BEHAVIOURAL SUPPORTS ONTARIO (BSO): REVIEW OF EVALUATION OUTCOMES

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Contents

1.0 Introduction to this Report

The Behavioural Supports Ontario (BSO) initiative was created in 2010 to enhance care for older persons with responsive behaviours such as repetitive questioning/phrases, pacing, screaming, grabbing and other forms of verbal or physical expression of risk. Such behaviours are on the rise in Ontario, linked to an aging population and an associated increase in the numbers of older persons living with dementia as well as complex neuro-cognitive and mental health conditions.[1] While increasingly understood as an expression of unmet need, responsive behaviours can impact negatively on the individuals expressing them, on informal caregivers, formal care providers, other clients in community and residential care settings, and on the health care system. According to the Ministry of Health and Long-Term Care (MoHLTC), "through the program, specialized teams improve the quality of life for people with chronic mental health conditions and their caregivers by identifying triggers that can lead to agitation or aggressive behaviours before they start. The techniques and methods used as part of this initiative in long term care have helped contribute to lower rates of anti-psychotic drug use, injury to staff and lower use of restraints." [2]

Previous evaluations of BSO have documented a range of positive outcomes. These include "measurable change to health service delivery culture and provider mix" and a "renewed focus on quality improvement."[3] As a result of BSO, care teams have reported that they are better prepared to work together and make connections to other providers, and lower hospitalization rates have been observed for BSO target populations living in long-term care homes (LTCHs).[4] An examination of BSO teams in LTCHs found that they supported point-of-care education, staff assessment and management of resident behaviours, as well as homes' own behavioural management efforts, leading to better management of resident needs and improved care outcomes.[5]

However, it has also been observed that because the BSO takes place in community, hospital and long-term care settings, in different regions of the province, using a variety of approaches and tools, the program is inherently difficult to evaluate. Confounding factors include an inability to track participants across different care settings and to identify LTCH residents

[1] Alzheimer Society, Ontario, Alzheimer Knowledge Exchange & Ontario Local Health Integration Network. 2011. Ontario Behavioural Support Systems: a framework for care.
[2] Ontario. 2016. Ontario investing additional $10 million to enhance Behavioural Supports program. News release. Accessed on-line, March 2018, at https://news.ontario.ca/mohltc/en/2016/8/ontario-investing-additional-10-million-to-enhance-behavioural-supports-program.html
[3] Cripps D, Harvey D. 2013. Memorandum. BSO Final Evaluation Report.
[4] HayGroup. 2013. Behavioural Supports Ontario. Hay Group Final Evaluation Report.
[5] Grouchy M, Cooper N, Wong T. 2017. Implementation of Behavioural Supports Ontario (BSO): an evaluation of three models of care. Healthcare Quarterly Vol. 19, No. 4. Accessed on-line, March 2018 at https://www.oltca.com/OLTCA/Documents/Reports/ImplementationOfBSO_EvaluationOfThreeModelsOfCare_HQVol19No4.pdf

receiving BSO services.[6] Moreover, because BSO takes place alongside and in conjunction with other provincial and Local Health Integration Network-level initiatives aimed at improving access to and the quality of care for high needs older persons and their caregivers, its independent impact is hard to measure.[7]

As part of its commitment to quality, BSO now wishes to gain additional insight into the program's performance and how performance can continuously be improved. Currently, researchers at the Institute for Clinical Evaluative Sciences (ICES), with colleagues at the University of Toronto, are conducting a *quantitative* evaluation of the BSO using administrative data.

A companion *qualitative* analysis of BSO "stories" provided by Local Health Integration Networks (LHINs) since 2015 is planned; these stories highlight local successes. It is anticipated that analysis of these stories will provide valuable intelligence on what worked best for whom at the local level, essential ingredients for success, and how emerging or promising practices in one place can be scaled and spread across the province.

In this brief report, we set the stage for the planned qualitative analysis of LHIN stories. We begin by providing a brief introduction to BSO and its target population and then summarize findings of previous evaluations. We are interested in identifying aspects of BSO seen to be particularly effective or promising, along with approaches and measures used or suggested to assess their impact on persons expressing responsive behaviours, as well as on informal caregivers, formal care providers, other clients in community and long-term care settings, and the health care system.

2.0 A Brief Introduction to the BSO

2.1 Rise of Responsive Behaviours

According to the Alzheimer Society of Ontario, "responsive behaviours" describes a range of "words, gestures, and actions" that communicate an individual's "meanings, needs and concerns;" they "express something important" about an individual's "personal, social or physical environment."[8] The term "responsive" reflects new understanding and context around these behaviours than past descriptors as "challenging" or "aggressive" behaviours.

Responsive behaviours can result from changes in the brain affecting memory, judgement, orientation, mood and behavior." They may be triggered by changes in physical status (e.g., discomfort or pain); intellectual status (e.g., memory loss); emotional condition (e.g., anxiety);

[6] Baigent L. 2016. Ontario Ministry of Health and Long-Term Care, Capacity Planning and LHIN Support Unit, Health Analytics Branch. Behavioural Supports Ontario: Systems performance and evaluation advisory. Presentation.
[7] HayGroup. 2013. Behavioural Supports Ontario. Hay Group Final Evaluation Report.
[8] Alzheimer Society, Ontario. 2017. What are responsive behaviours? Accessed on-line, March 2018, at http://alzheimer.ca/en/on/We-can-help/Resources/Shifting-Focus/What-are-responsive-behaviours

personal capabilities (e.g., declining ability to perform routine daily tasks); the environment (e.g., noise or lighting); or the actions of others. Fear of pain, fear of falling, poor comprehension, anger, poor relationships, eagerness for greater participation in care decisions, past experience with medication errors and unacceptable care, or a desire to modify care, can prompt such behaviours.[9]

Although often associated with dementia, responsive behaviours can also be related to mental health challenges, addictions, and complex neurological conditions. Nevertheless, the "rising tide" of dementia associated with an aging population is a key driver; as the numbers of persons living with dementia continue to grow,[10] the frequency of responsive behaviours is also likely to increase.

When they are present, behaviours such as wandering, verbal expressions of risk or physical expressions of risk (e.g., hitting, biting, scratching), disruptive behaviour (e.g., disruptive sounds, self-injurious acts, hoarding, or rummaging through others' belongings), and resistance to care (e.g., unwillingness to taking medications/injections or accepting help with essential everyday tasks such as eating and dressing) can pose serious challenges to self and others. For example, it is estimated that up to half of community-dwelling older persons living with dementia will wander; in 2015, Toronto police received 835 report of missing persons aged 61 and older, with many reported missing during cold winter months.[11]

Caregivers and families are directly impacted. Compared to an estimated 15% of older Canadians (those 65 years or older) who live with dementia, [12] recent work by Health Quality Ontario suggests that the proportion of long-stay home care clients living with dementia with a caregiver in the home, rose from 19.5% in 2009/10, to 28.6% in 2013/14. As cognitive and functional needs rise, family caregivers are more likely to experience distress and burnout[13] in addition to a range of physical, psychological, social and economic costs.[14] While data are scarce, it seems likely that responsive behaviours will exact a further toll.

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[9] Alzheimer Society, Ontario. 2017. What are responsive behaviours? Accessed on-line, March 2018, at http://alzheimer.ca/en/on/We-can-help/Resources/Shifting-Focus/What-are-responsive-behaviours

[10] Statistics Canada. 2016. Alzheimer's disease and other dementias in Canada. Accessed on-line, March 2018, at https://www.statcan.gc.ca/pub/82-003-x/2016005/article/14613-eng.htm

[11] Mahoney J. 2018. Rising rate of missing dementia patients challenges police forces. The Globe and Mail. November 18, 2016. Accessed on-line, March 2018, at https://www.theglobeandmail.com/news/toronto/many-people-with-dementia-wander-off-but-locating-them-is-not-easy/article32931414/

[12] Morton-Chang F, Williams A P et al. 2017. Towards a community-based dementia care strategy: how do we get there from here? HealthcarePapers Vol. 16, No. 2. Accessed on-line, March 2018, at https://www.ncbi.nlm.nih.gov/pubmed/28332962. See also, Morton-Chang F. 2015. Tipping points to institutional care for persons living with dementia: analyzing the policy trajectory in Ontario. PhD. Thesis, Institute of Health Policy, Management and Evaluation, University of Toronto, 2015. Accessed, on-line, March 2018, at https://tspace.library.utoronto.ca/bitstream/1807/69351/3/Morton-Chang_Frances_M_201506_PhD_thesis.pdf

[13] Health Quality Ontario. 2016. The reality of caring. Distress among the caregivers of home care patients. Accessed on-line, March 2018, at http://www.hqontario.ca/Portals/0/documents/system-performance/reality-caring-report-en.pdf

[14] Statistics Canada. 2016. Alzheimer's disease and other dementias in Canada. Accessed on-line, March 2018, at https://www.statcan.gc.ca/pub/82-003-x/2016005/article/14613-eng.htm

Complex and responsive behaviours that could be dangerous to the person themselves or others such as hitting, scratching, biting, and shouting are particularly difficult to manage.[15] Recent media reports suggest that the incidence of physical, sexual, verbal and emotional interactions between residents of Ontario's long-term care homes is increasing, and that it is linked to a rise in the numbers of residents living with dementia.[16] In 2016 it was estimated that up to 90% of all LTCH residents in Ontario lived with some form of cognitive impairment, and that 46% exhibited some level of "aggressive" behavior.[17]

Even when relatively benign, responsive behaviours like aimless wandering or nervous ticks/tapping can demand substantial investments of time and effort to investigate and address underlying causes. According to the Ontario Long Term Care Association (OLTCA), "resistance to care," "the most common type of aggression," means that something as simple as toileting, bathing, or personal hygiene, can require "specialized care teams, careful observation, and repeated attempts to learn each resident's behaviour triggers."[18] When in hospital, persons living with dementia can require high-intensity care owing to confusion, anxiety, agitation and delirium.[19]

Responsive behaviours can also result in sub-optimal care placements. For example, community-dwelling older persons with responsive behaviours can have difficulty accessing LTCHs; homes may refuse individuals whose needs are seen to exceed their capacity to care or to pose risks to others.[20] Such risks are not eliminated even after a LTCH placement; a LTCH may transfer a challenging resident to a hospital and decline to take them back unless improvement is demonstrated. In addition to narrowing care choices for individuals, such scenarios can also increase the risk of caregiver burnout,[21] multiply 911 emergency calls, and result in lengthy hospital stays thus contributing to rising Alternate Level of Care (ALC) rates and system costs. [22]

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[15] Ontario Behavioural Support System Project. 2010. Behaviours Have Meaning. Accessed, March 2018, at http://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiF1N6DyM7ZAhUMH6wKHfC1DYMQFggwMAA&url=http%3A%2F%2Fwww.eriestclairlhin.on.ca%2Fpage.aspx%3Fid%3D8C7ED97AFA414D46BFED11DC3E722327&usg=AOvVaw0ubD7gt-NkHvKqI7S8U6eG

[16] CBC News. Marketplace. 2018. "It's a horror movie": nursing home security footage provides raw pictures of resident violence problems. January 28. Accessed on-line, March 2018, at http://www.cbc.ca/news/health/long-term-care-marketplace-1.4501795

[17] Ontario Long Term Care Association. 2016. This is Long-Term Care 2016. Accessed on-line, March 2018, at https://www.oltca.com/OLTCA/Documents/Reports/TILTC2016.pdf

[18] Ontario Long Term Care Association. 2016. This is Long-Term Care 2016. Accessed on-line, March 2018, at https://www.oltca.com/OLTCA/Documents/Reports/TILTC2016.pdf

[19] Morton-Chang F, Williams A P et al. Towards a community-based dementia care strategy: how do we get there from here? HealthcarePapers Vol. 16, No. 2, 2017.Accessed, March 2018, at https://www.ncbi.nlm.nih.gov/pubmed/28332962.

[20] Dudgeon, S. and Reed, P. 2010. Older Adults Behavioural Support System. Accessed on-line, March 2018, at http://brainxchange.ca/Public/Files/BSO/Older-Adults-Behavioural-Support-System.aspx

[21] Cancer Care Ontario. Wait Times Information System (WTIS). ALC data cut. December, 2017.

[22] Cancer Care Ontario. Alternate Level of Care (ALC). January, 2018.

2.2 Evolution of the BSO

The policy roots of BSO date back to 1996 when the province initiated a broad-based consultation with diverse consumer and provider groups around the establishment of a provincial dementia care strategy. In 1999, Ontario introduced a four year, $68.4 million Strategy for Alzheimer Disease and Related Dementias, a wide-ranging plan which proposed initiatives spanning community and residential care settings. These included: education for health care providers, caregivers and the public (e.g., staff training, physician training, increased public awareness); service enhancements and expansion (e.g., planning for appropriate, safe and secure environments, respite services for caregivers, psychogeriatric consulting resources and intergenerational volunteer initiatives); research activities and knowledge exchange (e.g., research on caregiver needs) and the creation of research coalitions.[23]

When the Strategy lapsed in 2003, the provincial government provided limited funding for a transition period running to March 2007 during which various "legacy projects," including a virtual repository of knowledge and information gained through the strategy (the Alzheimer Knowledge Exchange), were expected to find alternative funding sources.

In 2007, Ontario's MOHLTC released Building a Better System: Caring for Older Individuals with Aggressive Behaviours in Long-Term Care Homes. This document, a response to the results of a Coroner's Inquest regarding the tragic death of two residents who were killed by a newly admitted resident in a Toronto LTCH, highlighted the need for prevention, knowledge, coordination, integration, early identification and adequate supports to safely manage residents with responsive behaviours.[24]

In 2009, a knowledge exchange session with key stakeholders directly or indirectly involved with care for older individuals with complex behavioural challenges was convened by the Alzheimer Knowledge Exchange, Alzheimer Society Ontario, MOHLTC and the North Simcoe Muskoka LHIN. Consensus was reached on the need to build a shared model of behavioural supports guided by provincial policy with the overall goal of implementing an integrated system approach to the care of those with complex and challenging behaviours. In December 2009, a Behavioural Support Systems roundtable consultation was held with over 80 representatives from across sectors and from different communities to provide input on the expected deliverables of the Ontario Behavioural Support Systems (BSS) Project.

In 2010, the MOHLTC announced an investment of $40M toward the development of an evidence and experience-based framework to enhance the availability of supports and services to persons living with responsive behaviours. A Framework for Care was developed in

[23] Morton-Chang F. 2015. Tipping points to institutional care for persons living with dementia: analyzing the policy trajectory in Ontario. PhD. Thesis, Institute of Health Policy, Management and Evaluation, University of Toronto, 2015. Accessed, on-line, March 2018, at https://tspace.library.utoronto.ca/bitstream/1807/69351/3/Morton-Chang_Frances_M_201506_PhD_thesis.pdf

[24] Dudgeon, S. and Reed, P. 2010. Older Adults Behavioural Support System. Accessed on-line, March 2018, at http://brainxchange.ca/Public/Files/BSO/Older-Adults-Behavioural-Support-System.aspx

consultation with family care partners, clinicians and administrators from across Canada. Its "three pillars" emphasized: system coordination and management through cross-agency, cross-sectoral collaboration and partnerships; interdisciplinary service delivery across the continuum to ensure equitable and timely access to the right provider for the right services; and knowledgeable care teams equipped with new knowledge and best practice skills.[25] The "regional" character of the program was also emphasized; while working from common principles, LHINs would implement approaches best suited to local needs and resources.[26]

Adding impetus, the 2010 report of the Ontario Health Quality Council (OHQC) noted that verbal and physical behaviours such as "aggression", "agitation" or wandering were now common among LTCH residents and that 11% exhibited worsening behaviour. Further, an estimated 17% of residents had been physically restrained, a higher rate than in other countries.[27]

Roll-out of the Behavioural Supports Ontario (BSO) initiative proceeded in stages. In 2011, four early adopter (EA) LHINs (North Simcoe Muskoka, Central East, Hamilton Niagara Haldimand Brant and South East) were selected to demonstrate and test the BSO framework. In February 2012, the remaining 10 LHINs implemented this framework. A Coordinating and Reporting Office (CRO) sited at the North Simcoe Muskoka LHIN, was created to ensure fiscal accountability and to coordinate province-wide LHIN-based implementation. Skills-building tools, including assessment tools that encouraged new insights into why people may exhibit responsive behaviours, were developed and shared along with the dissemination of various care pathways and approaches to clinical integration.[28] However, funding for the CRO ended in March 2013 thus reducing capacity to provide centralized and standardized data collection.[29]

In 2015, a Provincial Coordinating Office (PCO) re-emerged to support the BSO initiative. Located in the North East LHIN and hosted by the North Bay Regional Health Centre, the PCO was first supported by the North East, North Simcoe Muskoka and the Hamilton Niagara Haldimand Brant LHINs (from 2015-17) before moving to a 14 LHIN funding model for 2017-19.

Since then, the MOHLTC has announced new BSO investments. In 2016-17 it added $10 million,[30] with an additional $10 million slated for 2017-18, bringing total program funding to $64 million (including the original $40 million investment and top-ups of $4 million). According

[25] Behavioural Supports Ontario. 2017. Behavioural Supports Ontario (BSO) Initiative Overview.
[26] Dudgeon, S. and Reed, P. 2010. Older Adults Behavioural Support System. Accessed on-line, March 2018, at http://brainxchange.ca/Public/Files/BSO/Older-Adults-Behavioural-Support-System.aspx
[27] Ontario Health Quality Council. 2010. 2010 Report on Ontario's Health System, Quality Monitor.
[28] Gutmanis I, Snyder M, et al. 2015. Health care redesign for responsive behaviours – the Behavioural Supports Ontario Experience: Lessons learned and keys to success. Canadian Journal of Community Mental Health, vol. 34, No. 1, 2015. Accessed on-line, March 2018, at http://www.cjcmh.com/doi/pdf/10.7870/cjcmh-2015-001?src=recsys&
[29] Behavioural Supports Ontario. 2013. Final Implementation Report. Accessed on-line, March 2018 at http://brainxchange.ca/Public/Files/BSO/BSO_Q4-Report-FINAL-en.aspx
[30] Ontario. 2016. Ontario investing additional $10 million to enhance Behavioural Supports Program. Accessed on-line, March 2018, at https://news.ontario.ca/mohltc/en/2016/08/ontario-investing-additional-10-million-to-enhance-behavioural-supports-program.html

to the 2017 Budget, "the Province is working towards the goal of a BSO resource in every long-term care home in Ontario."[31]

The Ministry has also made changes to BSO funding allocations. Instead of sub-dividing budgets into envelopes earmarked for nursing (RPN, RN) personal support workers (PSW) and "other," envelopes have been eliminated so that BSO teams can incorporate a broader range of health care professionals (e.g., occupational therapists, recreation therapists, social workers,) within their LTC BSO teams.[32]

However, the Ministry has also clarified that the purpose of the new 2017-18 funding is to support BSO services in LTCHs. The Ministry now requires LHINs to allocate a set minimum of the previous funding base (as stipulated in funding letters) to LTCHs. Further, all ministry-funded BSO community or hospital services investments must be aligned with the needs of LTCHs. Nevertheless, it is anticipated that LHINs will continue to provide BSO support in the community and in hospitals (e.g., through Transitional Teams) by leveraging their own resources.[33]

3.0 BSO Characteristics and Evaluation

3.1 Program Characteristics

Rather than being created at a single point in time as a uniform whole, BSO thus evolved over the course of two decades as a framework for new and existing local initiatives aimed at improving care for persons with responsive behaviours, and their caregivers, in the community, in hospitals, and in LTCHs, albeit with a growing focus on the latter.

This view is emphasized by the BSO itself. On its provincial website, Behavioural Supports Ontario states that: "It is important to note that BSO was not designed to be a new program but rather, was implemented to leverage existing resources to enhance system coordination across the continuum of care. The components of BSO differ across the province and may consist of: specialized geriatric services, geriatric mental health outreach teams, community support services, geriatric emergency management nurses, inpatient geriatric assessment units, primary

[31] 2017 Ontario Budget. 2017. Chapter 2: Supporting Seniors Health. Accessed on-line, March 2018, at https://www.fin.gov.on.ca/en/budget/ontariobudgets/2017/ch2.html#ch219

[32] Ontario Ministry of Health and Long-Term Care. 2017. Long-Term Care Homes Funding Policy, Behavioural Supports Ontario Staffing Resources. Accessed on-line, March 2018, at http://www.health.gov.on.ca/en/public/programs/ltc/docs/bso_funding_policy.pdf

[33] Hamilton Niagara Haldimand Brant LHIN Board of Directors Meeting Materials. 2017. AC_C.1 (iii) Behavioural Supports Ontario Annual Funding Briefing Note. Page 215. Accessed on-line, March 2018, at http://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjE677k7fnZAhVNbK0KHa1pAsQQFggnMAA&url=http%3A%2F%2Fwww.hnhblhin.on.ca%2F~%2Fmedia%2Fsites%2Fhnhb%2FBoard%2520and%2520Governance%2FBoard%2520Meetings%2F2017-18%2520Meeting%2520Materials%2FBOD%2520Materials%252027Sept17.pdf%3Fla%3Den&usg=AOvVaw0_PnRSTO90gCyfdsjvwhOm

care-based memory clinics, adult day programs, Alzheimer Society education, counselling, and a variety of support programs."[34]

Referencing Gutmanis et al., [35] the website goes on to say "While many dementia care programs and services already existed along the care continuum, the aim of this initiative was to realign and enhance the system in a manner that both facilitated collaboration and partnerships among like or complementary services and leveraged existing resources." This included past investments in dementia care made as part of the provincial Alzheimer strategy, as well as investments in Ontario's four year Aging at Home strategy, introduced in 2007.[36]

In a recent article, Grouchy, Cooper and Wong add to this perspective. Focusing specifically on BSO initiatives in LTCHs, they note that even in this sector "the implementation of the program varied across and within the local health integration networks (LHINs). By 2015, there were three BSO models operating within the long-term care (LTC) homes sector: in-home BSO teams, a mobile team that services multiple LTC homes within a sub-area of a LHIN and a LHIN-wide mobile team that provides services to all homes."[37]

As a provincial framework for local action to improve care, the BSO incorporated three foundational pillars:[38]

- System coordination (coordinated cross-agency, cross-sectoral collaboration and partnerships based on clearly defined roles and processes to facilitate 'seamless' care)
- Interdisciplinary service delivery (outreach and support across the service continuum to ensure equitable and timely access to the right provider for the right service)
- Knowledgeable care teams and capacity building (strengthen capacity of current and future professionals through education and focused training to transfer new knowledge and best practice skills for continuous quality improvement).

The framework also set out eight "essential elements" or best practices spanning community, hospital and residential care settings:

- System Management/ Accountability

[34] Behavioural Supports Ontario. Background. Accessed on-line, March 2018, at http://www.behavioursupportsontario.ca/29/Background/

[35] Gutmanis I, Snyder M, et al. 2015. Health care redesign for responsive behaviours – the Behavioural Supports Ontario Experience: Lessons learned and keys to success. Canadian Journal of Community Mental Health, vol. 34, No. 1, 2015. Accessed on-line, March 2018, at http://www.cjcmh.com/doi/pdf/10.7870/cjcmh-2015-001?src=recsys&

[36] Behavioural Supports Ontario. Background. Accessed on-line, March 2018, at http://www.behavioursupportsontario.ca/29/Background/

[37] Grouchy M, Cooper N, Wong T. 2017. Implementation of Behavioural Supports Ontario (BSO): an evaluation of three models of care. Healthcare Quarterly Vol. 19, No. 4. Accessed on-line, March 2018 at https://www.oltca.com/OLTCA/Documents/Reports/ImplementationOfBSO_EvaluationOfThreeModelsOfCare_HQVol19No4.pdf

[38] Gutmanis I, Snyder M, et al. 2015. Health care redesign for responsive behaviours – the Behavioural Supports Ontario Experience: Lessons learned and keys to success. Canadian Journal of Community Mental Health, vol. 34, No. 1, 2015. Accessed on-line, March 2018, at http://www.cjcmh.com/doi/pdf/10.7870/cjcmh-2015-001?src=recsys&

- Centralized Collaborative Intake and Referral
- Mobile Interdisciplinary Seniors Behavioural Support Outreach Team(s)
- Case Management and Transitional Supports
- Enhanced Day Treatment and Respite Care
- Specialized Residential Treatment (Behavioural Support Units) – short stay
- Specialized Residential Treatment – long stay
- Knowledge Exchange Capacity Enhancement.

In order to avoid service duplication, each LHIN was to leverage existing knowledge pathways, initiatives, education programs, and expertise within their regions. To guide the LHINs, and provider organizations in them, the BSO created common tools including a Capacity Building Roadmap providing advice on hiring and educating staff.[39]

As a result, the BSO encompasses a diverse collection of local initiatives with LHINs making different choices around which to deploy, for whom, and how. Illustrating this, the BSO Final Implementation Report in 2013[40] provided a mapping of key activities by LHIN including:

- Mobile teams (lead/host model) in which a lead organization recruits, trains and delivers interdisciplinary outreach support in care settings throughout a region. At the time of the report, six LHINs used these teams with reported successes in reducing response times, increasing referrals, and increasing service volume.

- Mobile teams (decentralized staffing model) in which dedicated on-site nurses or PSWs addressed behavioural issues in a given LTCH, and in some cases, provided support to other LTCHs nearby. Of seven LHINs reporting this approach, a number reported improved intake and systems flow, enhanced staff training and engagement with primary care providers, and higher numbers of clients being supported by the team.

- Centralized access (one number to call) for risk screening, triage and referral to other appropriate services. Six participating LHINs reported increasing numbers of "connections" made with existing programs and services.

- System navigators responsible for planning appropriate services throughout a patient's journey. Of four LHINs reporting this approach, one indicated that of clients who had not previously accessed services, 66% now had access to longer-term supports, and they no longer had to manage on their own.

[39] For a more detailed discussion of the development and characteristics of the BSO, see Sinclair-Frigault D. 2016. Responsive Behaviours in Dementia: Developing and Implementing the Behavioural Supports Ontario Initiative. MSc Thesis, University of Toronto. Accessed on-line, March 2018, at https://tspace.library.utoronto.ca/bitstream/1807/77371/3/Sinclair_Frigault_Delia_201611_MSc_thesis.pdf

[40] Behavioural Supports Ontario. 2013. Final Implementation Report. Accessed on-line, March 2018 at http://brainxchange.ca/Public/Files/BSO/BSO_Q4-Report-FINAL-en.aspx

- Common assessment toolkit outlining service events, process steps, common assessment tools and pathways. Of five LHINs using this toolkit, two reported that clients now had an individualized care plan understood by all care team members, improving care and avoiding duplication.

- Integrated care teams spanning LTCH, hospital and community sectors to insure collaboration and seamless care transitions. Eight LHINs used this approach, with reported success in transitioning clients from hospitals to LTCHs, retirement homes and the community, and addressing system gaps in many complex cases.

In 2017, such LHIN level initiatives were re-classified into six "models" including four basic types of behavioural support teams: one sector-specific clinician and one type of specialized unit:"[41]

- Embedded Teams – located within LTCHs (e.g., PSWs, RPNs, RNs, Recreational Therapists), funded to support the delivery of care for residents presenting responsive behaviours

- Mobile Teams – led by a lead organization that delivers outreach support to LTCHs throughout a region

- Community Teams – community-based teams funded to support BSO patients and family care partners residing in the community (including private dwellings, retirement homes, group homes, assisted living, etc.)

- Cross-Sector Teams – funded to support BSO patients and care partners wherever they reside (e.g., LTC, community, Acute Care, etc.)

- Dedicated Acute Care Positions – support staff or teams that support patients presenting with responsive behaviours in the acute care sector in multiple sites, or embedded in a single site

- Behavioural Support Units (BSUs) – bed-based units providing higher intensity care to individuals with complex responsive behaviours prior to return to a LTCH.

3.2 Evaluation Highlights

While offering great scope and flexibility to leverage local resources and create local solutions, such multiplicity presents clear challenges for evaluation: there is no single standard intervention to evaluate as there would be in a clinical trial, and a range of outcomes at individual, organization and systems levels may need to be captured.

[41] Behavioural Supports Ontario. 2017. Behavioural Supports Ontario 14 LHIN Models Guide.

Nevertheless, as suggested earlier, evaluation results have been positive overall. In addition to the observations made in the BSO Final Implementation Report cited above, three additional sources provide valuable intelligence; we review them in historical order.

HayGroup BSO Final Evaluation Report (2013)

The results of the most extensive evaluation of BSO to date are found in the 2013 report by the HayGroup, a large health care consultancy; it combined a mix of quantitative and qualitative methods to assess the impact of BSO initiatives in the four "early adopter" (EA) LHINs: Hamilton Niagara Haldimand Brant, Central East, South East and North Simcoe Muskoka.[42]

Although conducted early in the implementation process, and with qualifications noted below, this evaluation identified a range of positive outcomes.

- *Qualitative findings* obtained through surveys and focus groups suggested that early users were generally satisfied with BSO. In addition to facilitating timely intake and access to care, the quality of care in LTCHs had improved or was likely to improve; training in behaviours and behavioural management was highly valued; teams were better prepared to work together and make connections to different system providers; and knowledge gained through the program was valuable in building capacity to care for residents. Opportunities for improvement included: more widespread access to specialized knowledge and training; more extensive collaboration and "hands on" support by BSO team members to staff in LTCHs (as compared to advisory and consultative roles); and enhanced expertise and credibility among BSO team members regarding their interactions with LTCHs.

- *Quantitative findings* generated through analysis of available administrative data in BSO EA LHINs (as compared to non-EA LHINs) suggested that rates of acute care hospitalization for the BSO target population residing in LTCHs were lower, including total inpatient days, ALC (Alternate Level of Care) days and RIW (Resource Intensity Weight) cases. The largest reductions were observed in the CE LHIN (where BSO teams were embedded in LTCHs), although reductions in acute care activity were observed across all EA LHINs with nominal savings of almost $5 million.

There were two important caveats.

- With respect to the *qualitative analysis*, interviews were conducted in LTCHs only; community and hospital perspectives were not documented. Moreover, respondents in different LHINs had only experienced the approaches used by their LHINs making cross-LHIN comparisons of alternative approaches problematic.

[42] HayGroup. 2013. Behavioural Supports Ontario. Hay Group Final Evaluation Report.

- Regarding the *quantitative analysis*, which also focused on LTCHs, available administrative data were not sufficient to allow the evaluators to identify individual LTCH residents who were also BSO participants; outcomes were estimated for the population as a whole. Further, because BSO participants in EA LHINs were likely affected by other ongoing policy initiatives (e.g., the provincial ER/ALC strategy aimed at reducing inappropriate hospital utilization), it was not possible to discern the independent impact of the BSO with any certainty. Nevertheless, the early findings did suggest "that the BSO support provided in LTCHs may have a positive impact on acute care hospital utilization for the target population."

Gutmanis, Snyder, Harvey et al. (2015)

Although not reporting the results of an independent evaluation, this article offered "preliminary evidence of effectiveness" from other sources.[43] Specifically,

- Data from the Mississauga Halton (MH) LHIN suggested that implementation of specially trained nurses and PSWs in LTCHs was associated with a decline of almost 50% in reported numbers of responsive behaviours between June and September 2012.

- Preliminary evaluation results by the HayGroup in 2012 pointed to a decline in total numbers of hospital inpatient days and hospital ALC days in EA LHINs among LTCH residents with responsive behaviours; in non-EA LHINs numbers had instead risen during the same period. This was seen to reflect the fact that EA LHINs were better equipped to assess and manage responsive behaviours resulting in fewer transfers to hospital, and a greater capacity and willingness to transition residents back to their LTCH post discharge.

Grouchy, Cooper and Wong (2017)

This article, authored by investigators at the Ontario Long-Term Care Association (OLTCA), an industry-funded group, evaluated experiences with three different BSO models in member LTCHs:

- Dedicated in-home BSO teams
- Mobile teams serving multiple LTCHs within a LHIN sub-region
- Mobile teams serving multiple LTCHs across a LHIN region.

Data were derived from a survey of OLTCA member LTCHs and a separate analysis of "key metrics" from administrative databases.

Compared to homes accessing mobile teams, those with dedicated in-home teams reported:

[43] Gutmanis I, Snyder M, et al. 2015. Health care redesign for responsive behaviours – the Behavioural Supports Ontario Experience: Lessons learned and keys to success. Canadian Journal of Community Mental Health, vol. 34, No. 1, 2015. Accessed on-line, March 2018, at http://www.cjcmh.com/doi/pdf/10.7870/cjcmh-2015-001?src=recsys&

- Higher levels of agreement that the BSO had enabled point-of-care education; supported staff to assess and determine individualized interventions to manage behaviours; and provided support for homes' own behavioural management programs.
- Lower rates of use of physical restraints and antipsychotic drugs. [44]

3.3 Other Considerations

The 2015 report of the BSO Consultative Work Group is also worth mentioning.

This report, a response to the MOHLTC requirement that individual LHINs initiate sustainability plans "to ensure the continued success of the program," was based on consultation with stakeholders who considered five "legacy indicators" for "ongoing monitoring" of BSO progress across the province. These measured system-level impact (e.g., rates of acute care hospitalization), as well as impact at the individual-level (e.g., percentage of residents with verbal, physical or social behaviour affecting others).

In its deliberations, the work group surfaced familiar concerns that these measures did not fully capture the broad scope of the BSO program, and that changes in these measures could not be attributed to the BSO program alone.

In the end, the group recommended only a single BSO legacy measure: *Change in behavioural symptoms among LTCH residents*. This measure, not directed to older persons or caregivers in community and hospital settings, is described as a "combination of the 'percent of LTCH residents whose behavioural symptoms worsened' and 'percent of LTCH residents whose behavioural symptoms improved' measures, and at best reflects the patients who are most likely to have received BSO services."[45]

4.0 Discussion and Next Steps

BSO responds to a rising challenge in Ontario. Even if rates of dementia and responsive behaviours do not increase, an aging population means that sheer numbers of individuals in both categories will likely continue to grow.

This growth augers an increasing burden of care on families and informal caregivers, many of whom already experience distress and burnout as a result of their caring responsibilities. It also tests hospitals as they cope with high numbers of emergency room visits, more in-patients with responsive behaviours, and often lengthy discharge delays while waiting for an appropriate

[44] Grouchy M, Cooper N, Wong T. 2017. Implementation of Behavioural Supports Ontario (BSO): an evaluation of three models of care. Healthcare Quarterly Vol. 19, No. 4. Accessed on-line, March 2018 at https://www.oltca.com/OLTCA/Documents/Reports/ImplementationOfBSO_EvaluationOfThreeModelsOfCare_HQVol19No4.pdf

[45] LHIN Collaborative. 2015. Behavioural Supports Ontario (BSO) Consultative Work Group. Recommendations for the BSO Provincial.

placement. For their part, LTCHs face mounting demands on their resources, not simply to provide normal everyday care and support to residents with responsive behaviours, but to ensure the safety of other residents and staff.

BSO was created as a response to such challenges. Rather than a "one-size-fits-all" intervention, it was designed as a framework to encourage and support new and existing initiatives aimed at improving the quality of care for older persons with responsive behaviours and their caregivers, while making the best use of available health system resources across the care continuum.

However, precisely because of its diverse and decentralized nature, the full impact of the BSO has proven difficult to demonstrate with any precision. Moreover,

- Because BSO runs alongside and often leverages other provincial and LHIN-level initiatives aimed at improving access to care for high needs populations, avoiding unnecessary hospital admissions, improving hospital flow, and facilitating a reduction in hospital ALC beds, its independent impact is hard to separate out.

- Direct comparisons between different initiatives in the same LHIN, or even between similar initiatives in different LHINs, are not always meaningful since participants and observers may have experienced only one particular initiative in a specific local context.

- Virtually all evaluation to date has focused on BSO initiatives in LTCHs leaving aside potentially valuable initiatives to improve the quality of care for older persons with responsive behaviours "closer to home," a key objective of the provincial "patients first" health care agenda. As suggested in the 2013 Final Implementation Report, a variety of "upstream" initiatives may also offer significant benefits such as an improved ability to coordinate care across settings, ensure timely referrals to better prepared primary care providers, improve system flow, and reduce avoidable hospital stays.

While such factors do not preclude meaningful evaluation of the BSO, or question the value of evaluation done to date, they do suggest the relevance of complementary approaches that "dig deeper" to identify and understand a range of promising practices at the local level. In addition to detailing "what" these practices entail, such evaluation would also aim to understand "why" these approaches worked and for "whom." Ideally, examples would represent urban and rural contexts, since these may vary considerably in terms of needs and resources. Building on the "three pillars" of BSO, they would also illuminate the potential for enhancing system coordination and management through cross-sectoral collaboration and partnerships, and interdisciplinary service delivery across the continuum, to ensure the right provider, for the right services, at the right time.

4.1 Next Steps

In this brief review, we have summarized key characteristics of BSO and evaluation findings to date to set the stage for a planned analysis of qualitative stories provided by the LHINs over the past two to three years.

As noted, there is a good precedent for doing this; similar reports analyzed as part of the BSO Final Implementation Report in 2013, provided valuable insight into a range of local initiatives and how they improved care. In addition to updating this report's "mapping" of BSO initiatives at the local level, analysis of more recent qualitative stories offers potential to identify key characteristics of ongoing successes, ingredients for success, and the extent to which promising practices may be scaled and spread across Ontario.