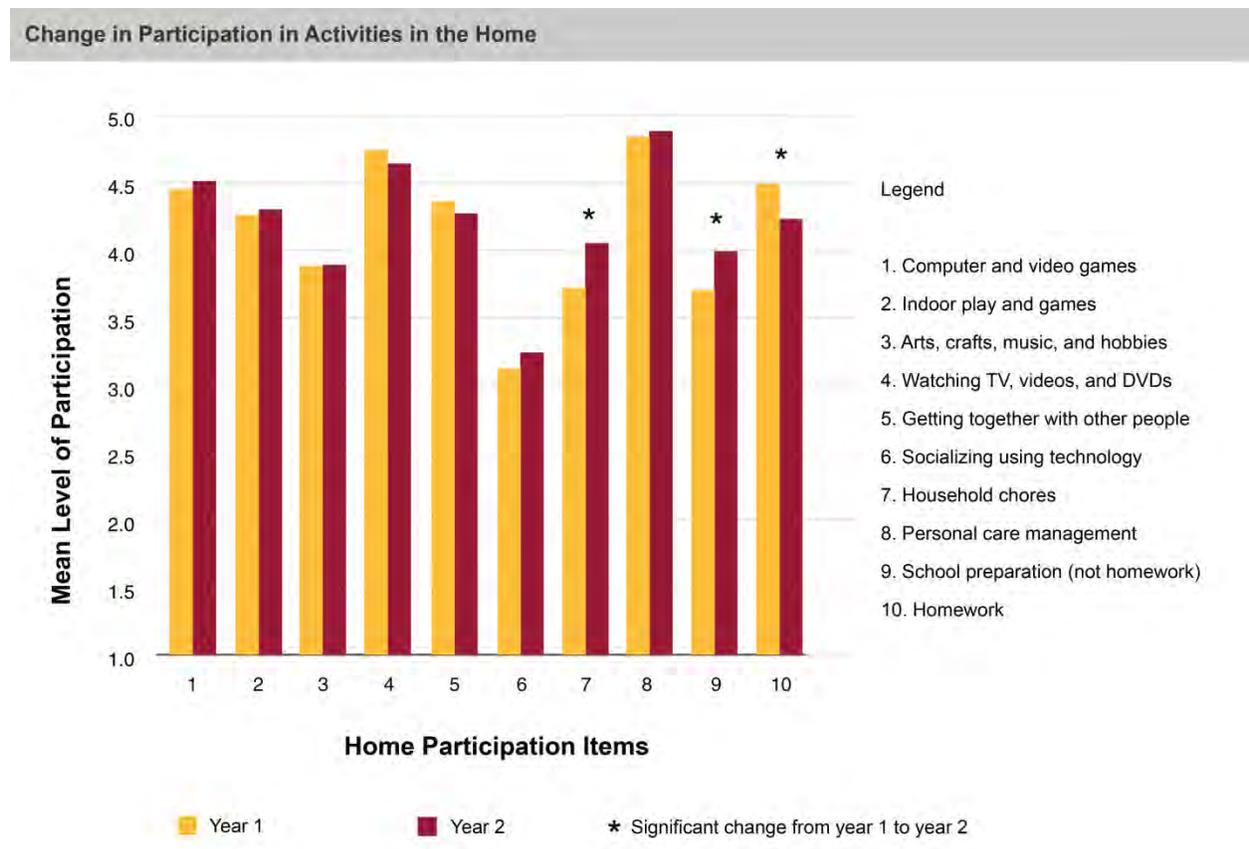


Figure 2

Parents also reported the frequency with which their child participated in activities in the community. Consistent improvement was noticed in the extent to which children participated in

both organized physical activities and unstructured physical activities. Given the high level of obesity that is often secondary to motor coordination challenges, this increase in participation in both structured and unstructured physical activity is very encouraging. There was also positive change in the frequency with which children attended community groups or organizations; however, their participation was still quite low in this category.

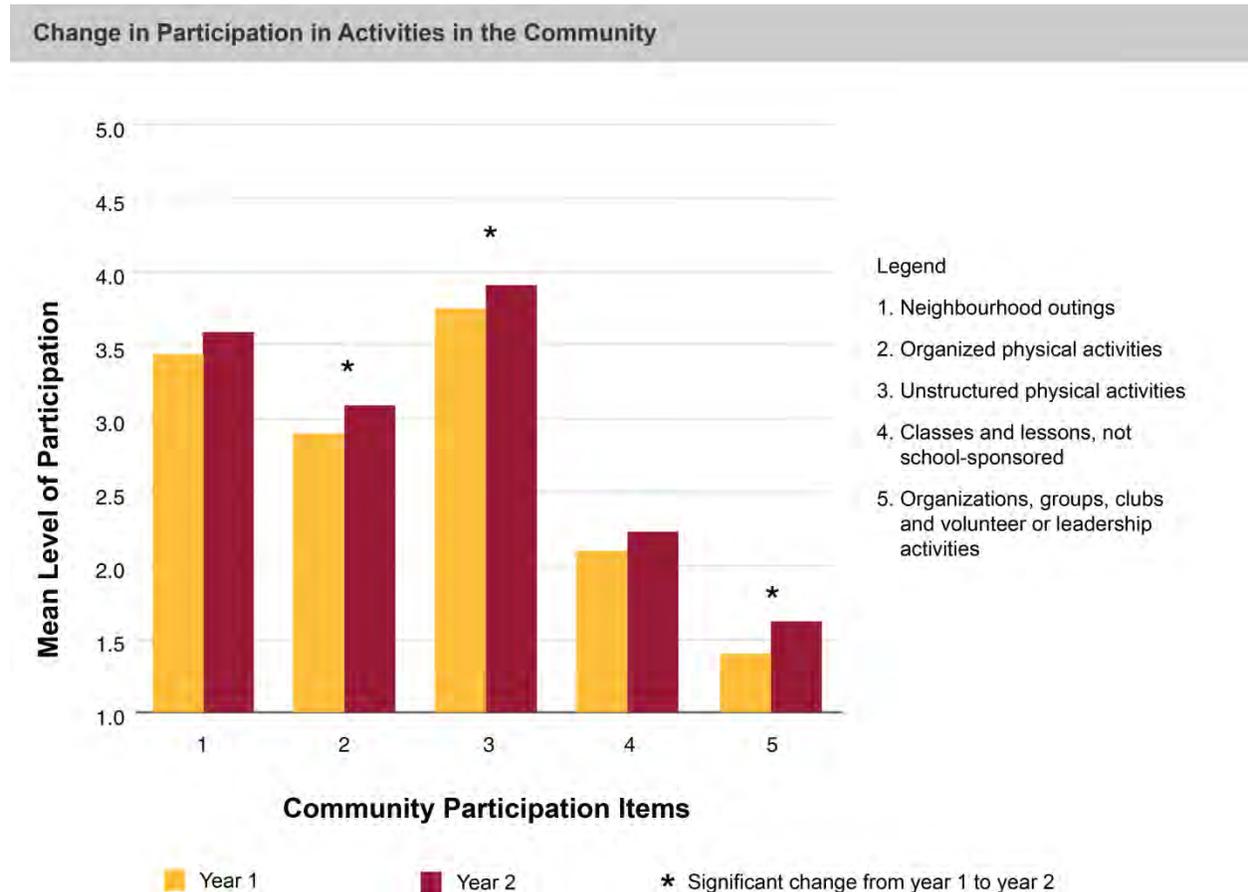


Figure 3

Child Outcomes Reported by Educators

Educators also completed questionnaires about the study children. Although only 246 parent packages were completed, 195 educators of the 246 children completed an assessment of the children in the study at three time points: upon referral into the study, the beginning of Year 2, and the end of Year 2. The team felt it was most important to capture change in the second school year when the P4C OT was focusing more on suggesting individualized strategies.

Classroom educators were asked to complete the *Strengths and Difficulties Questionnaire* (SDQ). Only the SDQ responses that were completed by the same teacher at the beginning and the end of the school year were analyzed. Peer problems were shown to slightly increase over

Year 2. In particular, children who had motor challenges were noticed by educators to be more likely to spend time with adults and were more likely to be bullied. Further study of this finding is warranted and suggests that more time could be spent focusing on whole classroom activities to create a more inclusive environment.

Strength & Difficulties Questionnaire - Educator Report

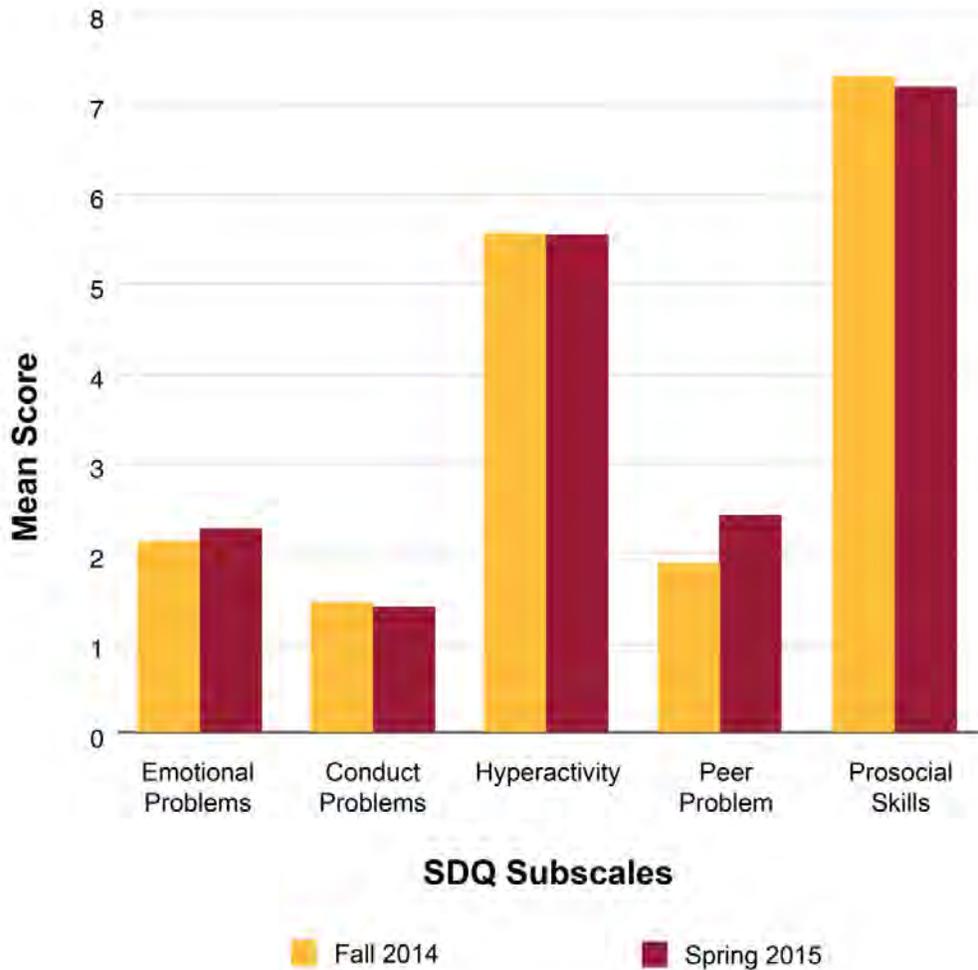


Figure 4

The graph also shows that educators agreed with parents that the greatest challenge for these children was in the area of hyperactivity, and that these children generally had low overall levels of behavioural problems and high levels of pro-social behaviours across the study period.

Educator Report of Children’s Participation in the Classroom

Educators were also asked to complete the *School Function Assessment (SFA)*, a measure of the extent to which the child requires assistance from adults to participate.¹ The SFA helps to identify tasks that either support or hinder participation in the school setting.

In Year 1, educators reported that 179 out of 195 children were in regular classrooms and 14 were in self-contained classrooms (two did not report this information). At the start of the study, children were reported to be having some degree of difficulty participating in school activities without adult assistance.

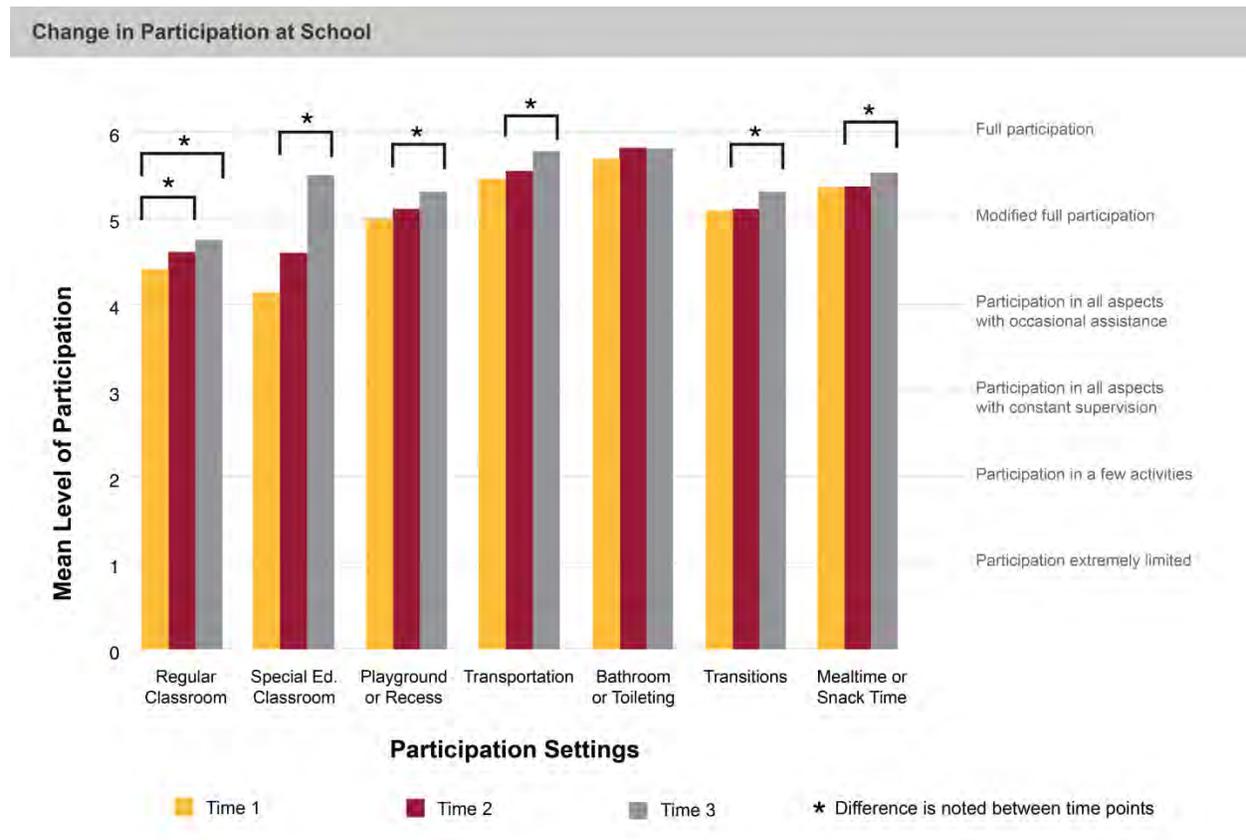


Figure 5

Relatively little change was seen between entry into the study and the rating of the educator in the next grade in early October. Many children were recruited into the study in the spring of the first year and the OTs concentrated more on universal design for learning and differentiating those in need of service, based on the children’s response to their suggestions. As expected, the only significant increase from Year 1 to the beginning of Year 2 was seen in the rating of each teacher regarding general participation at a whole class level.

A consistent increase was seen from the beginning to the end of Year 2 when OTs were focusing more on individualized strategies and suggestions. Educators reported that almost all

children were participating better and that change had been seen in all settings except independence in the bathroom (which was rated as typical for most children at all three points). When considering the child's ability to participate in all classroom activities, educators indicated much improvement over the time of the study: 39% of children did not show change but 22% of children were already participating fully; 39% of children moved up at least one category suggesting that they required less adult assistance and supervision. By the end of the study, most children were either participating fully or required some modification to the activity but little adult assistance.

1. Coster, W., Deeney, T., Haltiwanger, J., Haley, S. (1998). **School function assessment**. San Antonio, TX: Psychological Corporation.

Extent of Motor Difficulties

Evaluation at the end of the study confirmed that the occupational therapists (OTs) were able to identify children who were in need of health care services but who had not previously been recognized as needing service. Children were identified because the OT spent consistent time observing children in various school settings throughout their day (e.g. classroom, playground, cloak room, lunch room, and gym). Formal assessments or diagnoses were not required.

- ✔ Children who had been on the waitlist and those identified by P4C OTs had significant motor coordination challenges.
- ✔ OTs delivered the P4C service to children with special needs who had issues in school other than motor challenges.

Measuring Motor Challenges

The Movement Assessment Battery for Children (MABC-2) is a measure that describes the severity of children's motor impairment.¹ In this study, change over time was not expected on this measure because it assessed children's underlying motor abilities (which tend to be stable across time) rather than their actual participation (which was the target of the P4C service). Therefore, the MABC-2 permitted us to determine whether children's motor difficulties were severe, moderate, or borderline, or if they were performing in the normal range for their age. The measure was administered at the end of the study to allow us to determine the extent to which the children who were referred to the P4C service, without the use of any formal assessments, did indeed have motor coordination difficulties.

We were only permitted by the ethics board to approach parents who had provided written consent at the outset of the study to ask if we could administer the MABC-2. Seventy-two percent agreed and the MABC-2 was completed by trained research assessors in March and April 2015, long after the OTs had identified and obtained health care consent for intervention.

	Active/Waitlist	Newly Identified	Total
Children experiencing motor coordination issues	49 (67%)	57 (72%)	106 (70%)
Children with other non-motor issues	24 (33%)	22 (28%)	46 (30%)

Table 1

The findings confirm that the children who had been on the waitlist and those identified by the P4C OTs did, in fact, have significant motor coordination challenges. Seventy percent of the children who received the P4C service had significant motor impairments that, based upon the OT reports and this assessment, were impacting on many activities in school. Although 46 (30%) of children tested within the normal range for overall motor impairment, four of these children still showed a great deal of difficulty in one area of the motor test (e.g. balance, use of their hands for written tasks). The research team will be looking more closely at the 30% of children who did not have significant motor impairment. From early analysis of the OT daily logs and child files, we have noted that many of these children had attentional or sensory difficulties. These findings suggest that the P4C OTs were able to provide service to children who had other types of difficulties that were impacting on their participation at school.

MABC-2 results confirmed that the P4C OTs identified an equally large group of children who had significant motor impairments and school issues but who had not been recognized; the severity of motor coordination problems was similar for both the waitlist and the newly identified group. This finding suggests that there are children who have motor coordination difficulties who are not noticed in alternate models of service, or who have to wait until they are older and their difficulties potentially worsen before they are referred. Early identification may prevent early motor difficulties from becoming more severe or contributing to secondary consequences in other areas; however, longitudinal studies are required to determine whether children who were identified at an early point in their school years do indeed have a different and more positive trajectory than those who are not identified until later.

When OTs spend consistent time in schools, children with special needs who are in need of service can be identified without using any formal assessments. Children were identified when the P4C OT:

- spent time regularly observing children in context (in the classroom, gym, locker/cubby area or playground),
- collaborated with, and was responsive to, educators and parents,
- used differentiated instruction to determine which children had needs and monitored children's response to the strategies that were implemented.

1. Henderson, S., Sugden, D., Barnett, A. (2007). **The Movement Assessment Battery for Children (2nd Ed.)**. London: Pearson Assessment.

Making a Difference

During the two years the Partnering for Change service was delivered in 40 schools, positive outcomes were noted for the children and families receiving the service: families reported satisfaction with the service and the resources provided. Educator capacity also increased. In comparison with other models of service delivery, occupational therapists (OTs) offered a greater number of and more varied services in support of children with special needs. This change in practice resulted in OTs' increased knowledge and skills, changes in their beliefs and implications for workload. Implementation of the P4C model also demonstrated efficiencies and increased value for the health and education systems.

- ✔ Educator capacity increased throughout the two years of the study.
- ✔ The majority of parents thought the P4C service was beneficial and were satisfied.
- ✔ Reaching parents continues to be a challenge within a school-based practice model.
- ✔ The P4C model required fewer and more “value-added” steps to process referrals in comparison to other models of service. This reduced paperwork and resulted in system efficiencies.

Making a Difference for Children and Families

Occupational therapists (OTs) delivering the Partnering for Change (P4C) model are able to provide service and accommodation to children right away, without the child needing to wait. The occupational therapy services provided are based on need, resulting in children with more intense needs receiving more frequent and appropriate services. In the P4C model, OTs aim to build capacity of educators and parents to enable translation of knowledge and strategies for future use. In the P4C Implementation and Evaluation study, parents valued the information provided but some families requested more frequent communication with the OTs.

- ✔ P4C OTs are able to see children more often and can provide suggestions for the child's educator or school staff many times in a year.
- ✔ The majority of parents were satisfied with the P4C service.
- ✔ Further research is needed to explore innovative ways to reach families.
- ✔ P4C OTs were able to contribute to the development of Individual Education Plans (IEP) for many of the children.

Sheena's Story*

OTs delivering the P4C model provide services that result in increased child participation and success at home and in the community. One of the most powerful ways to convey what the P4C service looks like is to present a true story of one child in this study.

*Names have been changed.

Grade Three

In mid-June, 2014, just before the end of the first school year of the P4C project, a P4C OT was asked by Ms. Tasker, the school's Special Education Resource Teacher (SERT), to attend a school meeting for a student named Sheena. Sheena's parents, her classroom teacher, the

principal and the resource teacher were all in attendance. Sheena's parents reported that they had taken Sheena to a pediatrician due to their ongoing concerns about her motor development and her level of frustration and anxiety. The pediatrician had diagnosed Sheena with Developmental Coordination Disorder. The school staff noted that Sheena had difficulty with participation in gym class, in keeping up with her peers in completing written work, as well as some emotional and behavioural issues. The team agreed that involving the P4C OT in September would be ideal.

Grade Four

The OT began the second week of school by observing Sheena in gym, at recess, and in the classroom. She met with the SERT to gather more background and to understand the strategies that had already been tried with Sheena and that were found to be successful. Sheena made a positive start in Grade 4, but her teachers noted, and the OT observed, that Sheena had ongoing difficulties with initiating independent work, making transitions between activities and classes and that she tended to isolate herself at recess. The OT also noticed that Sheena fatigued easily. She was able to help the educators understand why children with DCD tire easily, both mentally and physically, because of the extra effort they are expending just to complete routine tasks. The OT suggested that some breaks be built into Sheena's schedule to try to reduce her fatigue. The OT also assisted with incorporating an iPad into the classroom for written work and including some apps about self-regulation that could support Sheena in learning to manage her emotions in a more positive manner.

The OT met Sheena's father in the playground at school drop-off time one day and he was pleased with how things were going in Grade 4. He felt the school staff were all working very hard to ensure that Sheena had a positive school year, especially as she had experienced some bullying in the past.

Sheena had some access to an Educational Assistant (EA), so the OT met with her to discuss some seating options for Sheena, especially for carpet time, some strategies to encourage independent work and to ease transitions using a visual timer. Sheena had decided that she was very keen to learn to cursive write, so the OT provided an instructional program to the EA and suggested that it could be a break time activity.

As the school year progressed, however, Sheena's social and behavioural difficulties escalated (gave up easily, wouldn't try new tasks, anger outbursts, school refusal) so the school involved a Child and Youth Worker. The OT shared some resources around self-regulation, organization, and sensory strategies with the SERT that could be shared with the rest of the team as appropriate. The OT also consulted with the team to suggest potential referrals for support external to the school for Sheena and her family as it became clear that they needed more support than the school could provide.

Comparing the P4C Service with Typical Service

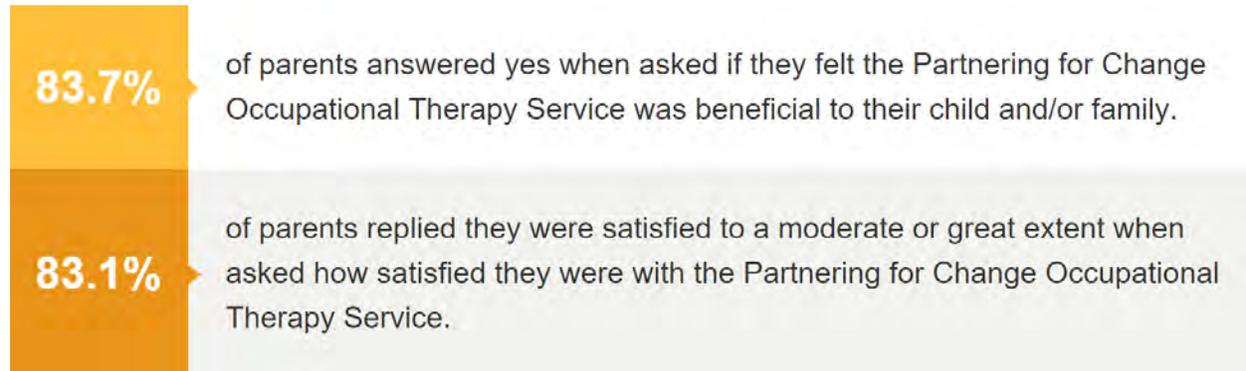
In the traditional "non-P4C" model, Sheena may not have been referred for OT at all as the school may not have been aware of the connection between DCD and emotional and behavioral

issues. If referred, she would have been on a wait list and she would not have been seen until she was in Grade 5 or 6 and her problems would have been more complex and likely more severe.

In P4C, the OT was able to initiate service right away, interact regularly with multiple school staff and resource personnel, and work with Sheena in context. Having the ability to meet with the team and work closely together is especially valuable for children whose issues are complex. Over the school year, the OT: saw Sheena three times for observation, four times for some direct work and attended the family meeting. There were two additional contacts with her family and 18 staff contacts including her teacher, SERT, EA and psychologist.

Parent Satisfaction with the Service

The Parent Knowledge and Experience Questionnaire was administered in Year 1 and Year 2 to capture parents' change in knowledge of the impact of coordination difficulties on everyday activities and of their ability to problem-solve and use adaptive strategies.



Although many parents were very satisfied, some parents expressed a desire for more information.

- *“I would have liked more communication about the interventions and recommendations at school by the OT.”*
— Parent
- *“I am satisfied and grateful but I still am unsure of everything. Would have liked an in-school meeting.”*
— Parent

Future studies should continue to find innovative ways to help OTs and parents to connect with one another, particularly since the evidence shows how valuable the resources and connections with the OT were to parents. OTs also reported that they did not have as much contact with families as they would have liked. This is reviewed in greater detail in [Lessons Learned](#).

We have seen a huge improvement over the past six months. Both physically and academically. It has been a huge help!

When connections happened between parents and OTs, there was tremendous value for parents. Families who received information accessed the resources provided and repeatedly expressed that the information that was provided was clearly written and easy to read (94.8%), relevant (90.6%), useful (90%) and increased understanding of their child's needs (87.4%). While only 15% of parents attended an evening workshop about motor development and coordination challenges, most (87%) reported that it was very useful. This finding suggests that evening workshops should be offered in all schools.

Many parents had strategies that were being used in the classroom explained by the OT (85.7%) or their child's teacher (64.6%). A substantial number (62.4%) had also received suggestions about things they might try at home. Most (75.7%) parents thought that their child would benefit from OT services in the future. This suggests that questions might be asked by families in the future, or additional suggestions made by the OT, without the need to re-refer a child.

Parents' responses at the end of the study also reveal that nearly 65.3% of children had an Individual Education Plan (IEP) at the end of the second year. Although this is important because it shows that the accommodations that children required were documented and put in place to support the children's unique learning needs and abilities, it is also important for children and families long term, because it provides parents with a continued way to advocate for their child each year. The Ontario Ministry of Education's Individual Education Plan Resource Guide states "Principals are legally required to ensure that parents are consulted in the development of the IEP".¹ Parents will continue to be invited to contribute to the development of the IEP in the future, establishing a continued method for parent advocacy, support and management.

It would be beneficial to continue to engage with parents to understand the impact of the recommendations offered by the P4C OTs over the long term. On the year end service summary reports provided to parents, it was noted that the OTs offered suggestions for 17 different types of activities. Although the most frequently cited recommendations were specific to printing/cursive writing — 95% of the Year 1 reports and 95% of the year two reports addressed this concern — additional recommendations were made for environmental

I believe the early and ongoing intervention of the OT, combined with the support of the teacher, have helped my son's skills and have increased his confidence so that he is now more eager and able to participate in the classroom work.

— Parent

I found out a lot about my daughter that I didn't really understand. The (OT) explained how and what we can all do to help her in school and at home and I have seen some improvements in school and at home since the help has been put in place for her.

— Parent

adaptations such as seating (63% of the year one reports; 52% of year two reports); tool use, organizational skills; gym; clothing, snack/lunch, and knapsack management, areas not typically addressed within the traditional non-P4C model. In Year 2, more reports focused on keyboarding and technology than in Year 1; 71% of year two reports versus 45% of year one reports addressed this. The percentage of reports with recommendations for attention/focus and environmental/sensory recommendations also increased in year two. It would be interesting to monitor this change and the subsequent impact for children and families, over the next several years.

1. Ontario Ministry of Education (2004). *The Individual Education Plan (IEP): A Resource Guide*. Queen's Printer for Ontario, Toronto, Ontario.

Making a Difference for Educators

The Partnering for Change (P4C) model of service was implemented in 40 elementary schools. Educators contributed to the evaluation of the service through completion of knowledge, skills and beliefs questionnaires. Increased capacity was built through job-embedded learning, and the educators identified feeling satisfied and valued as result of the collaboration with the P4C occupational therapists (OTs).

- ✔ Knowledge sharing and close collaboration between OTs and educators resulted in positive change in educators' knowledge, skills and confidence.
- ✔ Educators and principals were very supportive of the model and requested its continuation.
- ✔ Change happened gradually over the two years.
- ✔ By working in context, P4C OTs learned what types of accommodations were feasible in the classroom.

Building Educator Capacity

Educator Satisfaction with the Service

All of the educators at the 40 Partnering for Change (P4C) schools receiving the service were asked to complete an Educator Knowledge, Skill and Experience Questionnaire at four time points to determine if capacity was built for educators, and within the school board.

Questionnaires were completed in the:

- fall of 2013; at the start of Year 1 (T1)
- spring of 2014; at the end of Year 1 (T2)
- fall of 2014; at the start of Year 2 (T3)
- spring of 2015; at the end of Year 2 (T4)

Educators were asked to respond to questions about their knowledge, skills and experience with the P4C OT using a five-point scale from strongly disagree to strongly agree. Figure 1 shows the results of the School Wide Educator Questionnaire.

School Wide Educator Knowledge, Skills, and Beliefs Questionnaire

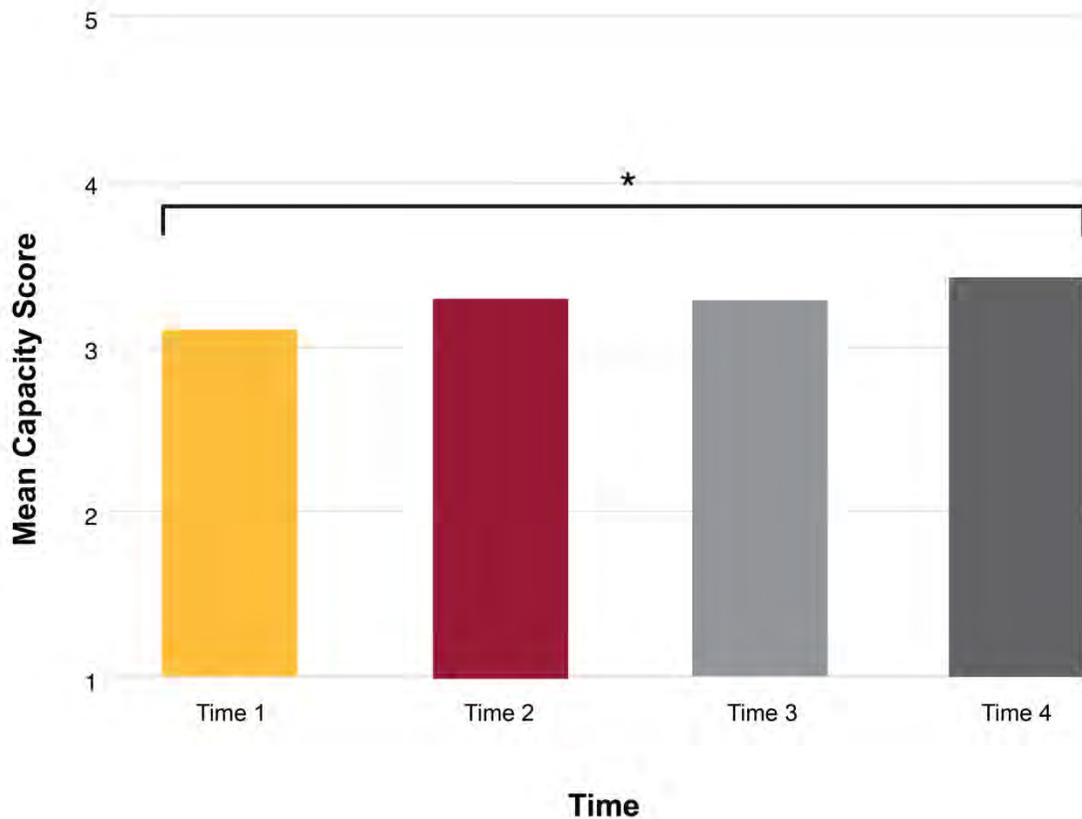


Figure 1

Seven hundred and seventy-three educators completed the School Wide Educator Questionnaire at least once during the two years of the study. Though differing numbers of educators completed the questionnaire at each time point, all of the 773 educators were at the same P4C school for the duration of the study.

The mean overall capacity score increased at almost every time point over the two years; the score stayed virtually the same in the summer between the first and second year, as would be expected when the educators were not in school nor collaborating with the OT. A consistent increase was noted between the start and the end of the study which shows that the entire knowledge of the school communities increased over the two years of the study. This change demonstrates increased educator capacity.

This incremental increase in capacity is consistent with what the OTs reported in interviews and focus groups about working in this model — change happens in small steps and takes time.

Educators of the children who were in the study were also asked about their Knowledge, Skill and Experience, using the same questionnaire. It was important to determine if capacity increased for these educators who had more contact with the P4C OTs. Educators completed the Educator Knowledge, Skills and Beliefs questionnaire at three time points:

- when the child was referred into the study in Year 1 (T1)
- the fall of Year 2 when the child was in the next grade (T2)
- the spring of Year 2 (T3)

The results for the educators of children participating in the research study are shown in Figure 2. Questionnaires were matched to show increased capacity occurred for the educator who collaborated with the P4C OT in support of the child receiving the P4C OT service.

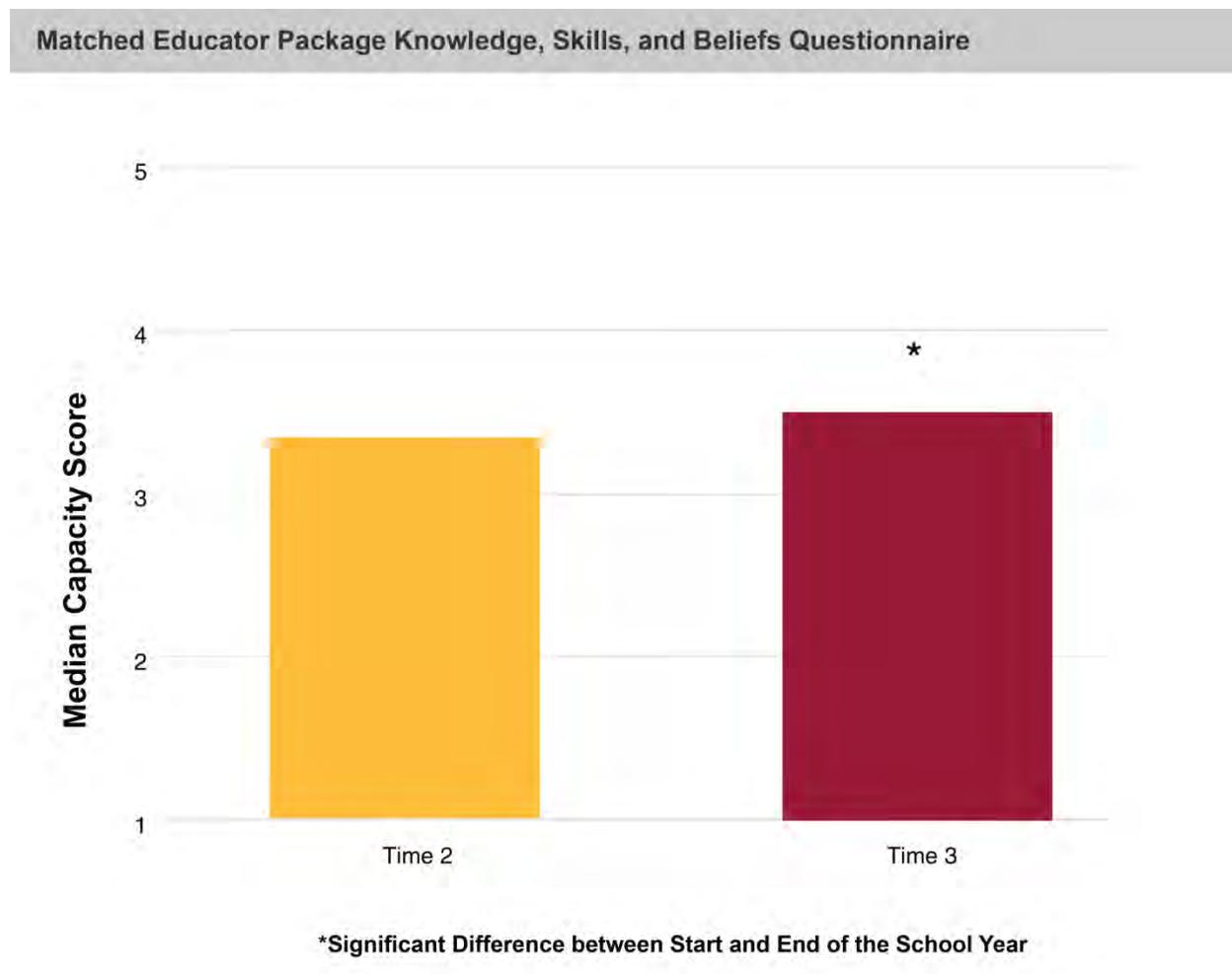


Figure 2

Consistent with the results for the “school wide” educator questionnaire, these findings also show that educator capacity increased over time.

There were additional questions added to the Educator Knowledge, Skills and Beliefs questionnaire administered at the end of the second year of the project. All of the educators who completed a questionnaire at Time 4 were asked these questions to enable learning about the collaboration between the educator and OT and the extent to which the information shared by the OT facilitated **positive social interactions** and academic engagement. The majority of the educators who completed the questionnaire at the end of the study strongly agreed with the following statements:

- My knowledge and skills were valued.
- I was an equal partner in the decisions that were made.
- Materials and information were freely shared.
- My time was used productively when the OT was in my classroom.
- I was satisfied with the way the OT and I communicated with each other.
- I was satisfied with the way the OT and I worked together to problem solve.
- The strategies and information shared in my collaborations with the OT helped create more **positive academic engagement** for students.

The strategies and information shared in my collaborations with the OT helped create more positive interactions between myself and parents.

— Educator

The majority of those same educators also moderately agreed with the following statements:

- Having an OT accessible in my school on a regular basis increased my ability to differentiate instruction.
- The strategies and information shared in my collaborations with the OT helped create more **positive social interactions** for students.
- The strategies and information shared in my collaborations with the OT helped create more **positive interactions between myself and students**.

The professional discussions that the OT and I had also helped to reassure me that my teaching practices were still valuable.

— Educator

Lastly, the educators provided numerous comments in support of the P4C service at the conclusion of the questionnaires. This feedback has been grouped and summarized below.

Quotes from educator questionnaires about capacity building:

- *“I look forward to working together to support my students and to gain skills that will help me support future students.”*

- *“Thank you for helping me to recognize strategies and ideas to help build my students’ skills in a positive way. Working as a whole class or small group is much more preferable to the withdrawal of a single student.”*
- *“This has been a terrific experience. I have learned a lot about the challenges some of our students face and I feel better about finding ways to help them. I especially value the ability to consult face to face with an OT each week if necessary.”*
- *“An amazing program, has helped a lot of students be successful at graphomotor tasks in class as well as in equipping them with alternative strategies. I have learned a lot from our OT and feel more confident in identifying students who face OT challenges.”*
- *“I think this program has certainly helped enhance the delivery of my lessons to students. Having such a fabulous OT offer advice and suggestions has helped better my teaching practice.”*

Feedback about the P4C service and hope for service to continue from Educator

Questionnaires:

- *“I have found working with our OT to be a very positive and productive relationship. We have problem-solved a variety of issues collaboratively and I hope to continue working with her.”*
- *“An excellent program that is providing much needed support to teachers and students. Our OT is very knowledgeable and understanding. She is personable and approachable and I have seen a lot of growth in my three students who have been following suggestions of our OT. The program is worth continuing!”*
- *“Having access to an OT has been invaluable. I would love to have greater access to an OT on a permanent basis.”*
- *“The P4C OT was amazing. She provided great tools and resources to support students. She was very patient and consistently concerned about their progress. She communicated with parents on a need-to-know basis and provided strategies for the home. We were very lucky to have her in our school for support!”*

Principals also cited **high satisfaction** with this model of service and offered strong support for the collaborative learning that occurred. Many principals offered unsolicited praise in support of the P4C service and indicated how helpful it was to have an OT as part of the school team to enable problem solving quickly without formal referral or the constraint of student diagnoses.

One principal said:

“...instead of waiting for suggestions for 18 months or whatever, we can get answers and we can get assistance with that right away...and the child feels better with their self-esteem because they are getting help to fix something before it becomes a much bigger problem.”

Lastly, an educator speaks highly about her experiences with the P4C service. This video can be accessed [here](#).

Her experience is echoed by the comment from a school board representative:

“As the teachers got more comfortable with her [OT], they would talk to their colleagues or there would be an understanding that ‘oh this person actually isn’t making more work for you...she is actually coming into your classroom with a different lens and maybe there is actually a lot that she can do to help you’.”

Making a Difference for Occupational Therapists

The Partnering for Change model of practice represents a significant shift for many occupational therapists. Training and regular mentorship meetings were identified by the OTs as essential supports to facilitate this change in practice. The increased OT capacity observed during the two year implementation study is likely attributable, in part, to this support. Evidence supports the need for ongoing mentorship.

- ✔ Training prior to starting in the schools, resources prepared by the P4C research team, and ongoing support and mentorship were highly valued by the P4C OTs.
- ✔ Regular peer mentorship meetings were important for peer support, problem-solving, resource sharing and building OT capacity.

Building OT Capacity

The Partnering for Change model of service requires occupational therapists (OTs) to deliver school-based services to children in a different way. Rather than services based on a direct, one-to-one intervention model targeting motor impairment, services are based on a population-based, health promotion, response to intervention model. This is a significant shift in practice for many OTs.

As a result, a comprehensive educational and mentorship program was developed by the research team and expert clinicians and was provided to the P4C therapists. The P4C OTs received extensive training and support, as reported in [Occupational Therapist Training in the Research Study](#).

Prior to participating in the training, all OTs were asked to complete a questionnaire entitled: *Partnering for Change Occupational Therapist Questionnaire: Exploring Occupational Therapist Skills, Knowledge and Beliefs*. The questionnaire included content about knowledge, beliefs about the model, and skills grouped according to whom the skill assists: children, parents or educators.

The questionnaire was completed with the OTs at three time points: in the fall of 2013, prior to the OTs participating in training and service provision (T1), in the spring of 2014, at the end of the first year of service provision (T2) and in the spring of 2015, at the end of the second year of service provision (T3).

Some OT staffing changes occurred during the study as a result of OTs changing employment or requiring maternity and health leaves. As a result, 22 different occupational therapists delivered the P4C service during the two-year study. All of the 22 P4C OTs completed a T1 and

T2 questionnaire. Ten OTs delivered the service for one year; either in Year 1 or Year 2, and therefore completed only pre- and post-questionnaires. Twelve OTs delivered the P4C service for both years of the study. This group completed the OT Knowledge, Skills and Beliefs questionnaire at three time points. The results are shown in Figure 1.

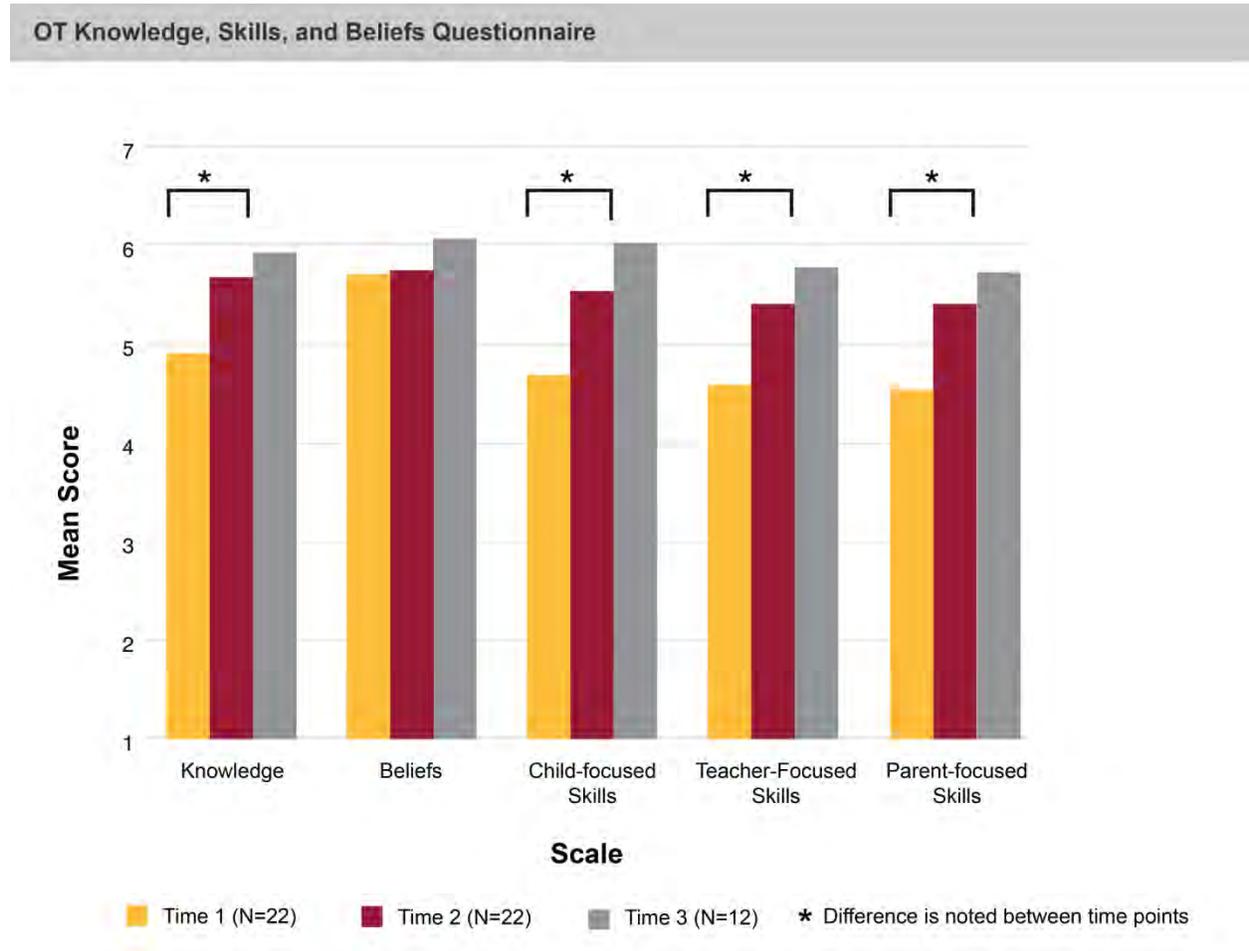


Figure 1

There was a statistically significant change noted between Time 1 and Time 2 in all categories of the questionnaire, with the exception of beliefs. This means that the OTs increased their knowledge and skills in all three content areas, in the first year of service provision. This change is likely attributable to the extensive mentorship support offered to the therapists.

Figure 2 shows the mean score increased for all categories on the questionnaire.

OT Knowledge, Skills, and Beliefs Questionnaire

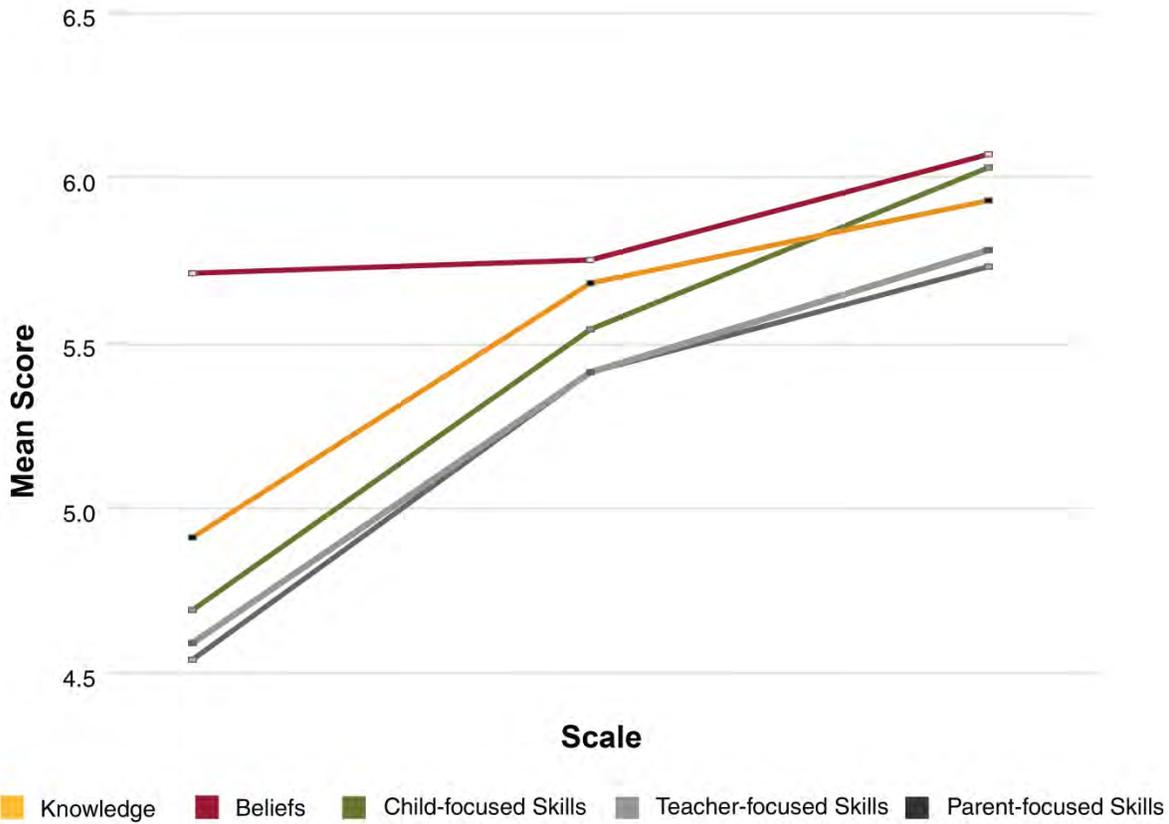


Figure 2

As shown in Figure 2, the OTs entered the study with a strong belief in the value of a collaborative, tiered, educationally compatible model of school-based occupational therapy. This is illustrated by the beliefs mean score being the highest of all domains measured on the OT Knowledge, Skills and Beliefs Questionnaire. The high beliefs score at Time 1 may be attributable to the process used to select OTs to participate. The service provider organizations that employed the OTs were provided with six true/false questions to share with OTs interested in delivering the P4C model. The questions asked about coordination difficulties, OTs’ role in schools and best practices and were to be used to screen interested candidates. It is likely that the OTs who volunteered to deliver the P4C model did so as a result of a belief in the value of this type of population based approach to school based occupational therapy service.

Although Figure 2 shows a steeper learning curve within the first year, the learning continued to increase in the second year and did not plateau. This suggests that OTs continue to require

support in the second year to gain additional knowledge and the necessary skills needed to facilitate this significant shift in practice.

Responses provided by the OTs support that claim. Although the OTs rated the mentorship and resources provided highly, it was noted to be essential that this support be continued.

OTs completed questionnaires at the end of the second year to evaluate the support and mentorship that they received from the team. Fourteen OTs responded to the evaluation survey. Mean scores on a seven-point scale, with seven as the highest score, were:

- 6.0: Online learning module
- 6.6: Training workshops
- 6.4: Mentorship meetings
- 6.6: Email/phone and Q & A with mentor

The OTs also identified other supports they valued including:

- Open communication with members of the P4C research team, including the OT Mentor
- Provision of resources on USB key
- Resource sharing with colleagues at meetings
- Online materials to share with parents, videos etc.

The OTs provided suggestions for the future:

- Continue to require completion of the modules
- Offer training workshops, ongoing mentorship, opportunities for interagency collaboration and peer mentorship
- Provide opportunities for shadowing other OTs
- Allow time to prepare prior to start of school year

While the OTs valued the support received, they also identified that the shift in practice was difficult to make and that an on-site visit from the mentor would be very helpful. The continued learning, shown on Figure 2, supports this.

At the end of Year 2, all of the OTs were also asked to write “pearls of wisdom” for: Future P4C OTs, Managers and Funders of the P4C service, and the P4C Research Team. The need for continued support was repeated in the “pearls of wisdom” offered to managers and funders, and the research team: “Continue online modules for learning” and “Monthly meetings for mentorship are critical for ongoing learning, problem-solving situations, sharing resources and supporting the team.”

Messages to the research team also reinforced the need for continued support: “Mentorship from the team has been invaluable. Future OTs would definitely benefit from having direct or indirect access to your guidance and support.” Monthly bulletin/newsletter teleconferences, and/or use of webinars were also recommended.

Upon review of all of the evidence obtained during the two-year study, the following preparation is recommended for implementation of the P4C model of service in future:

Recommendations for Training OTs to Deliver the P4C Model of Service	
Activities Required	Recommendations
Identification of Occupational Therapists (OTs)	<p>It is ideal to screen OTs to gauge their interest in and compatibility with the type of services offered in the P4C model</p>
Completion of P4C modules	<p>P4C OTs should complete all P4C modules prior to OT starting at a P4C school.</p> <p>The modules were licensed to the Ministry of Health and Long-Term Care (MOHLTC) for use during the P4C research project, with the licensing agreement expiring March 31, 2015. Additional copies must be purchased to meet copyright and licensing agreements.</p> <p>New modules and updated content are expected to be available in January 2016.</p>
Attendance at a P4C Training Workshop	<p>P4C OTs should complete a full day training workshop prior to starting to deliver the P4C service.</p>
Shadow an experienced P4C OT	<p>It is recommended that all new P4C OTs spend a day shadowing a P4C OT with experience.</p>
Offer monthly mentorship meetings for all P4C OTs	<p>It is essential that P4C OTs participate in monthly mentorship meetings during at least the 1st year of providing the P4C service to enable problem solving and peer support.</p> <p>The monthly meeting should be led by an OT experienced in delivering the P4C model of service. This is necessary to successfully implement a new and very different model of service.</p>
Offer mentorship as needed for individual support.	<p>It is essential that individual OTs have access to an experienced P4C OT who is available to provide ongoing support for new and existing P4C OTs. It is recommended that the mentor is available: for chart reviews; to provide support by telephone, email or in person meetings; and to visit a school as needed to support the P4C OT.</p>
Ensure opportunity for P4C OT self-reflection.	<p>It is recommended that new and existing P4C OTs reflect on their ability to deliver the P4C Model of service as intended and to consider how they are achieving the goals of the model.</p>

Table 3

Lastly, the P4C OTs also reflected on their ability to achieve the P4C goals in each of their schools. At the end of each school year, in Year 1 and Year 2, the OTs rated how well they were able to achieve the P4C goals in each of their schools. The OTs did not identify their school but were asked to rate goal attainment, on a 10-point scale (with 10 being the highest score), for each P4C school to which they were assigned.

Goal achievement increased in the second year.

OTs' Ratings of P4C Goal Attainment: Mean Scores				
Goal achievement	Year 1	Year 2	Year 2 Range	Mode
Facilitate earlier identification of children with DCD.	6.4	6.8	2–10	9
Build capacity of teachers to understand and manage the needs of these children.	6.4	7.0	3–9	8
Build capacity of parents to understand and manage the needs of these children.	5.1	5.4	2–10	3
Improve children's ability to successfully participate in school.	6.8	7.7	4–10	8
Improve children's ability to successfully participate at home.	4.5	5.7	1–10	7
Facilitate self and family management in order to prevent secondary consequences.	4.8	6.0	3–10	8

Year 1 N=39/40; Year 2 N=31/40

Table 4

The result of the therapists' self-reflection of goal attainment shows:

- OTs felt they were most effective in supporting the children's ability to participate more successfully and in building the capacity of the educators to support the children.
- There was a great deal of variation across the schools in the degree of perceived goal achievement. The factors that influence variation warrant further investigation in subsequent studies.
- Reaching parents continues to be a challenge within a school-based practice model. This is consistent with the comments from some parents that they would have liked increased opportunity to communicate with the OT.

Making a Difference for the Health and Educational Systems

Implementation of the Partnering for Change model resulted in efficiencies within the health and education systems. Children with special needs were seen when their needs were first identified and wait lists for occupational therapy services were eliminated in the schools that participated in the P4C study.

- ✔ Process diagrams showed efficiencies and “value added” activities within the P4C referral process.
- ✔ The variety of activities and services offered by the P4C occupational therapists (OTs) enabled more children and educators to receive service when needed and at an appropriate level of need.
- ✔ Earlier identification may lead to prevention of secondary consequences.
- ✔ Waitlists were eliminated at no additional cost.

P4C is Value Added: Process Efficiencies

A process flow diagram is a tool used by organizations to help pictorially describe the steps needed for specific operations. The diagrams show the key steps required in the process, (the boxes) and who is responsible for the activities (the horizontal rows or “lanes”). Each step (box) is colour-coded to indicate whether activities are “value-added” for a child and their family or not. To be deemed “value-added” an activity must meet three criteria. It must: transform the service; represent an activity of value that the recipient of the service would pay for; and lastly, be performed correctly the first time to avoid additional work.

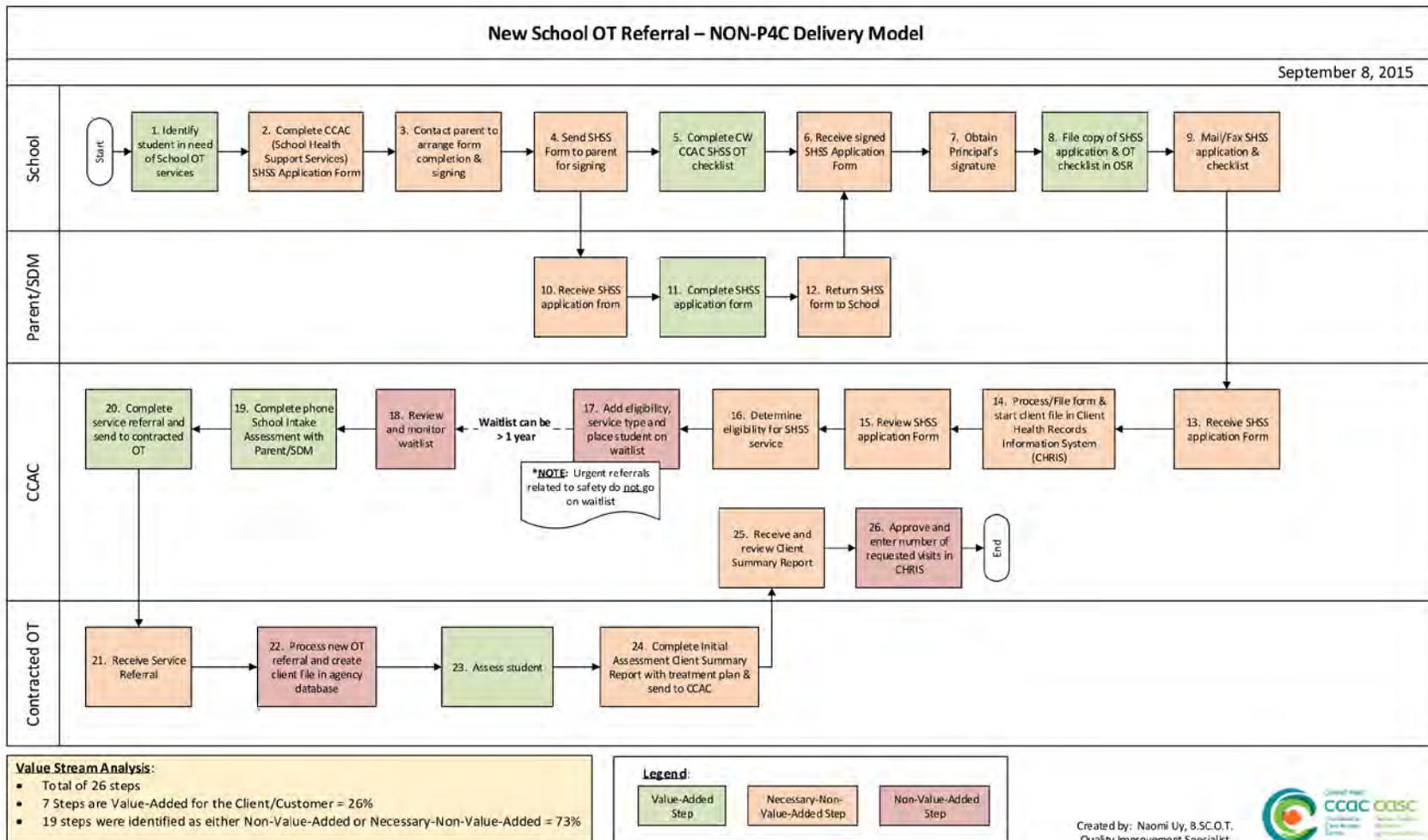


Figure 1 Non-P4C Process Map. Download this figure [here](#).

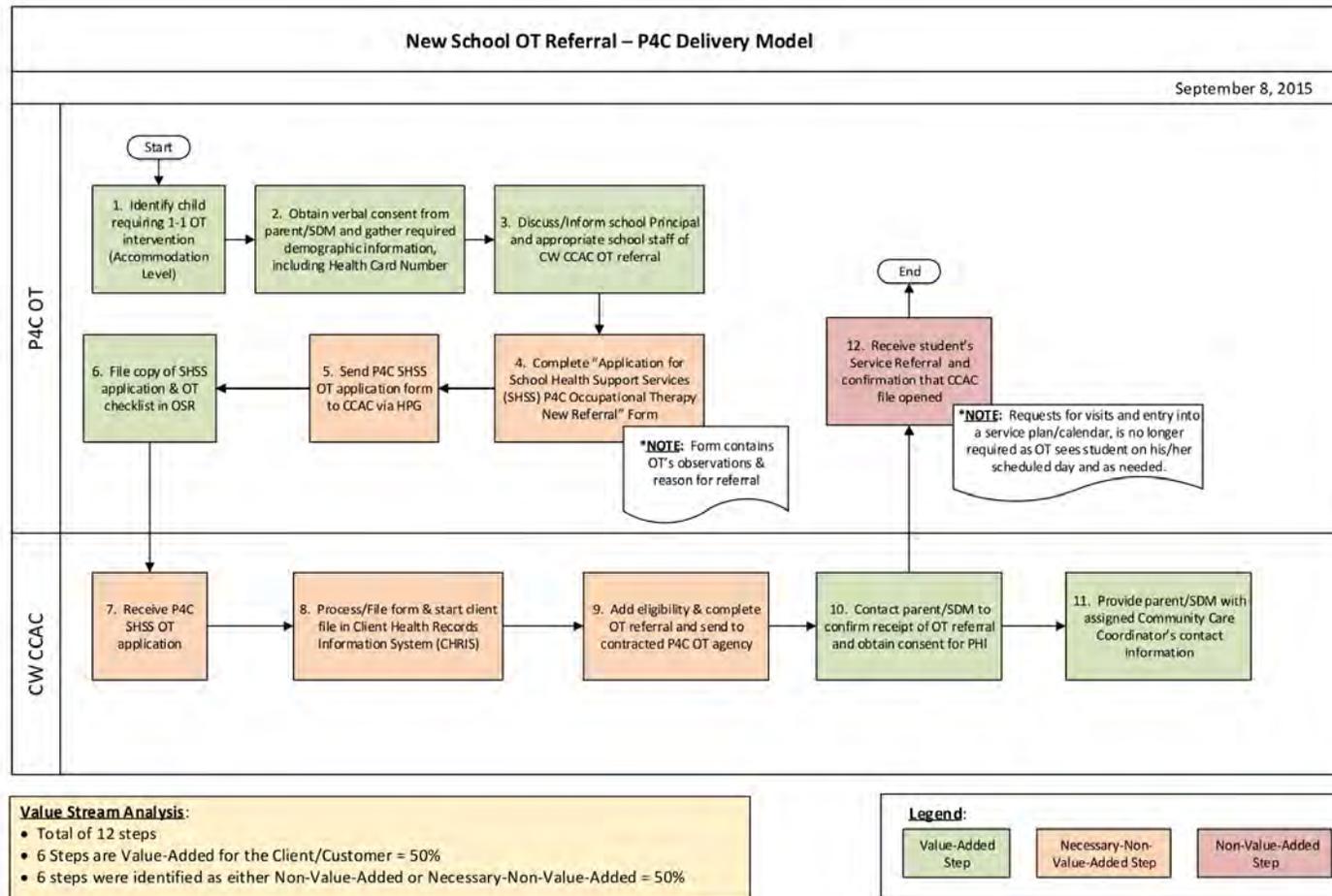


Figure 2 P4C Process Map. Download this figure [here](#).

The process flow diagrams shown in Figures 1 and 2 illustrate the actions required when a child at school is identified as requiring school-based occupational therapy (OT). The diagram for the “non-P4C” model shows the processes used prior to the introduction of Partnering for Change; the diagram of the P4C model shows the activities that occurred during implementation of the P4C model. Although both diagrams show the steps required to proceed with the same task, initiation of a referral for school based OT services, the diagrams are noticeably different from one another.

The diagram for the P4C model shows there are overall efficiencies (represented by fewer steps) and a higher percentage of steps that are value-added.

Figure 1 shows there are four different people/agencies responsible for all of the steps required within the “non-P4C” model. This is illustrated by the four distinct horizontal rows. There are also a total of 26 different actions or steps required; of these 26 steps, only 26% are considered “value-added” for the child and family; 74% are not.

In Figure 2, the process map of the P4C model shows that there are only two people/agencies responsible for all of the actions required when a child is identified as requiring P4C services at school. This is illustrated by the process map containing just two horizontal rows (rather than the four rows of the “non-P4C” model). The P4C Model effectively reduces the number of people and agencies by half and illustrates the improved efficiency of the P4C service model. There is also a significant reduction in the number of steps required. There are now 12 steps, rather than 26. Of the 12 steps required to initiate a referral in the P4C model, 50% are now identified as “value-added” for the child and family. This represents a significant and favourable increase in value.¹ Most importantly, more efficiencies results in less costs. Additional costing information is still being gathered from the two Community Care Access Centres (CCACs) that participated.

P4C is Value Added: Timely and Responsive Service

The efficiencies demonstrated in the process maps are consistent with the feedback received from project stakeholders, particularly within the school boards and participating schools. Educators cited the reduced paperwork required to initiate a referral for P4C occupational therapy services in contrast to their experiences within the traditional, “non-P4C” model of service. In addition to eliminating the lengthy referral mechanisms previously in use, the P4C service was immediate. Children were able to receive P4C services when their needs were first identified. Waitlists were also eliminated in the participating schools.

Having access to the P4C OT on a consistent basis allowed for strategies to be trialled and tailored immediately to the child’s needs, and avoided time wasted in using ineffective strategies. As capacity is built over time, the OTs may be able to focus on the more complex children who require their specialized knowledge and skills if the educators can support children with simpler needs effectively.

The P4C OTs also identified children in need of OT services earlier. Earlier identification and immediate service initiation will likely prevent some of the secondary consequences that we know these children experience.²

Prevention of secondary consequences will reduce health care utilization. Early identification and knowledge translation also supports parents in understanding why their child is struggling and reduces their need to seek out multiple referrals and consultations from a variety of health care providers.³ As a result of the P4C OTs' knowledge of both human health and the health care system, the OTs can support educators and parents in making appropriate referrals for the children who require additional services.

P4C is Value Added: Scope of Services

Occupational therapists' completed an electronic Daily Log for every day they provided P4C services at their assigned research school to record OT services delivered at all levels of the P4C pyramid. A total of 1,207 daily logs were collected in Year 1 and 1,443 daily logs in Year 2, indicating the total number of days that OTs provided service each year.

The OT daily logs illustrate the many varied activities required of a P4C OT. The types of services provided by the P4C OT differ tremendously from the traditional "non-P4C" model of one-on-one direct service provision. A P4C OT provides activities at three different tiers to support children. Occupational therapy services offered by the P4C OT therefore include: providing formal and informal educational opportunities for school staff, including "lunch and learns" on topics requested by educators; whole classroom Universal Design for Learning (UDL) activities and Differentiated Instruction (DI). These activities are additional activities that are not part of the role of traditional school health OTs yet in this study, and prior research on P4C, have been shown to be important for early identification and capacity building.

Figures 3 and 4 depict the percentage of time a P4C OT spends on each activity that comprises her or his role. The number of additional services offered by the P4C OT are striking, especially when this is contrasted with the traditional model of service, where service consists of travel to different schools, direct one-on-one service time, documentation and some communication with

You see the kids sooner, you can make recommendations and corrections so down the road they won't need you...these children are getting seen in the appropriate place at the appropriate time.

— CCAC

It was very beneficial having an OT in the school this year. It was much more valuable to have on the spot suggestions and strategies about students that she could observe. Students were supported in a timely manner, rather than waiting for a referral to CCAC.

— Educator

parents or the school via a team meeting, and does not include UDL, educational activities or specific activities to build capacity of those around the child.

How Occupational Therapists Spent Time in Year 1 (All Activities)

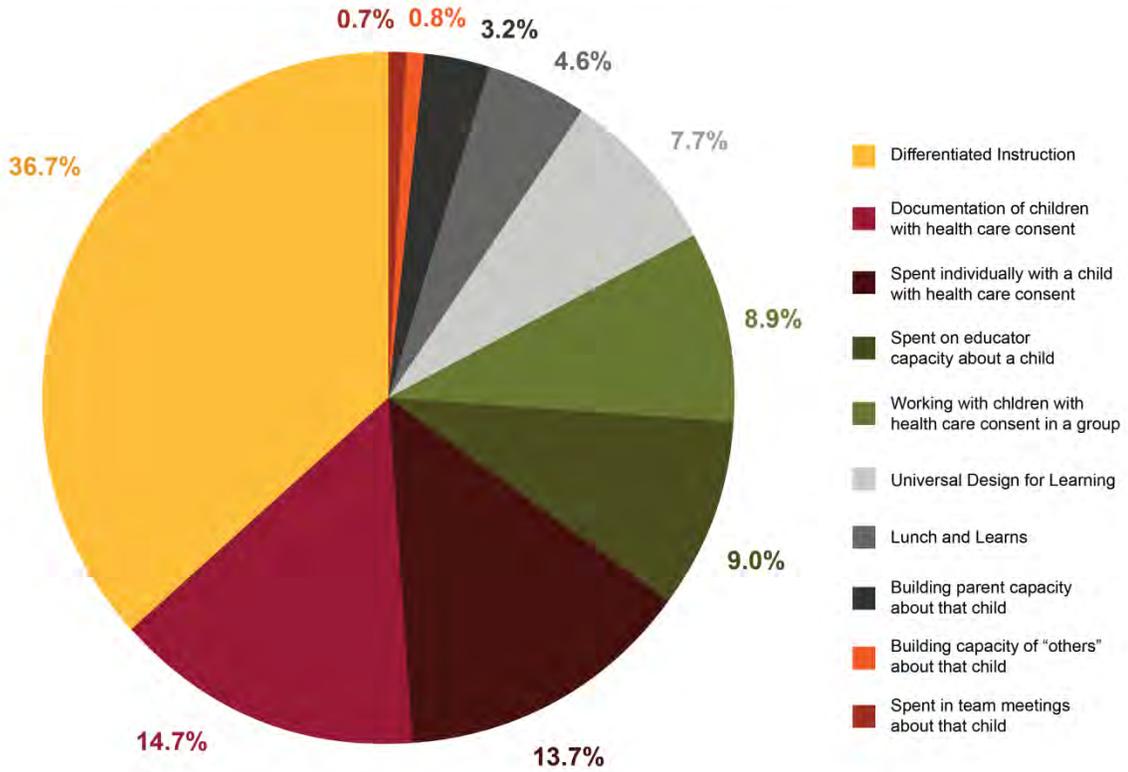


Figure 3

How Occupational Therapists Spent Time in Year 2 (All Activities)

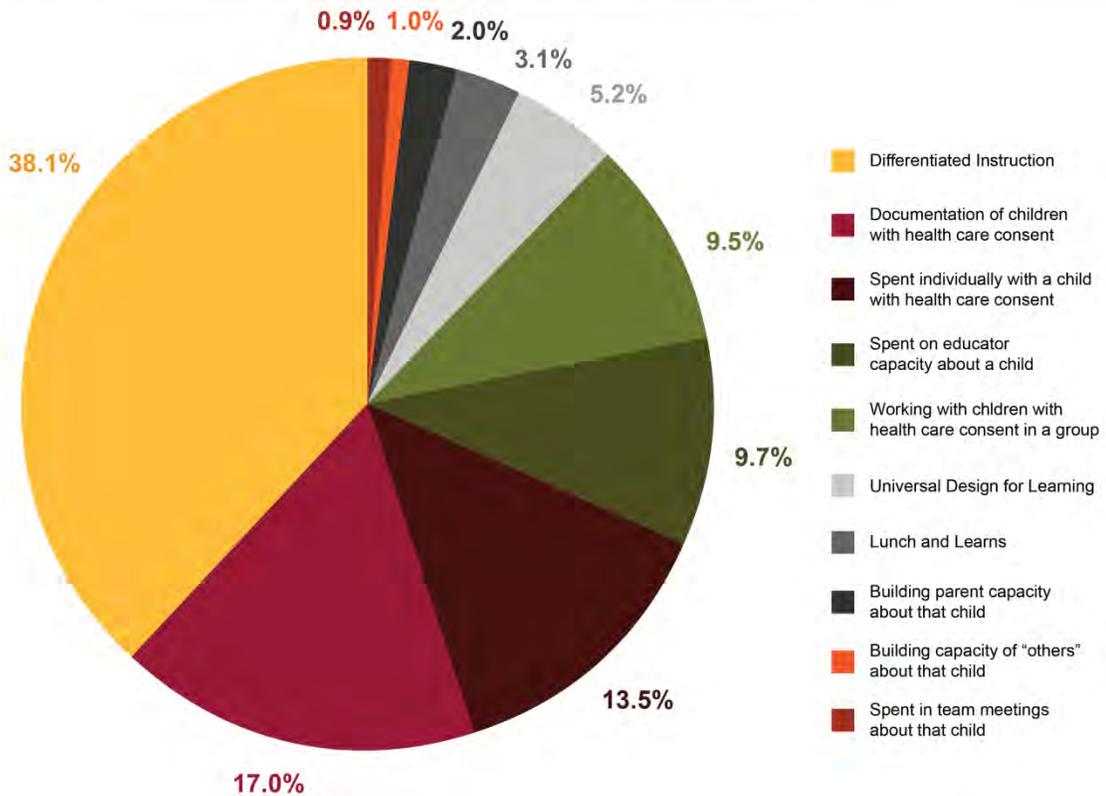


Figure 4

Figures 3 and 4 show that the OT engages in numerous activities in support of educators and the school community. The activities provide additional value for educators at the school, and add to a significant amount of time, particularly when the time spent building educator capacity, on “lunch and learns” and other educational opportunities and on UDL activities is added. These activities differentiate P4C from the other traditional “non-P4C” models of school based occupational therapy.

Interestingly, the proportions of how the P4C OT spent her time in both years remained fairly similar, which shows consistency of the service offered during the study. The OTs spent the most time on Differentiated Instruction, documentation and working with children individually. In Year 2, the time spent working with children in a group was more than the time spent building educator capacity, though the percentage of time remained fairly similar in both years; either the third or fourth greatest time was spent on those two tasks. It is important to monitor how this proportion of time changes as continued capacity is built within a school community.

Figures 5 and 6 depict the percentage of time a P4C OT spends on activities at the accommodation level of the pyramid. These graphs continue to show the numerous activities

the OT engages in, in support of a specific child for whom health care consent has been obtained.

**Occupational Therapists' Activities in Year 1 at the Accommodation Level
(with Children with Health Care Consent)**

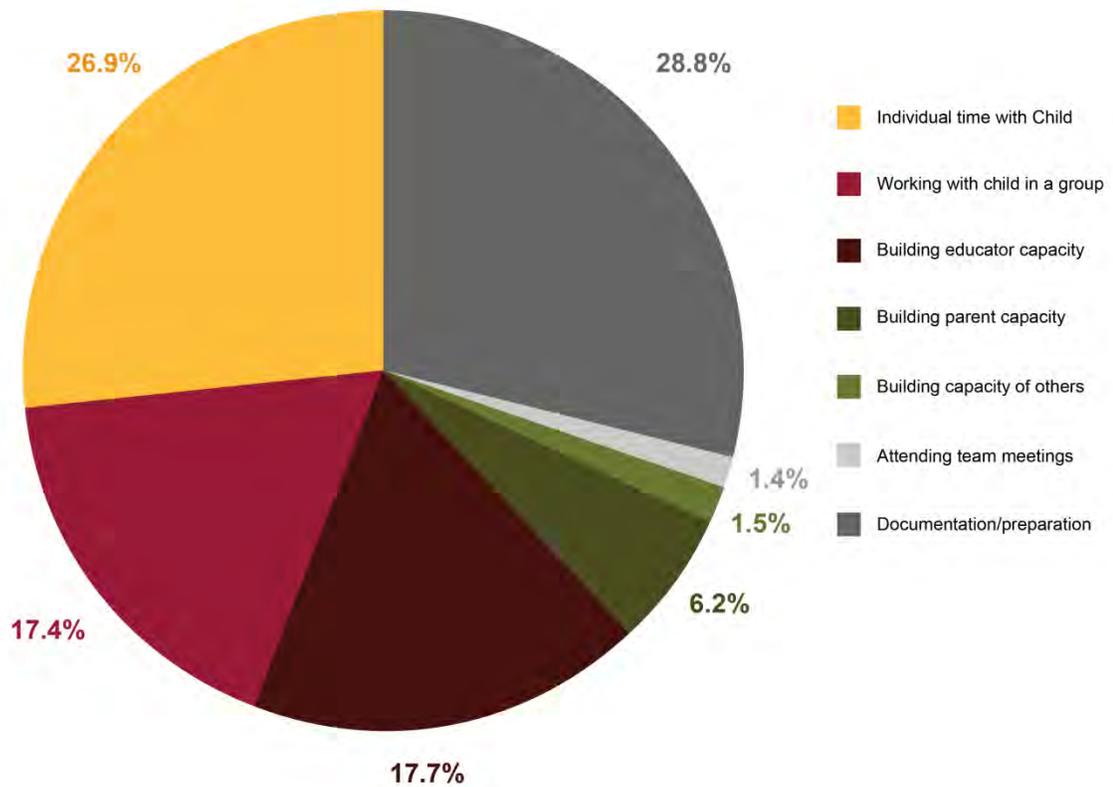


Figure 5

**Occupational Therapists' Activities in Year 2 at the Accommodation Level
(with Children with Health Care Consent)**

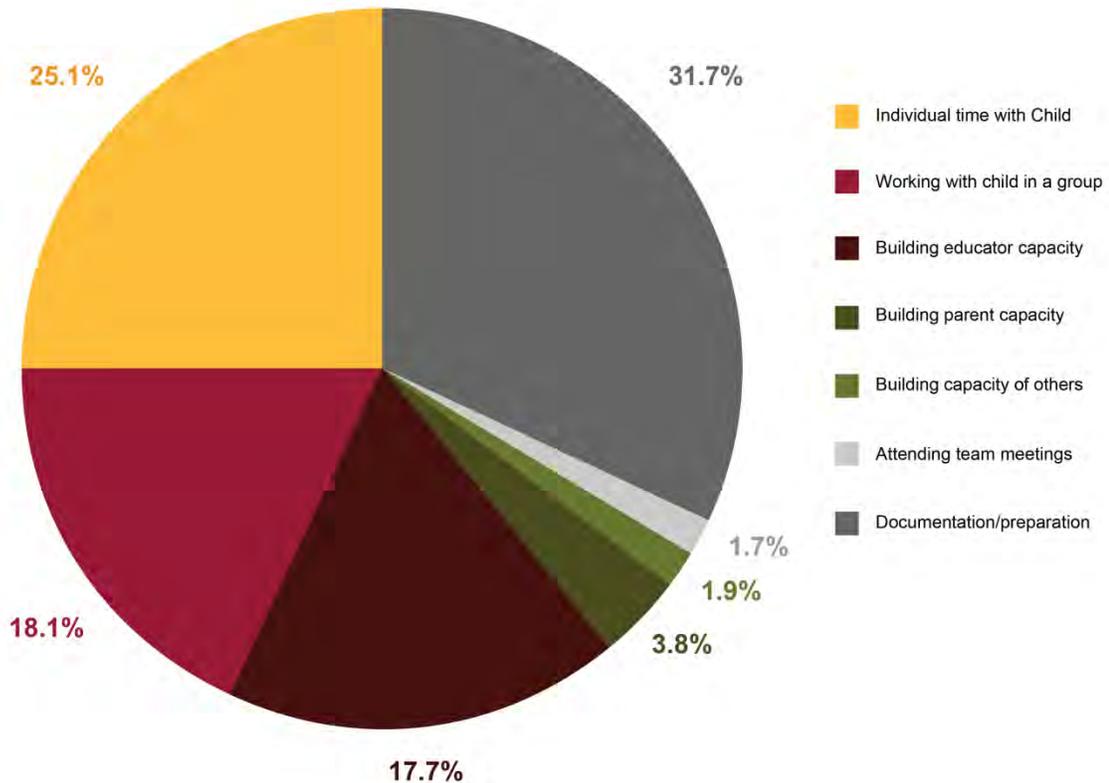


Figure 6

The figures show that at the accommodation level, the P4C OT spends the majority of time working with the child individually; completing documentation and/or preparation; working with a child in a group and building educator capacity. There is an increase in the amount of time spent on documentation and preparation (indirect activities) in the second year. This may be attributable to the feedback the P4C OTs received about documentation at the Year 2 “refresher training” or the OTs’ desire to leave children and their families with resources and tools the child can continue to use despite the project finishing.

The figures also show that the P4C OTs need to employ additional skills in the P4C model in contrast to the traditional model, to support capacity building and knowledge translation. As noted, mentorship helps to foster that skill development.

Although the P4C OTs acknowledged that significant learning was required, the OTs reported the model resulted in job satisfaction. Quotes from two different OTs demonstrate their satisfaction:

- *“I think it has allowed me to actually be an OT and not just be a printing teacher or whatever. It allows me to look at a student holistically, it allows me to collaborate with different professionals...again it allows me to bring my skill set and knowledge and work with the team of professionals to the benefit of the...of an individual and look at a much more holistic approach which is very, very nice.”*
- *“I think it’s been the first time where I’ve actually been able to take all the things that I used to tell everybody else to do with the kids and actually put it into practice...so I think putting all of those theories into actual practice has been a huge change for me...and I have to say I feel like I’m actually an OT when I’m doing this. I’m not just kind of a quick consultant in and out. We get to actually do stuff now as opposed to telling everybody else to do it.”*

This is consistent with findings from the demonstration project.⁴ Occupational therapists report much higher amounts of job satisfaction and therefore retention of experienced therapists may follow. This finding and the varied activities that comprise the role of a P4C OT have implications for workload management and planning.

The amount and type of activities that the P4C OTs provided to schools varied depending on the needs of the school community. This support was recognized and provided value to the school community:

- *“I found the P4C OT very helpful this year as she really felt like a part of our staff. She was invaluable in a number of different aspects of our students’ education (e.g. at staff meetings, meetings with parents, drop in sessions for students and teachers, etc.). All of these interactions with her provided the students and teachers with the necessary knowledge, tools and skills for us to be successful!”*

— Educator

1. Deans, R., & Wade, S. (2011). **Finding a balance between “value added” and feeling valued: Revising models of care. The human factor of implementing a quality improvement initiative using Lean methodology within the healthcare sector.** *Healthcare Quarterly*, 14, 58-61.
2. Missiuna, C., Cairney, J., Pollock, N., Campbell, W., Macdonald, K., Schmidt, L., Heath, N., Russell, D., Veldhuizen, S., Cousins, M. (2014). **Psychological distress in children with developmental coordination disorder and attention-deficit hyperactivity disorder.** *Research in Developmental Disabilities*, 35, 1198-1207.
3. Missiuna, C., Moll, S., King, G., King, S., & Law, M. (2007). **A troubling trajectory: The impact of coordination difficulties on children’s development.** *Physical and Occupational Therapy in Pediatrics*, 27, 81-101.

4. Campbell, W., Missiuna, C., Rivard, L., & Pollock, N. (2012). **“Support for everyone”:
Experiences of occupational therapists delivering a new model of school-based
service.** Canadian Journal of Occupational Therapy, 79, 51-59. doi:
10.2182/cjot.2012.79.1.7.

Lessons Learned

The research team monitored the implementation of the P4C model in 40 schools via occupational therapists' daily logs, OT focus groups, and interviews conducted with key stakeholders at the end of each school year. Analysis revealed a number of 'lessons learned' about implementing a new model of rehabilitation service delivery in schools, suitability of the P4C framework for others, and future program evaluation activities.

- ✔ Implementing a new model of service delivery requires a major transformation of people and systems.
- ✔ The P4C framework is suitable for children with different types of special needs, and likely for other rehabilitation service providers.
- ✔ Program evaluation of the P4C model in schools should address components of accountability, quality and outcomes.

Lessons for a New Service Model

Key stakeholders, including school board administrators, educators, occupational therapists and Community Care Access Centre staff consistently identified the same primary themes about the implementation of the P4C model. These themes need to be considered for any implementation or expansion of a new model of rehabilitation services in school settings.

- ✔ A 'transition period' in the first year of implementation allows for all of the changes needed to transform from the existing model.
- ✔ All of the partners need to understand the model and how it differs from previous types of service delivery.
- ✔ Training and mentorship are key components of implementation. Training needs to take place before OTs start in the schools.
- ✔ Strong partnerships enable everyone to work together to address barriers to implementation.

Implementation of a new service model was transformational

Implementation of Partnering for Change was more than just starting a new service. It required a transformation from an 'old' way of thinking about providing occupational therapy services in schools to a very different approach. Instead of remediating one child at a time, a health promotion lens was used to view the whole school and all of the children in it, including those with special needs and those children who were struggling and who might have previously remained unnoticed. The transformation process was complex and it took time to change ways of thinking and doing:

- *"The transformation is huge...we've been at a pay-for-service delivery model for many, many years. All of us have to start to rethink."*
— Community Care Access Centre
- *"You are trying to change your practice but at the same time you are trying to tell all the teachers about the model and educate them about the model and you are trying to*

change what kids are doing and you are trying to change what the teachers are doing. There was so much that it was overwhelming.”

— Occupational therapist

- *“Think differently, right? You cannot think the traditional service provider model that we have; you cannot keep those thoughts in your mind. You have to get them out of your mind and think, okay, this is a different way of providing service.”*

— Community Care Access Centre

- *“...as we learned by experience, then we could figure out the solutions, the things that were going to work, the strategies that were going to work. And it took months.”*

— P4C team member

A transition period is needed for successful implementation

Key stakeholder interviews identified numerous activities that needed to take place before full implementation of the P4C model in schools, including changes in documentation, tracking, billing and reporting processes. A significant issue for both the CCACs and the OTs was how to manage transferring children from CCAC active caseload and waitlists to the P4C OTs. Waitlists are eliminated in P4C, but the existing waitlists have to be dealt with first, during a transition year.

School board personnel and staff in each school needed to learn about the P4C model, how it differed from the previous model, and about their roles and responsibilities within the model. Presentations were given in every school, and were also provided for principals, resource staff, psychologists, speech language pathologists and Special Education Advisory Committees at a board-wide level in response to requests from school board partners. At the beginning of the school year, all parents in the P4C schools were sent a letter describing the P4C model and indicating how they could access the service.

- *“There would be some changes needed in CHRIS [the information system]...to account for the model and to accommodate the model.”*

— Community Care Access Centre

- *“We had to change the way they [the service provider organizations] were billing because in this model you can’t do individual child billing.”*

— Community Care Access Centre

- *“...first we had to call all the parents [of children on the waitlist], do all that stuff, get all the paper work...then we had some invoicing issues.”*

— Community Care Access Centre

- *“I know that that when we initiated this, it was setup in a certain way to...take on waiting lists...it was so broad and there were so many layers of things...”*

— Occupational therapist

Another reason that a transition period is needed is that the foundational elements of the P4C model — relationship building and knowledge translation — are critical for successful implementation. Partnering for Change was delivered once per week for nearly two full school years. The importance of spending time to establish relationships between educational and

rehabilitation professionals became really evident to multiple stakeholders during this time. Relationship building was also identified as a significant factor in the success of the prior demonstration project of Partnering for Change.¹

- *“Once [OT] become known to staff then, just like any support person, they’re in the school once a week...they become a familiar face, they gain trust. You build that relationship, then it happens.”*
— School board
- *“...there is a good amount of information sharing so that we’re all on the same page and we’re all working together. And again the relationship piece comes through loud and clear.”*
— Community Care Access Centre
- *“I think the relationship building was really, really key in all of my schools because from there I was able to build rapport on a very deep level with educators...and the knowledge translation was much better when I had the relationship in place.”*
— Occupational therapist

Training and ongoing mentorship are essential for successful implementation

The eight online training modules and initial orientation workshop need to be completed by OTs before they start providing the new service model. OTs who did not have the opportunity to do this (e.g. due to sudden coverage for a therapist leave) commented on how difficult the transition was when the modules were not completed prior to starting to deliver the service. The group mentorship meetings that occurred throughout the two years of the project were reported to be necessary and highly valued to support the OTs in changing their practice.

- *“Those modules were so helpful for us to wrap our heads around the long lasting effects of DCD and I personally learned so much from them. I knew DCD as a diagnosis but I didn’t understand how it really translates as children grow older within the education system.”*
— Occupational therapist
- *“I think that mentoring, that problem-solving discussion, was huge...when a program starts like that, face-to-face is vital. The strength of the P4C and the way we ironed out our issues so quickly, was because people came together. They all got the same message at the same time.”*
— School board
- *“I think that mentorship piece is key...I think it would not be as successful if it were to span out on a big level without that piece built into it. I think what would happen is that...an ‘old’ model would just be replicated within me and I don’t think that we would see that agent of change or that sort of paradigm shift...”*
— Occupational therapist
- *“I think that if this is supposed to be going to move forward, as it should, I think that whoever is going to fund it...has to build that piece in. All of these resources that have been developed are so essential. Just the opportunity to brainstorm and share and vent*

and problem-solve is such a key component of it that I think it would not be as successful without that piece built into it.”

— Occupational therapist

The need for ongoing mentorship support was also identified in the measures completed by the OTs at the end of the second year. The OTs were asked to write “Pearls of Wisdom” to share with future P4C OTs, Managers and Funders, and the P4C Research Team. There were several comments and recommendations for ongoing mentorship and support including: “Providing monthly mentor meetings is essential; sharing resources, problem solving challenging situations to build and support the team.” Additional quotes are reported in [Making a Difference for Occupational Therapists](#).

This theme is also consistent with the findings of Campbell, Missiuna, Rivard and Pollock.¹ Interviews with OTs who delivered the P4C service in a prior demonstration project also revealed the importance of ongoing mentorship support: “Monthly peer support meetings also were perceived as a critical component of the P4C project.”

Barriers were identified and strategies developed through strong partnerships

Throughout the two years of the project, barriers to implementation emerged. Because of the strong partnerships that had developed in the early stages of the implementation process, strategies to address most barriers were identified, tried, reviewed and revised as needed. The solutions that arose as a result of that collaboration now serve as recommendations for the future.

Parent Involvement

At the end of the first year of the project, many different stakeholder groups identified the need for the OTs to increasingly connect with parents. It was suggested that this contact would help to build parents’ capacity to understand their child’s needs and to enable parents to use strategies identified by the OT to facilitate the child’s participation. Barriers to parent engagement were identified and included: timing; if parents worked full-time; English as a second language; and the large size of some of the schools which resulted in an increased number of parents to be contacted. Parent readiness and the need for further information to help parents understand the change in service model were also cited as barriers to parent engagement. Although the OTs began to develop strategies to improve parent/family engagement in the second year of the project, it is recommended that innovative methods to connect with families continue to be considered and studied in the future.

- *“...now we are doing things a bit earlier where we are the first point of contact...a lot of the times they [children] are in kindergarten or very early young kids where the issues are starting to kind of come into play and the parents are either not ready to accept it or they haven’t really seen it or had an opportunity to understand that piece of it.”*
— Occupational therapist
- *“So many times I would call parents to tell them [what I was doing] and they’d be okay, sounds great, do whatever. I’m glad you are helping!”*

— Occupational therapist

- *“At a smaller school, the parents were more accessible in terms of drop off or pick up, and I did have more relationships with parents. At my larger school I had almost no chance other than the odd phone call. I made contact with all of the parents at the beginning of the year as the new OT in that school but, even with that, many parents didn’t call me back.”*

— Occupational therapist

The team noted that very few evening workshops for parents were offered during the transition period: these could be encouraged as parents who did attend were highly satisfied. A number of the OTs had other suggestions about how interaction with parents might be improved:

- *“I made sure I had something in the newsletter, ‘please contact me if you have questions.’ I had a couple of parents who did call and, because it was parent initiated, I have been able to have good communication back and forth. Someone else was a parent volunteer who said ‘you know, I am wondering’...Parent initiation made a difference.”*

— Occupational therapist

- *“It’s hard during the school year sometimes to tackle everything because there are so many issues going on but I found in the past in the summer when we ran groups or camps that the parents were a lot more involved and a lot keener to implement stuff because they only had one thing to focus on. So that’s an idea, in terms of connecting with families, maybe doing something in the summer and then the parents can really be involved as well [be]cause they actively bring their kids every day which demonstrates the fact that they have some concern and they are willing to kind of do stuff to help them.”*

— Occupational therapist

Waitlist Management

In the first few months of the project, the OTs faced challenges implementing the P4C model because the need to facilitate early identification through knowledge translation and collaboration with educators seemed to conflict with acceptance of, and immediate responsibility for, individual children from the CCAC active and waitlists.

- *“Because I think what’s happening is we are trying to be the coach and the educator but we’re getting confused and thrown back into our old role of seeing kids one-on-one because of the Community Care Access Centre referrals that have been given to us.”*

— Occupational therapist

- *“And it wasn’t just the Community Care Access Centre piece, there was some pressure to get kids to the top of the model when we should have been spending more time probably the first six to eight months down at the bottom of the model, building our resources, getting into the classrooms...”*

— Occupational therapist

Barriers were also identified by the OTs who delivered the P4C service in a prior demonstration project.¹ The OTs in the demonstration project reported challenges “balancing competing demands” and with the “sheer volume” of activities at the school.

In response to this challenge, the P4C Working Group developed strategies for the second year of the project to more gradually transition children off the CCAC waitlists to the P4C OTs, and this worked well.

Communication and Documentation Across Systems

P4C OTs need to access varied sources of information about each child in order to provide effective P4C services at all levels. Consideration needed to be given to who stores child files and how information is shared across health professional and educational reporting systems. Each school board approached issues of file storage and access to board intranet and communication differently. Communication and privacy issues arose during meetings with speech/language pathologists and with principals. Issues considered included: how will other school board speech/language pathologists or psychologists know about the P4C OT involvement? Can the OT access the school intranet? If the OT attends In-School Resource Team meetings, how is the OT’s input documented?

The P4C team worked with each board separately to identify the best resolution to issues that emerged, to ensure adoption of solutions that fit within the school board’s existing practices for communication and documentation. Legislation, policies about communication, privacy documentation, office space and access to technology are issues that should be addressed collaboratively and early in the implementation process.

Compensation for Occupational Therapists

One barrier that emerged at the end of the project was not able to be addressed during the study. Although OTs reported a high level of satisfaction with delivering the P4C model of service, the OTs identified a significant decrease in salary, compared with a fee for visit model of service in which travel costs are paid in addition to the visit. The role of service provider organizations in this type of service delivery has also changed because the OTs no longer bill for each visit and the documentation is greatly reduced. The extra layers of involvement and contact that are not value-added in the traditional model have been captured well in the Process Maps. Partnering for Change therapists provide much more direct service time and there are fewer steps involved in processing referrals. Compensation for direct provision of rehabilitation services in school settings warrants further consideration when this model is implemented.

- *“I think the reality of things is that the funders need to keep in mind too in order to keep the OTs in this position you need to...pay them appropriately for the amount of work that they do.”*
— Occupational therapist
- *“I realized we are paid less than an entry level teacher and here we are using our own time. We show up and we do our best and it’s not always recognized.”*
— Occupational therapist

1. Campbell, W., Missiuna, C., Rivard, L., & Pollock, N. (2012). **“Support for everyone”:
Experiences of occupational therapists delivering a new model of school-based
service.** Canadian Journal of Occupational Therapy, 79, 51-59. doi:
10.2182/cjot.2012.79.1.7

The Partnering for Change Model Can Be Expanded

Over the two years of the project, it became evident that children with different types of special needs were being supported by the P4C OTs and that they benefitted from the P4C service. Many stakeholders speculated during individual interviews that other rehabilitation professionals could also use this model; however, this needs further study.

- ✔ The P4C model is suitable for most children with special needs and those who have developmental challenges.
- ✔ P4C is perceived to be applicable for other rehabilitation professionals who provide service in school settings.

Children with all types of special needs

The daily logs completed by occupational therapists (OTs) and the OT focus groups demonstrated that the P4C OTs had the capacity to see children with all types of special needs and were, in fact, doing so. As reported in the [Findings](#) section, at least 30% of the children receiving the P4C service had issues other than motor challenges that were affecting their daily participation in school. Key stakeholder interviews also showed that many thought this model could be used by other rehabilitation professionals in schools.

- *“I think this model could be rolled out in other areas where you could look at...how do you better manage the volume of children that are referred to school health. And is this a model that actually will meet their needs — not just for the DCD population, but beyond that.”*
— Community Care Access Centre
- *“...say if I’m in the JK SK classroom and there are kids that we are noticing as having difficulties. They aren’t kids who necessarily have special needs — maybe they are just delayed. So it is showing other people...we’re not just seeing kids with identified special needs, we are seeing all the kids.”*
— Occupational therapist
- *“Could this model actually...evolve into a model for physiotherapy service delivery as well, you know? I think there is the possibility of transitioning to other disciplines.”*
— Community Care Access Centre
- *“I think it’s a model we could probably use for Speech...”*
— Community Care Access Centre

The OTs who delivered the P4C service in the demonstration project also perceived that the P4C model would be beneficial to all children. Several OTs noted that the model “will work for

not only kids who have coordination difficulties, but for kids in general” and that “It’s for anyone who really needs assistance”.¹

Use of the P4C model with children with different types of special needs, and with other rehabilitation professionals, is worthy of further consideration and future study. Further discussion of the types of health and developmental conditions that can be identified at different points in a child’s life is reviewed in the [Policy Implications](#) section.

1. Campbell, W., Missiuna, C., Rivard, L., & Pollock, N. (2012). **“Support for everyone”:
Experiences of occupational therapists delivering a new model of school-based
service.** Canadian Journal of Occupational Therapy, 79, 51-59. doi:
10.2182/cjot.2012.79.1.7

Lessons for Future Program Evaluation

The research project studied numerous aspects of quality of care, accountability and outcomes over the two years. In the second year of the project, both Community Care Access Centres (CCACs) began to consider how they would address program evaluation of this new service model once the research project was completed. During interviews in the second year of the project, numerous ideas were identified.

- ✔ Mechanisms for determining accountability, quality and outcomes have been identified and need to be addressed in future program evaluation.
- ✔ A workload approach to tracking therapists’ activities and time use fits better with the P4C model than the traditional caseload management approach.

Quality, Accountability and Outcome

Current literature about program evaluation within healthcare services focuses on three broad areas: quality, accountability and outcome.¹ During interviews in Year 2 of the project, key stakeholders identified components of these three areas of program evaluation that they felt were relevant to school based, integrated rehabilitation services and needed to be included in future program evaluation activities:

Quality

Quality includes: equitable access to care; timely access to care; access to occupational therapists; good relationships; consistency of service provision.

Accountability

Accountability includes: doing what you say you will do; [fidelity](#); cost effectiveness; knowledge translation.

- *“It’s about using the resources — the right resources in the right way; so, achieving the highest quality at the lowest cost is always the most important thing.”*
— Community Care Access Centre

- *“Accountability for me means that we’re delivering a service that we are expected to do, that our staff that are in the schools are providing that support in the school setting that they should be.”*
— Community Care Access Centre
- *“If the OT is a consistent presence at the school, the teacher gets it! The child’s seating is correct every day, not just when the OT is there.”*
— Occupational therapist

Outcomes

Outcomes includes: self-confidence in children; participation; satisfaction; capacity building; early identification.

One recommendation was to move tracking and reporting processes from the traditional ‘caseload’ approach, which uses a system of individual billings for each child served, to a ‘workload’ approach that takes into account the complexity of the school context and the variety of intervention strategies being used by the occupational therapists.

- *“If a child has some input by an OT there she’s not just going to look at that one child, she’s going to look at the whole environment...so it’s like not just dealing with that child, it’s dealing with the whole thing...it’s the whole class approach.”*
— Community Care Access Centre
- *“Workload is reflective of requirements in an educational setting and includes assessment and interventions as well as ongoing collaboration with education staff, communication with the children’s parents, and participation in school and district-level committees.”*
— Occupational therapist

An evidence-based [research project](#) completed by two Master’s Level occupational therapy students with support from the P4C team and CW CCAC partners, proposed several additional recommendations to facilitate evaluation of the quality, accountability and outcomes of the P4C service.

1. Perrin, K. M. (2015). **Essentials of planning and evaluation for public health.** Burlington, Massachusetts: Jones & Bartlett Learning.

Policy Implications

The two year implementation and evaluation study of the Partnering for Change Model resulted in important findings that may inform decisions regarding provision of services to children with special needs in school settings. The policy implications that emerged are clustered around five themes: implications of key findings; implementation of the P4C service model; relevance to the Ontario Special Needs Strategy; relevance to Inclusive Education; and future directions for research.

- ✔ Partnering for Change is an evidence-informed model of service delivery: the evidence to date supports expansion of this model for all children with special needs and by other rehabilitation professionals.
- ✔ Implementation of a new model of service delivery, to replace a long-standing model, requires time to transform thinking, build partnerships, change system processes, and develop common language for collaborative communication.
- ✔ The Ontario Special Needs Strategy is designed to eliminate the silos between health and education and provide more seamless access for families: Partnering for Change provides a bridge between health and education for children with special needs.
- ✔ The P4C therapists are a potential resource for educators and schools who are moving toward more inclusive classrooms.
- ✔ The P4C service that was delivered was consistent with the principles of the model and its goals were achieved: some aspects will require further research.

Policy Implications from Key Findings

The earlier sections of this report, presenting [Findings](#), [Making a Difference](#) and [Lessons Learned](#), are rich with evidence that supports use of the Partnering for Change model to provide occupational therapy services in schools for children with special needs. Analysis of the findings informed policy implications.

- ✔ P4C, as designed and delivered in this study, achieved the goals of increasing early identification, building capacity and improving participation of children with special needs. More time is required to definitively demonstrate prevention of secondary consequences.
- ✔ Successful capacity-building requires relationship building, which is achieved by consistent provision of P4C service at the school.

Key Recommendations

As a result of the findings detailed throughout this report, the research team would like to highlight the following recommendations, many of which have direct policy implications:

Partnering for Change is a model of service provision that is responsive to local contexts and culture.

P4C occupational therapists (OTs) were asked to rate the extent to which they had achieved each of the goals of Partnering for Change, in each of the schools in which they provided service. The variability of responses reflects differences that were encountered in each school

culture. The same OT provided service to more than one school (up to four) and was able to be flexible in approach in response to the culture of the school and the socio-demographic factors affecting children and families in different regions and school boards.

Many children are able to be reached in the P4C model of service. P4C OTs provide support to the whole classroom, which is particularly important for younger children who may or may not have special needs.

The P4C service is provided at a whole classroom level which means that it reaches children who might otherwise be under-identified as well as those who do not require identification, just a bit of support. The tiered approach means that children receive the amount of support that they need, when they need it, which is one of the aims of the [Special Needs Strategy](#). Having the OT in the classroom on a regular basis will also serve as a resource for educators who are moving toward inclusive education. In the P4C study, OTs spent nearly 10% of their time each day working to [build the capacity of educators](#) to understand and manage children with special needs in the regular classroom.

A tiered model is appropriate, with an emphasis on universal design for learning and the suggestion of strategies that are “good for all but essential for some” children. Several parents who were approached did not wish to have their child receive individual accommodations but asked the P4C OT to ensure that their child continued to receive appropriate OT support in the classroom. While the OTs identified many young children who were struggling in full day kindergarten, they were able to support them and monitor their progress, without “identifying” the child as having special needs. If the child did not respond to the classroom-wide intervention, however, the OT could easily increase the level of involvement, without waiting for the child to be in Grade 1 and have to be referred to a waitlist.

The frequency of P4C service at the school is important for capacity building. Educators appreciated the consistent, regular service delivery in their schools.

Educators and occupational therapists repeatedly emphasized how important it was to be a regular and consistent presence in the school. In this study, that presence was weekly and the findings, which demonstrated that capacity of educators was building incrementally, may not generalize to alternative models of service delivery. There are many factors which affect the OTs’ ability to manage a number of schools and these need to be [systematically studied](#).

P4C provides equitable and seamless access for families. The majority of parents were satisfied with the service provided by the P4C therapists.

The demographic information that was collected in this project indicates that P4C OTs were able to provide service to families who might not otherwise request it. In P4C the therapist is the point of first contact, which negates the need for lengthy and resource-intensive referral mechanisms before the child is able to receive support; works with educators and whole classrooms of students in schools, providing support that increases all children’s participation and achievement; provides service without the need for diagnosis of health care conditions or formal psycho-educational assessments before supports are able to be put in place. The family

can raise concerns about their child with the health professional without going through a formal review process. There is no waitlist, if the OT is present on a regular basis.

83.7% of parents reported that the P4C occupational therapy service was beneficial to their child and/or family. 83.1% were satisfied with the service to a moderate or great extent. Although many parents were very satisfied, some parents expressed a desire for more information. Future studies should continue to find innovative ways to help OTs and parents to connect with one another, particularly since the findings of our study support how [valuable the resources and connections with the OT were to parents](#).

Occupational therapists have the skills and training to address varied needs of children in school settings, including mental, social and physical health issues.

The OTs delivered many services in an expanded role. They identified children far earlier and provided support in the context of the classroom right away. Some OTs identified slightly older children who were beginning to show the secondary consequences of DCD, including lowered self-esteem. These children were sometimes bullied and two children in Grade 3 were identified who had suicidal ideation. OTs demonstrated in this project that they can [suggest strategies in far more areas than just written productivity](#). OTs could be better utilized throughout the school system, including in middle school and high school to address many of the mental health issues that impact on school performance. They are able to provide support for children with executive function issues, inattention, organizational problems, anxiety, as well as to recommend technology or software that reduces some of these difficulties.

Waitlists can be eliminated in this model with no additional costs.

By the end of the first year of implementation both the Central West (CW) Community Care Access Centre (CCAC) and the Hamilton, Niagara, Haldimand and Brant (HNHB) CCAC reported that waitlists were eliminated in the 40 participating research schools. All stakeholders were very satisfied with this outcome.

Implementation of the P4C Service Model

The Partnering for Change Model was implemented successfully in this study, in three diverse school boards and two health regions; success was due in large part to the partnerships that were forged at many levels and to the commitment to ensuring that the P4C service was delivered in the way it was intended. Barriers identified along the way were: “medical model” tracking; the need for time to transition over to a new model; differences in roles and expectations across health care and education systems; the need for change in administrative processes and billing procedures; the importance of maintaining the principles of P4C during expansion of the model; and the time required for such a significant transformation. Efficiencies were identified that, could reduce costs and provide more “value added” interactions for families.

- ✔ Implementation of a different model of service delivery, to replace a long-standing model, requires time to transform thinking, address barriers, build partnerships, change system processes, and develop common language for collaborative communication.

- ✔ A transition period in the first year of implementation would enable systems and people to make the necessary transformations for successful implementation of this new model.

Transforming Thinking

Partnerships and effective communication are required prior to implementation of the P4C model.

Exceptional partnerships were developed between the research team, the Central West and HNHB CCACs, the administration at all of the school boards, the occupational therapists and the Ministry representatives. Despite excellent support from the Toronto Central (TC) CCAC, particularly at the Chief Executive Officer level, it was not possible to introduce the P4C model of service within the Toronto District School Board.

Consideration needs to be given to the type of rehabilitation services, and current model of service delivery used in each school board, prior to recommending any change. Discussion and partnerships need to be established to understand both differences and similarities in order to effectively implement new models of service delivery.

Time is required to effectively implement such a significant change in service delivery.

During this study, the Central West (CW) and Hamilton, Niagara, Haldimand and Brant (HNHB) CCACs met with each participating school board to discuss how the P4C service would be introduced and supported within their board. Time was required for this, to ensure discussion and support for local needs and context. System challenges needed to be discussed and solutions determined for issues such as access to internal board wide intranet communication, storage of files, access to photocopying etc. Any board-wide decisions regarding access need to be communicated to the individual schools and approved by the principals. During the P4C project, the TC CCAC also approached many of the private schools with whom they partner to discuss implementation of the P4C model of service delivery. Time is required to partner with each private school, one at a time. Educators within each type of school, and families, need to become familiar with the new model of service delivery.

A common language needs to be established that meets the needs of the education, health care and rehabilitation systems.

During the project, the Peel District School Board (PDSB) identified a need for a common language as a result of discussions between the In School Support Teacher (ISST) and the P4C OT working in her school. Members of the research team met with two ISSTs and a consultant with Special Education Support Services to share information and develop a common language that could be used at In School Review Committee meetings, or generally at the school, when an OT is involved with a child. It was agreed this would enable improved documentation of the child's needs and would enable "a more accurate paper trail" or audit, especially when a student moves to another school.

Change is needed within administration and system-level processes to identify potential efficiencies and to ensure sustainability of the model.

As the [process maps](#) demonstrated, the referral and tracking system in Partnering for Change requires the involvement of far fewer individuals and is more coherent and seamless for families. Even fewer steps could be achieved. The OTs provide more direct service to children, educators and families in this model; however, changes needed to be made to the method of documenting the strategies and supports that were found to be successful. Changes could also be made to the way in which OTs are hired, trained and supervised, which might address the concerns identified in [Lessons Learned](#) about reimbursement. Given the large waitlists, a transition period is needed which is focused on “waitlist management”, prior to the OT being able to deliver the P4C services according to the principles of the model.

Relevance to the Ontario Special Needs Strategy

The Ontario Ministries of Children and Youth Services, Community and Social Services, Education, and Ministry of Health and Long-Term Care are collaborating to develop a Special Needs Strategy that ensures children and youth with special needs receive timely and effective services from birth to the end of their schooling. This strategy highlights the provision of integrated rehabilitation services that are delivered in school settings to ensure a more seamless experience for families and children.

- ✔ Partnering for Change aligns well with the intent of the Ontario Special Needs Strategy.
- ✔ P4C eliminates the need for diagnosis of health care conditions or formal psycho-educational assessments before supports are put in place.
- ✔ P4C eliminates waitlists and reduces processes and paperwork.
- ✔ P4C increases direct service time and improves children’s participation.

Partnerships

As the name implies, Partnering for Change (P4C) also reflects the partnerships that must be formed across Ministries and service systems, if the needs of children and families are to be met. In this study, P4C involved provision of rehabilitation services, currently funded by both the health care system and children and youth services, in an educational environment.

Children and youth with special needs are supported through a broad range of intervention types: educator coaching and capacity building; one-on-one intervention, classroom based Universal Design for Learning (UDL) interventions, and parent education.

P4C health professionals collaborate with, and coach all who “circle the child”: parents, educators, and other health care professionals.

Because P4C therapists are regularly at the school and available, youth and parents are encouraged to seek out their expertise as needed; a diagnosis is not required for service. P4C health care professionals can therefore serve as the first point of contact for families. Even though therapists may change over the years, consistent delivery of the P4C service into the child’s school means that families will perceive it as seamless.

In this study, P4C was shown to negate the lengthy, intensive referral mechanisms previously in use. P4C resulted in far less paperwork for all involved when children with special needs were referred for more individualized services. It also showed that the P4C service eliminated wait lists in the schools which complements the focus on a single wait list for service and the emphasis on wait list management required by the Special Needs Strategy. Children are able to receive services when their needs are first identified.

Although not a requirement of the Special Needs Strategy, the Partnering for Change model focuses on meeting needs of the entire school and, therefore, there is increased focus on classroom-wide and group interventions. This is consistent with the literature that shows that one-on-one service provision may not be the most appropriate method of intervention for many children. This also means that children who, for a variety of reasons, might be under-identified in the current system, are able to benefit from the provision of service to the whole classroom.

When Is It Possible to Identify Children with Special Needs?

When considering the Developmental Screening Process and the early identification that is facilitated by Partnering for Change, one needs to think about the earliest age at which it is possible to identify children with different types of special needs and the intensity of services that they, and their families, are likely to require.

Tables 1 and 2 provide a simplified description of the types of developmental and/or health conditions that might be identified at different ages and stages of development. The prevalence rates are approximate and are intended to provide general guidelines only.

Children with special needs who can be identified *before* school entry:

Age at which we can identify	Examples of Children's Developmental Conditions / Special Needs	Prevalence (approximate)	Need for Rehabilitation or Healthcare Services
Group 1: At or near birth	Very preterm infants, medically-fragile, technologically-dependent, severe Cerebral Palsy, complex medical and developmental comorbidities.	Very low (<1%)	High, diverse and continuing throughout lifespan. Often require complex coordination of services.
Group 2: 0 to 3 years	Cerebral palsy, Spina Bifida, Autism Spectrum Disorder, medical and genetic syndromes.	Low (2–3%)	Initially medium-to-high for family support, then low; periodic need for specialized services.
Group 3: 1–4 years*	Specific language impairment, Intellectual Delay, High-functioning Autism, Motor Delays, Fetal Alcohol Syndrome, psycho-social or socio-economic circumstances that are not facilitating children's cognitive, motor, language or social/emotional development.	Not yet known: Developmental Screening Process will target the identification of children in this group.	Initially medium, to support families, then low, if children are identified (children with these types of conditions might also be identified to P4C therapists upon kindergarten entry)

* Currently, most children with these conditions are not identified prior to school entry. The Developmental Screening Tool being developed by Dr. John Cairney et al., may be able to identify some children whose "temperatures" are high in different developmental areas.

Table 1 Children with special needs who can be identified before school entry

Children who are able to be identified at or near birth may have very high medical needs (Group 1) and may be more appropriately served by a different model. Children who have special needs such as those described in Groups 2 and 3 may benefit from provision of P4C; however, this needs to be demonstrated through further research.

Children with many other types of developmental and health concerns may not be able to be identified prior to school entry. Research findings suggest that the P4C service is appropriate to facilitate early identification of children who have the types of developmental conditions and special needs listed in Table 2. In this model, rehabilitation professionals are able to work with educators and families to identify children who are experiencing difficulties and to problem-solve and implement strategies that support their participation in the classroom.

Children who can be identified *after* school entry using the P4C model:

Age at which we can identify	Examples of Children's Developmental Conditions / Special Needs	Prevalence (approximate)	Need for Rehabilitation or Healthcare Services	Is there evidence for P4C?
JK / SK to Grade 3	Developmental Coordination Disorder, Attention Deficit Hyperactivity Disorder, Specific Language Impairments, High-functioning Autism, Asperger Syndrome, Intellectual Delay, Sensory Issues, Acquired Brain Injury	>10-15%	Initially medium, then low, and occasional, if identified. May be served at different tiers of the model	Yes
Grades 4 to 8	Secondary consequences of above conditions, if not recognized — Anxiety, Depression, Low Self-Esteem, Social / Behavioural Issues, Learning Disabilities, Decreased Academic Achievement, Overweight / Obesity	Prevalence, as above but children have more issues	Increasingly complex, if not identified early	Yes

Table 2

Partnering for Change: Complementing the Developmental Screening Process

One of the purposes of the Developmental Screening Process is to screen all children many times when they are young. Different types of developmental needs (physical,

psycho/emotional, social, communicative, and cognitive) can be picked up at different points in time.

The P4C model of service enables provision of support in full-day kindergartens and primary classrooms to help educators and Early Childhood Educators build knowledge and skills regarding typical and atypical development and to manage expectations of children who are at different developmental stages.

P4C therapists introduce UDL strategies that support all children, including children whose “developmental temperature” is raised simply by the transition to full day kindergarten. Families may not be ready to identify that there is a problem so the UDL and small group approach works really well.

P4C therapists contribute the eyes and knowledge of a health professional within the school environment. When a child is identified as struggling, P4C involves engagement with families and educators to build capacity and support optimal development.

How Does Partnering for Change Align with the Special Needs Strategy?

The inequity currently occurring across Ontario pertains to access to rehabilitation services: wait-times for service can be lengthy; some parents choose to pay privately for rehabilitation services; and many children with special needs are under-identified and fall through the cracks.

P4C provides more equitable access because the therapist:

- is the point of first contact, which negates the need for lengthy and resource-intensive referral mechanisms before the child is able to receive support,
- works with educators and whole classrooms of students in schools, providing support that increases all children’s participation and achievement,
- observes children in the classroom context to support those who are struggling,
- works with small groups of children, tries out simple strategies, then monitors their response to the intervention,
- determines whether a child needs more individualized health care or rehabilitation services. If so, it is still provided in the school context in collaboration with educators and

There’s also work going on right now in terms of special needs strategy at the provincial level and this model of service is being promoted and shared at those tables. So there’s a lot of opportunity to talk about what the P4C model looks like, what implementation issues it has for a school, how we had services and how it can be delivered in a different way. As well looking at it beyond OT, are there other disciplines that you could be using similar type of models? I think there is a really big opportunity to look at things in a different way.

— CCAC

families, eliminating waitlists. This model enables flexibility and opportunities for care planning to ensure children's needs are met.

Thus, P4C incorporates health promotion that permits informal developmental screening of all children for developmental and learning needs. It eliminates the need for diagnosis of health care conditions or formal psycho-educational assessments before supports can be put in place.

P4C moves away from one-on-one services that are focused on remediation of deficits and offers a health service that is needs-based, focused on participation, consistent with evidence-informed practice and that can be integrated into care plans for children with special needs. The P4C service enables support to be provided for children when required, including at times of transition, such as moving to middle or high school. Our research has demonstrated that P4C reaches more children, enables therapists to spend more time in direct service and is more efficient than a one-on-one approach.

Relevance for Inclusive Education

Inclusion of students with special needs in regular classrooms has become commonplace across Canadian schools. The expectation that students will receive instruction with their peers in an age-appropriate setting is the first choice for optimal instructional practice and leads to successful learning as well as greater social adaptability. While the positive impact of inclusion is well established, concerns exist over the availability of resources to support inclusive practice. Partnering for Change provides rehabilitation professionals who are a potential resource for classroom teachers and schools.

- ✔ The partnership in Partnering for Change is reflected strongly in the collaborative relationship between the OT and the educator.
- ✔ Collaboration between the OT and the educator facilitates participation of all children with special needs in the regular classroom.

Differentiated Instruction and Universal Design for Learning

In the 2005 release of *Education for All: The Report of the Expert Panel on Literacy and Numeracy Instruction for Students with Special Education Needs* and the subsequent release of *Learning for All*, the Ontario Ministry of Education clearly encouraged momentum for teachers in Ontario to utilize Differentiated Instruction (DI) and Universal Design for Learning (UDL) as foundational parts of their instructional process in order to address the needs of all learners, including those with special needs.^{1,2} Partnering for Change provides support at all tiers, bringing a different knowledge base and set of skills to support classroom teachers in context.

In 2006, *Special Education Transformation: The Report of the Co-Chairs with Recommendations of the Working Table on Special Education* also clearly reinforced that regular class should be the first choice of setting for children with special needs in Ontario schools.³ One of the overarching goals of this report was a movement from a reactive model of referral for rehabilitation services to a proactive one that focused on prevention. This report also

recognized that collaboration and consultation through service integration with all health and educational partners was essential to success.

Currently in the province of Ontario a variety of service delivery models exist for students with special needs. Some school boards continue to have self-contained settings for students with special needs (in particular, for students with developmental disabilities) while others embrace a more inclusive model.

For school boards working towards increasing inclusion, P4C provides a complementary process that focuses on intervention at the classroom level, where the curriculum is delivered. The OT does not remove the child from the classroom but provides multiple opportunities, in context, to enhance teacher practice and knowledge with regard to working with students with diverse needs. P4C also provides proactive intervention for students who have not yet been recognized but who may be in need of support. The P4C service:

- utilizes the regular classroom to provide rehabilitation services to students with a variety of needs,
- involves consultation and collaboration with the classroom teacher and other school personnel in authentic ways,
- allows for students' learning to be optimized and the learning of all professionals to be enhanced,
- provides support at multiple levels.

P4C addresses the need to place instruction and rehabilitation within the child's learning environment and thus maximizes the effectiveness of any suggestion or strategy. The collaborative relationship between professionals allows for learning to take place not just at the student level but even more importantly, at the practitioner level.

1. Expert Panel on Literacy and Numeracy Instruction for Students With Special Education Needs (2005). **Education for all: The report of the expert panel on literacy and numeracy instruction for students with special education needs, kindergarten to grade 6.** Ontario: Queen's Publisher for Ontario.
2. Ontario Ministry of Education (2013). **Learning for all — A guide to effective assessment and instruction for all students, kindergarten to grade 12.** Ontario: Queen's Publisher for Ontario.
3. Bennett, S., & Wynne, K. (2006). **Special education transformation: The report of the co-chairs with recommendations of the working table on special education.** Ontario: Queen's Publisher for Ontario.

Future Directions for Research

Many partnerships developed over the past seven years, particularly during the Implementation and Evaluation Study. A strong foundation has been established and the Partnering for Change service is already expanding in southern Ontario. We now know a great deal more about the factors that influence the implementation of the P4C service model and what conditions are

needed to foster success. We also have clear evidence that P4C identifies children with special needs earlier, streamlines the referral process, eliminates wait times, and reaches large numbers of children. We have promising evidence to show that P4C is effective in building educator and school capacity, and supporting children's participation. Yet, there are many important questions remaining that will need to be answered through further research.

- ✔ This was an extraordinarily successful project due to the partnerships that were established between researchers, knowledge users and stakeholders.
- ✔ Considerably more research is needed regarding whether there is prevention of secondary consequences, how the P4C services are delivered, training and supporting rehabilitation professionals, expanding the model, and costing.

Recommendations for Future Studies

Although this two-year study has provided a wealth of evidence and lessons learned about the P4C service model, like any good research study, it also has resulted in a new set of research questions that now need to be addressed. In the following section, the team has outlined what we believe are some of the key priorities for next steps in the evidence-building process.

Research Priorities related to the P4C model of service as originally developed:

- Determine the most effective approaches for engaging families and building their capacity to support and advocate for their child.
- Track children over time to monitor changes in behaviour at school as they become older; specifically, monitor for mental health problems and peer problems.
- Longer term evaluation to determine whether the P4C service is able to prevent secondary consequences in children with special needs.

Research Priorities related to “how” P4C services are delivered:

- Further develop and refine a fidelity “toolkit” that can reliably evaluate the consistency of the P4C services being offered across schools and regions.
- Evaluate options for modifying the frequency and timing of how P4C services are delivered to determine the optimal “dosage” required to attain positive outcomes for children, families, and schools while ensuring a manageable workload for rehabilitation professionals providing the P4C model of service.
- Evaluate P4C over a longer time period to determine if it is viable to adjust the “dosage” of P4C services over time (e.g. provide more intense services initially when P4C is first introduced into a school with a gradual reduction in services as school capacity is increased).
- Identify factors that influence the workload associated with P4C and evaluate options for how to best optimize workload demands with effective delivery of the P4C service (e.g. size of school, socio-demographic factors, number of children with special needs, distance to rural and remote schools).

Research Priorities related to training and supporting OTs to deliver the P4C model:

- Examine different methods of mentoring and monitoring OTs to support them as they deliver P4C (e.g. meetings, observation, chart audit, satisfaction surveys).
- Develop and evaluate resources and modules to enhance OTs' ability to work with children with other types of special needs and to provide resources for their families, similar to the ones developed and evaluated for DCD (e.g. children with autism, cerebral palsy, ADHD, developmental disabilities, acquired brain injury).
- Develop online modules for training OTs so they can be available across the province.
- Develop and evaluate presenting the OT training materials as a course.

Research Priorities related to expanding the P4C model:

- Determine if the P4C model is consistent with the activities of other school-based rehabilitation professionals (e.g. speech-language pathologists and physiotherapists), and engage with these groups to investigate how the P4C model could be adapted for their use.
- If the model is consistent with their aims, determine the training needs of these other school-based rehabilitation professionals.
- Study implementation of the P4C service model in middle schools and high schools to identify the types of services needed in these settings with students who are older.
- Examine factors that affect the implementation of P4C in private schools.

Research priorities related to costing:

- Comparative costing (of the P4C model of service with other school-based models of service delivery).
- Comparative costing of different methods of implementing P4C (e.g. transition year; waitlist management; capacity building first).

The Partnering for Change team would be interested in [discussing](#) any of these research priorities with Ontario Ministries.