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## 1. Project Title and Purpose

**Title of Catalyst Grant:** Building Capacity Across the Province to Prevent and Manage Challenging Behaviours

**Project Lead:** Karl Gunnarsson (transitioned to Kelley Anstey) – ABI Behaviour Services

ONF Clinical Practice Guideline Recommendation:	Project Purpose
<p><b>A 2.3: Coordinating Management of Comorbid Conditions</b></p> <p>Healthcare professionals working with individuals having sustained a traumatic brain injury (TBI) should be trained in behaviour disorders specific to TBI in order to apply consistent neuro-behavioural change strategies            Level of evidence: B</p>	<p>West Park Healthcare Centre (WPHC), working with a steering committee comprising all 4 neuro-behavioural programs in the province proposed an overall goal of <b>building system capacity to support individuals with the full range of challenging behaviour from agitation and confusion to aggression and violence.</b></p>
<p><b>I 2.2: Post-Traumatic Amnesia</b></p> <p>To minimize agitation and confusion associated with post-traumatic amnesia (PTA), individuals with traumatic brain injury (TBI) should remain in a secure and supervised environment until they have emerged from PTA. It is recommended to: (1) Maintain a quiet and consistent environment on the ward and avoid overstimulation; (2) Consider the use of low-stimulation rooms; (3) Evaluate the impact of visitors, assessment and therapy and limit these activities if they cause agitation or excessive fatigue, allowing rest as needed; (4) Minimize the use of restraints, while facilitating the use of alternate measures in order to allow the person to move around freely; (5) Have consistent healthcare professionals or trained caregivers working with the person with TBI; (6) Establish the most reliable means of communication; (7) Provide frequent reassurance; (8) Present familiarizing information as tolerated by the person; (9) Help family members understand PTA and how to minimize triggering agitation            Level of Evidence: C</p>	<p>WPHC designed a project to:</p> <ul style="list-style-type: none"> <li>- Synthesize the literature that summarizes the broad contexts that alter the potential for the exhibition of challenging behaviours (specific to this population) into an environmental evaluation tool</li> <li>- Administer the environmental evaluation tool to hospital sites (particularly those who had indicated ‘not fully implemented’ on a pre-implementation survey)</li> <li>- Summarize the environmental profiles and to design an educational program to teach nurses, other healthcare staff, and managers theoretical concepts and corresponding strategies to reduce behaviours for individuals with traumatic brain injuries (TBIs) and more broadly acquired brain injuries (ABIs).</li> </ul>

## 2. Project Description

### A. Methods

#### **Behavioural Tool**

- Established a steering committee to guide the initiative. Representatives from the 4 neuro-behavioural programs were selected and consulted through the project to enhance stakeholder engagement and support more clinically robust outcomes. Each site further provided at least one Behaviour Therapist to consult to a provincial BT working group.
- Through collective clinic experience and literature review, the Behaviour Therapists identified five broad categories of environmental influence, whose presence or absence was postulated to have either a triggering or inhibiting effect on risk behaviours. The team identified processes to proactively evaluate individual risk factors, transitional processes, processes for client engagement, sensory experience, and staff behaviour. They scrutinized each domain of environmental influence and developed a list of factors to analyze for occurrence or deficiency within each broad domain. A final tool comprised of 105 dichotomous questions was synthesized.
- Ten (10) sites were then solicited from across the province to participate in an environmental survey wherein the tool would be administered. Sites were initially recruited from those sites who had indicated on a pre-implementation survey of the 109 priority recommendations that they were not fully implemented within the project's targeted CPGs. Uptake was low and additional sites were recruited through expressed interest or invitation.
- Prior to a site visit, sites were requested to collect 30 days of demographic data on the clients supported by their respective units as well as to complete a measure of confidence, capacity, and competence in supporting clients with ABI and challenging behaviour. This data was used to inform the final profiles and organization change recommendations.
- Behaviour Therapists from the steering committee member organizations administered the environmental evaluation tool and a compare/contrast interpretation profile was provided to the sites including recommendations for environmental change at the conclusion of the final site survey.
- Information on staff burnout was also collected as part of the staff behaviour domain as it was postulated that caregiver burden influences staff behaviour.

#### **Workshop and Online Module**

- A full day workshop was designed concurrent to these processes to further support in altering challenging behaviour by strengthening individual skills and organizational practices. This workshop was delivered at WPHC in November 2018 to an audience of 48 professionals representing 11 community organizations and 9 hospitals. It included three main presentations: Antecedent Management, Mindful Staff Responses and Functional Assessment, and Function Based Intervention.

- Following the conclusion of the workshop, feedback from the site surveys and the workshop evaluations was analyzed to further concentrate the educational content to areas of express interest. This content was provided to a third-party agency to aid with the development of an online module with multi-media technology.
- The first iteration of the on-line module, [Altering Challenging Behaviours in People with ABI](#)<sup>1</sup>, was released on the WPHC web platform in March 2019. The module includes pre and post measures of capacity and feasibility which are regularly monitored to inform content changes and the potential provision of additional personalized educational content. Content includes:
  - o Baseline survey, welcome, introduction
  - o What is Behaviour?
  - o Why Behavioural Interventions
  - o What is Challenging Behaviour
  - o How do we Measure Behaviour
  - o Strategies
  - o Staffing Behaviour as an Antecedent
  - o Case Example
  - o Summary
  - o Feasibility Survey
  - o Outcomes Survey

## B. Data Collection Tools

### Tools to measure clinical process

- Sites were asked to collect 30 days of information on the clients supported by their units using the **30-Day Data Collection Measure**<sup>2</sup>
- The **Environmental Evaluation Tool**<sup>3</sup> informed the processes currently being utilized at participating sites and was synthesized by the project team.
- Caregiver Burnout was also measured. This is a copyright protected measure used by permission only.

### Tools to measure clinical outcome

- Environmental Evaluation Tool (see above)
- Analysis of percentage of inhibitors present
- Comparison to a provincial composite score
- Following the face-to-face workshop the **Workshop Evaluation Form**<sup>4</sup> was used as a feedback measure
- **Pre-**<sup>5</sup> and **post-**<sup>6</sup> capacity, confidence, and competence measure is embedded in the online module along with a feasibility measure.

## **Tools to measure implementation process and implementation outcome**

The effectiveness of the implementation process was largely informed by dialogue amongst the steering committee and working groups on a regular basis. Most significantly, the growth of the Environmental Evaluation Tool was continuously monitored for: utility, ease of application, relevance, and additional influences or mitigating factors to add to the evolving tool.

The **Action Item Tracking Log<sup>7</sup>** was also utilized by project leadership to develop the agenda for steering committee meetings and to report on working group(s) progress.

### **C. Findings (Process and Outcome)**

#### **Response Rates**

- The response rate from potential site participants was poor. Twelve (12) sites were sent an initial e-mail describing the project and querying their interest in participating.
  - o Five (5) sites or 41.6 % responded and did go on to become site participants.
  - o Follow-up telephone calls were made to the remaining seven (7) sites and while there was some initial interest and teleconferencing, none of these sites ultimately agreed to participate.
- A further eight (8) sites were contacted and of these five (5) ultimately participated in the project which leaves a final response rate of 50% from the total 20 possible site participants.
- As funding was limited to ten (10) sites, the penetration for the first project phase was not deep in contrast to the second project phases where 20 different organizations were represented at the November workshop. The uptake on the on-line resource will be continuously monitored and we hypothesize this virtual workshop may have the most widespread dissemination.

#### **Participating Sites**

- All of the sites that participated in the site visits demonstrated areas of potential improvement across all sections of the environmental evaluation tool. The environmental domains that had the most pronounced potential for improvement were **transitional processes** and **sensory experience**. This indicates a proactive environmental approach to addressing challenging behaviour at the organizational level has utility.

Behavioural data indicated that facilities that do not focus on behavioural improvement of clients have a very low rate of challenging behaviours in their facilities. The highest prevalence of targeted behaviours were in the area of agitation and confusion. This data does indicate that educational content and environmental strategies focusing on lower-level pivotal

behaviours does have merit and further likely has a corresponding effect on the potential exhibition of higher level target behaviours.

The caregiver burden data shows not all staff experience burn out. In fact, it shows that staff who deal with higher rates of challenging behaviours more regularly demonstrate a lower level of caregiver burn-out than those that deal with behaviour less frequently. Given what we know of behavioural facilities, they deliver higher rates of training opportunities. This resonates well with our goal of disseminating training opportunities more broadly.

The baseline survey demonstrates that people generally believe they are capable of dealing with challenging behaviours and have the requisite competence and confidence to support persons with ABI and challenging behaviours. The limitation of this data is that these facilities do not regularly interact with persons with higher level challenging behaviour and their perspective could be biased.

There is no significant connection between behavioural data collected and caregiver burden and outcomes from the environmental tool. This will require a larger sample size and a stricter methodology of study. Although there is no finding of a meaningful connection, the data provides an interesting view of a gap in the current literature.

#### D. Summary

- The project team produced an environmental evaluation tool designed to generate a site-specific (rather than client-specific) profile of observable “triggers” and “inhibitors” for challenging behaviours within the immediate environment and environmental change strategies designed to reduce behaviours and enhance patient and staff safety. The team has conducted ten (10) site-specific evaluations and prepared compare/contrast organizational environmental profiles.
- The project team developed and completed face-to-face staff education (based on feedback from an ABI Network webinar, the tool, and the site surveys) highlighting best practice principles over the behavioural continuum with a focus on proactive (antecedent control) strategies.
- The project team created an online resource highlighting theoretical concepts and function-based strategies and including a quiz and certificate of competence for the learner, as well as a few questions eliciting feedback.
- Each of these accomplishments, identifying and addressing the triggering stimuli within environments with a focus on staff behaviour through assessment and the provision of education opportunities, is anticipated to advance the capacity of individuals and organizations to prevent and manage the full range of potential behaviour challenges following brain injury.

## E. Lessons Learned

The project by necessity utilized external partners and agencies to advance the various aspects of the project. We would suggest partner due-diligence and research is essential to operationalizing the project's goals and timelines without decelerating the process due to false perceptions about partner capacities. A big bang implementation approach with 10 site participants across the province was not the best approach for a time-limited project in retrospect. Soliciting site participants was much more effortful than anticipated and went far past our projected timelines. Many sites are engaged in multiple quality improvement initiatives and marketing participation in an initiative lead by another site required more resources and effort than expected. For a project like this in future, engaging site partners as well as researching any third-party contract support, well in advance of applying for funding would be recommended in order to accelerate the project's timelines. The method of marketing site participants might also merit further study.

A solid project timeline that identifies action items, key check in points and a plan to keep the project progressing regardless of changes is essential to any implementation project. This requires clear leadership and consistency in the project team. Our team composition changed through the tenure of the project with staff departures, and this had a negative impact.

## 3. Recommendations for Next Steps to Support Full Sustainable Implementation

In order to ensure healthcare professionals remain current in their knowledge of the behaviour disorders specific to persons with brain injury, it is necessary to provide and support ongoing professional development. West Park Healthcare Centre is uniquely situated to aid with this effort. With its central Toronto location, services across the continuum of care for persons with head injury (from post-acute neuro-rehabilitation, specialized intensive in-patient units for those with concurrent challenging behaviours, respite care, adult day services, and behavioural consultation to persons with brain injury residing in any community location), and a team of behaviour therapists led by a Board Certified Behaviour Analyst and supplemented with clinical and neuro-psychologists, WPHC continually strives to maintain its leadership in this field.

An annual workshop highlighting evidence-based approaches to supporting persons with brain injury and concurrent behaviour disorders would be recommended. Such workshops would build on the project's initial education seminar with a continued highlight on literature within the field and the value of environmental accommodations in preventing and managing challenging behaviour. These workshops could continue to be converted into webinar or e-learning modules to enhance accessibility for remote locations.

The value of environmental accommodations to aid with minimizing agitation and confusion cannot be underestimated and the utility of the environmental evaluation tool to create organizational environmental profiles and direct organizational change should continue to be studied. This tool could be re-administered following a predetermined length of time and utilized as a pre and post instrument to measure tangible changes in organizational and clinical practice. It may have even greater potential for community caregiver sites.

#### 4. What Can be Done to Ensure Sustainability

In order to ensure healthcare professionals remain current in their knowledge of the behaviour disorders specific to persons with brain injury, it is necessary to provide and support ongoing professional development. West Park Healthcare Centre (WPHC) is uniquely situated to aid with this effort. With its central Toronto location, services across the continuum of care for persons with head injury (from post-acute neuro-rehabilitation, specialized intensive in-patient units for those with concurrent challenging behaviours, respite care, adult day services, and behavioural consultation to persons with brain injury residing in any community location), and a team of behaviour therapists led by a Board Certified Behaviour Analyst and supplemented with clinical and neuro-psychologists, WPHC continually strives to maintain its leadership in this field.

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#### 5. Summary of Resources

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<sup>1</sup> [Altering Challenging Behaviours in People with ABI – Online Module](#)

<sup>2</sup> 30 Day Data Collection Measure



<sup>3</sup> Environmental Implementation Tool

<sup>4</sup> Workshop Evaluation Form

<sup>5</sup> Final ONF Outcomes Pre

<sup>6</sup> Final ONF Outcomes Post

<sup>7</sup> Action Item Tracking Log

**If you want more information about this Project, please contact:**

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