

Waterloo Wellington Community Stroke Program: Phase 3 Plan

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This document was prepared by the Saint Elizabeth Research Centre and was the result of a successful collaboration with the Waterloo-Wellington Community Care Access Centre, Care Partners and Saint Elizabeth.



At the Saint Elizabeth Research Centre, we study the needs of people, their caregivers, and health care providers to develop innovative solutions to improve health and care experiences across the continuum/more effective approaches to care. Our goal is to improve people's health and care. We work on innovative solutions for tough problems.

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Background and Purpose

Waterloo Wellington Community Stroke Program: Phases 1 and 2

The Waterloo Wellington (WW) Community Stroke Program was launched in late 2013 by the Waterloo-Wellington Community Care Access (WWCCAC), and was designed to bring together rehabilitation therapists to provide best-practice stroke care to stroke survivors in their homes. The WWCCAC entered into contracts with Saint Elizabeth and Care Partners in April 2014 to provide rehabilitation services as part of the Program. Between April 1, 2014 and March 31, 2015, 160 stroke clients entered into the Stroke Program, receiving up to 76 visits from physiotherapists, occupational therapists, speech language pathologists, social workers, dietitians and rehabilitation therapy assistants. For a description of the Pathway, see Appendix A.

Program evaluation data presented by the WWCCAC in May 2016 indicate improved functional outcomes (e.g. ADLs, IADLs), community reintegration and frailty scores for some clients who were involved in the Community Stroke Program. These preliminary data did not indicate overall risk of adverse outcomes and pain were achieved. While there are some limitations to the data on outcomes and the interpretation of the data,¹ there are indications from the literature that more therapy and more intensive therapy are associated with incremental improvements in function and recovery. These benefits are variously described as “small”,^[1] and “modest”,^[2] and “short-term”^[3] emphasizing a need for continuing efforts to find optimal combinations of therapy time and intensity to perhaps improve outcomes more systematically and predictably.

¹ The preliminary data do not have pre- and post- data for all of the clients in the program, and so the sample that was analyzed for changes was smaller than the total group of clients who participated in the Community Stroke Program. In addition, in the preliminary evaluation, there was no control group against which to assess the changes in the outcomes. This means that it is not yet possible to say what incremental contribution to the recovery of the clients the stroke program had. The WWCCAC has a plan to identify a retrospective comparator group in the fall of 2016, and using that comparator group, assess the incremental benefit from the Community Stroke Program.

WW Community Stroke Program: Phase 3

In the planning for the Community Stroke Program, it was decided to focus Phases 1 and 2 on bringing together the efforts of rehabilitation professionals and rehabilitation assistants, and to incorporate nursing and personal support in a later phase for an even more comprehensive approach to interdisciplinary stroke care. In Phases 1 and 2, a considerable portion of clients who were part of the WW Community Stroke Program also received home care visits from personal support workers, and a smaller proportion received nursing care visits. The personal support workers' and nurses' contribution to the health and care of clients involved in the Program indicated the need to formally integrate nursing and personal support services into the WW Community Stroke Program, as originally planned. The goal for Phase 3 of the WW Community Stroke Program, therefore, is a revised Program that promotes continuity of care, effective communication and role clarity and optimal scope of practice for all healthcare workers involved including nurses and personal support workers, to achieve optimal outcomes for clients.

Continuity of Care

According to Haggerty et al.,[4] three types of continuity are important in the delivery of health and social care services:

1. *Informational Continuity*: Information is the key link between different healthcare providers and healthcare events and includes client preferences, values and context, and information from prior events that could be used to deliver present care that may be documented or undocumented.
2. *Relational Continuity*: Sustained relationships between healthcare providers, clients and family caregivers depends on length and quality of interactions and the predictability and comfort that can come from consistency in personnel across different healthcare events.
3. *Management Continuity*: Services across sectors, settings and departments should be complementary and timely and result from shared management plans across different service provider organizations.

Clients and families only have one set of health concerns and expect that the healthcare providers work together in the same healthcare system share information with each other to ensure that they share a common approach to addressing the client's healthcare concerns and needs.[5]

Effective Communication and Role Clarity

In order to work in an integrated healthcare team, healthcare providers must collaborate to meet the client's needs and the needs of their family caregivers. Previous research [6] has

illustrated the detrimental health and care experience outcomes that result from a lack of poor communication and role clarity among healthcare providers working within and across care settings.

In a recent exploration into the role of personal support workers in contributing to best practice stroke rehabilitation in home care, a framework called the Observe, Coach, Assist and Report (OCAR) framework emerged for describing the role that any member of an interdisciplinary stroke care team could take in supporting their team members to provide high quality evidence-based care.[7]

OCAR gives healthcare providers a common language for communicating what other members can observe, coach on, assist clients with and report back to the broader team that would contribute to their area of focus within the care and can be used to establish role clarity among providers from different backgrounds and disciplines.

Optimal Scopes of Practice

The Canadian Academy of Health Sciences released a report in 2014 [8] on transforming care for Canadians with chronic health conditions. In this report, the authors identified the need to stop focusing on individual providers working to their full scopes of practice within traditional professional and discipline-specific silos. They said that there is a need to find strategies to *optimize* scopes of practice for individual providers working together depending on the unique needs of the clients and families they are working with as well as the constitution of the team they are working within.

While the report focused specifically on the roles of health professionals, in the report's conceptual framework, it was noted that to get to an ideal future state of the healthcare system, there would be "a move from isolated, siloed professionals to teams based on non-conventional and conventional providers." [p.10]

Shifting the focus from full scope of practice to optimal scopes of practice, and enabling the contributions of "non-conventional providers" (such as unregulated providers (PSWs) and family caregivers) will help to break down traditional barriers between and within disciplines and enhance the delivery of comprehensive and integrated care.

The Saint Elizabeth Research Centre's role in this plan

Saint Elizabeth is a social enterprise, dedicated not only to high quality care for clients, families and caregivers we serve, but also contributing to innovation and improvements in the healthcare system in Canada. Saint Elizabeth has made a strategic commitment to research – \$10 million over 10 years – to design and improve care. The Saint Elizabeth Research Centre's aim is to make social impact by influencing policy, practice and improving the health and care of clients and their families. The Research Centre's previous research on integrated stroke home care involving personal support workers [7] and current work on integrated palliative care and

wound care delivery provide relevant and important insights on which to build and lead the planning for Phase 3 of the WW Community Stroke Program.

In December 2014, the Saint Elizabeth Research Centre proposed to the WWCCAC that it could facilitate a planning process for Phase 3 of the Community Stroke Program, and this offer was taken up. The Health Service Provider agencies under contract to WWCCAC to deliver the Community Stroke Program, Care Partners and Saint Elizabeth Health Care, agreed to participate. This report is the plan that developed out of the collaboration.

Method

The Saint Elizabeth Research Centre used several strategies to critically examine Phases 1 and 2 of the WW Community Stroke Program and consult leaders and providers on ideas to enhance the Program in Phase 3. These strategies are described below.

Steering Committee

A group of 10 individuals were brought together in the spring of 2015 to form a Steering Committee for the planning of Phase 3 for the WW Community Stroke Program. Participants included members of the WWCCAC, the Saint Elizabeth Research Centre, Care Partners and Saint Elizabeth. The mandate of this group was to work collaboratively to develop a comprehensive plan for Phase 3 of the WW Community Stroke Program that would inform an implementation phase. The Steering Committee met regularly throughout the planning to discuss experiences and data collected from Phase 1 and 2 and deliberate on ideas, opportunities and next steps for Phase 3. Meetings were approximately 90 minutes each, led by the Saint Elizabeth Research Centre and held in person at the WWCCAC office in Waterloo, Ontario.

Key Informant Interviews with Service Providers

The Saint Elizabeth Research Centre led three individual key informant interviews with members of the project Steering Committee who were directly involved in the development and/or implementation of Phases 1 and 2 of the WW Community Stroke Program. The purpose of the interviews was to gain individual insights as to how and why the Program was initially conceived; whether its initial implementation went as planned; what, if any, modifications had been made; and, what barriers and facilitators were encountered. All interviews were audio-recorded for thematic analysis by the Saint Elizabeth Research Centre.

Phase 1 Outcome Evaluation Data

The WWCCAC provided preliminary outcome evaluation data in May 2016 from Phases 1 and 2 of the Program to inform planning in Phase 3 including:

- Descriptive statistics on the usage of the Pathway (e.g., # of visits, length of Pathway)
- Pre and post data from the Barthel Index (ADL performance scale)

- Pre and post data from the Reintegration to Normal Living Index
- Pre and post RAI-HC outcome indicators (e.g., ADL performance, IADL involvement, Depression Rating Scale, Cognitive Performance Scale, Changes in Health and End Stage Disease and Signs and Symptoms (CHES) scale, Pain Scale, MAPle risk scores)

These preliminary data appear in Appendix B.

ADAPTE Workshop with frontline providers

A two-day workshop was held in September 2015 with frontline healthcare providers from acute care, inpatient rehabilitation, outpatient rehabilitation and home care in the Waterloo-Wellington region who were either involved in the WW Community Stroke Program in Phase 1 or who would be involved in the Program in Phase 3 as a result of integrating nursing and personal support workers into the Pathway.

A modified ADAPTE process [9] was used to guide the format of the workshop. The ADAPTE process is a three phase, evidence-based approach for adapting best practices to new contexts. In the first phase, known as the Set-up phase, 23 frontline healthcare providers were recruited from acute care hospitals inpatient and outpatient services, the WWCCAC and home care agencies, to participate in the workshops. The Adaptation phase was the main focus of the workshop.

The workshop started out by providing background information on integrated care including continuity of care, effective communication, role clarity and optimal scopes of practice. The Community Stroke Program Pathway document from Phases 1 and 2 (Appendix A) that was developed based on best-practice guidelines was reviewed, and there was discussion about modifications that had been made or should be made to the Pathway in Phase 3 to better align with best practices, provide a role for nurses and PSWs and even enhance efficiency, quality of care and the care experience overall for both providers, clients and their families. Eight recommendations for improvement to the Program emerged from the workshop.

In the Finalization phase of the ADAPTE process, the results from the two full-day workshop were brought back to the Steering Committee to get their insights on the recommendations, including feasibility and prioritization.

The Steering Committee was supportive of all the recommendations coming out of the ADAPTE workshop, but had a number of suggestions about timing and implementation, based on their estimates of relative feasibility and cost of each of the recommendations.

A summary of the workshop was provided to the participants, and it appears in Appendix C. The 8 recommendations coming out of the workshop form the basis for the plan to transition from Phases 1 and 2 of the WW Community Stroke Program to Phase 3.

The recommendations are as follows:

- A. Create continuity in care delivery without a designated stroke care team**
- B. Train all disciplines on stroke and roles**
- C. Focus on the client's goals**
- D. Add more flexibility to the care Pathway**
- E. Add nursing visits**
- F. Implement a common communication platform across settings**
- G. Improve transitions in and out of the Pathway**
- H. Blend outpatient and in-home rehabilitation**

The Recommendations**A. Create continuity in care delivery without a designated stroke care team**

In Phase 1 and 2, the two Health Service Providers agencies' practice was to assign the same therapists and therapy assistants for all clients who received services under the Program. With the relatively small number of clients, this was possible, though Health Service Provider agency representatives told of recruitment challenges and some difficulties serving a large geographic area with small teams.

The participants in the ADAPTE workshop were very supportive of a dedicated team of healthcare providers continuing to care for clients in the WW Community Stroke Program. They acknowledged that this might pose a challenge in Phase 3, given their perception of the problem of continuity of providers for client care, particularly for personal support.

With the intended change to incorporate personal support workers and nurses in Phase 3, it was the general consensus of the Steering Committee that though a dedicated team might be ideal, it would not be possible to guarantee the same providers for a client all the time, given the commitments that personal support workers and nurses have to other clients and the relative constrained volume of clients being helped with the WW Community Stroke Program. Indeed, in Phases 1 and 2, as in most other ongoing care situations, there was already some discontinuity of therapists and therapy assistants as providers were ill, on vacation, involved in training, or new to the teams.

In addition, it is anticipated that the number of Health Service Provider agencies whose healthcare workers will be involved in Phase 3 will be increased from 2 to 6, as one of the two original Health Service Provider agencies does not have the CCAC contract to provide personal support services and nursing throughout the entire service area, and the other 4 do provide personal support and nursing services. Therefore, there may be PSWs and nurses from the additional 4 Health Service Providers in Phase 3. To have all 6 providers commit to having the same healthcare workers all the time was seen by the Steering Committee to pose a challenge.

For good practical reasons, then, the recommendation is to loosen the requirement to have dedicated teams for WW Community Stroke Program clients, but not to loosen the requirement to have teams of providers who know how best to care for stroke survivors and their caregivers, and how to work together. This means that the team approach already adopted to maintain a core group of care coordinators, rehabilitation therapists and rehabilitation assistants should be continued to the extent possible, and that the nursing and personal support providers should endeavour to do the same for nursing and personal support – to the extent possible.

To ensure that there are appropriately prepared, integrated teams working together, the other recommendations for phase 3 (detailed below) are essential:

- For informational continuity –
 - 2. Train all disciplines on stroke and disciplines
 - 3. Focus on the client’s goals
 - 6. Implement a common communication platform across settings
- For relational continuity –
 - 3. Focus on the client’s goals
 - 6. Implement a common communication platform across settings
 - 7. Improve transitions in and out of the Pathway
- For management continuity –
 - 2. Train all disciplines
 - 3. Focus on the client’s goals
 - 6. Implement a common communication platform across setting
 - 7. Improve transitions in and out of the Pathway

While clients may express a preference for the same providers time and time again, they recognize that there are practical limits. Haggerty et al. [5] report that continuity of care is experienced by clients as security and confidence in the healthcare rather than seamlessness, and knowing what to expect and having contingency plans provides significant elements of the security that clients are seeking. Having a single trusted clinician who helps navigate the system and sees the client as a partner undergirds the experience of continuity between clinicians. [5]

As in Phases 1 and 2, in Phase 3 it is recommended that an Occupational Therapist Lead (OT Lead) be that single trusted clinician for each client. Within the Steering Committee, the Health Service Provider agency representatives estimated that this involves 6-8 hours per week in addition to the care within the Pathway. The WWCCAC representatives agreed that it is reasonable to explore further changes to the reimbursement schedule because when the Program was conceived, the actual “indirect” time required of the OT Leads was unknown.

The overall outcome that would be expected from a dedicated team would be a high level of coordination of care, communication, collaboration and integration of efforts. With the alternative approach for Phase 3, no less should be expected.

A good instrument to measure whether there is a high level of coordination, communication, collaboration and integration of efforts is the Assessment of Interprofessional Team Collaboration Scale (AITCS), developed by Carole Orchard and colleagues at Western University.[10, 11] The AITCS is a 47-item questionnaire with four sub-scales (partnership, cooperation, coordination, and shared decision making) (see Appendix D). It asks a series of questions related to the entire spectrum of mechanisms that lead to the integration care and embedded in the other recommendations for Phase 3 of the program, and therefore it be used to measure progress toward and success in Phase 3.

With respect to measuring the anticipated positive impact on the experience of clients and their families, it is recommended that a measurement tool currently undergoing a proof of concept for use in rehabilitation clinics in Ontario, the WatLX™, be used. This tool was developed on the basis of a literature review and an analysis of themes identified in the literature as important to the rehabilitation client experience (rehabilitative care ecosystem, client and informal caregiver engagement, client and healthcare provider relation, pain and functional status, group and individual identity, open ended). [12, 13] The questions in the WatLX™ tool have been embedded in the parts of the evaluation of Phases 1 and 2 not yet completed, and so there will be continuity in the patient experience measure.

The developers of the WatLX™ tool have confirmed that though in its current format it is focused on rehabilitative care in a clinic, it can be adapted for cross-continuum care and home-based care.

It is recommended that client outcomes continue to be measured using the same instruments and approaches as in Phases 1 and 2 (Appendix E), supplemented by measures used (or equivalent to those used) in a recent evaluation of the southwestern Ontario Community Stroke Rehabilitation Teams by Allen et al..[14]

In Phases 1 and 2, for practical implementation reasons, no comparison (or “control”) group was constituted, and so it is not possible to assess the incremental value of the WW Community Stroke Program to the rehabilitation of people over the extent of recovery and rehabilitation that would occur naturally with time [15, 16] and with what is usual care in the community. This same issue was faced in the evaluation of the southwestern Ontario Community Stroke Rehabilitation Teams by Allen et al..[14] The WWCCAC has a plan to identify a retrospective comparator group in the fall of 2016, and using that comparator group, assess the incremental benefit from the Community Stroke Program in Phases 1 and 2.² The same or similar approach should be taken to identify a comparator group retrospectively for Phase 3.

² See Footnote 2.

It is recommended that Recommendation A be implemented in the following manner:

- 1. The WWCCAC should confirm that the WW Community Stroke Program does not require a dedicated team or teams to deliver it, but that it does require providers to maximize the continuity of trained and prepared providers to the extent possible, and each Health Service Provider organization to continue to provide a core of therapists dedicated for the Program.**
- 2. The WWCCAC should review the reimbursement structure for the Program, considering the time for the coordinating work of the OT Leads.**

Evaluation

- 3. The extent and effect of the collaboration of the providers involved in the WW Community Stroke Program should be evaluated using the AITCS tool (collaboration). Client experience should be measured using the WatLX™ tool when adapted for cross-continuum care and care in the home.**
- 4. A strategy for evaluating the extent of the incremental contribution to recovery and rehabilitation of Phase 3 of the Community Stroke Program should also be developed, taking into account the WWCCAC's experience with the retrospective comparator group for Phases 1 and 2 in the fall of 2016.**

B. Train all disciplines on stroke and roles

In Phases 1 and 2, there was a common expectation about the level and kinds of training that the healthcare providers would have as they participated in the WW Community Stroke Program.

In the course of the ADAPTE workshop, the frontline providers expressed the view that the training had been good, but there is not a common understanding of stroke or stroke treatment across all providers currently involved in the program. Furthermore, there is not a deep, but in the participants' opinion necessary, understanding of the potential roles of each of the members of the community stroke team.

In addition, the participants in the ADAPTE workshop also were of the view that there should be a tool that each provider in the community stroke program could use to do a regular self-assessment of knowledge of all the identified aspects of stroke care and roles.

Therefore, it is recommended that a package of specialized training on stroke care and the role of different types of providers involved in the WW Community Stroke Program be developed. A blend of in-person training opportunities and online training modules is recommended to give individuals from across sectors and settings the opportunity to meet and collaborate while also ensuring ongoing availability of refresher material. In addition, a self-assessment tool should be developed to enable each provider to confirm that she/he has the knowledge that she/he needs, or to develop a learning plan to acquire or refresh knowledge in areas with deficiencies.

What should be done to develop specialized training on stroke care for all potential providers in Phase 3 of the Community Stroke Program?

A 2007 project funded by the Heart and Stroke Foundation developed and tested Interprofessional Learning Objectives for Stroke Care for regulated health professionals, and a matrix showing those learning objectives for different professions is reproduced in Table 1. This matrix was developed to reflect and address the elements of the Stroke Best Practices, and so it is highly appropriate that it should form the basis for the learning objectives and training programs for Phase 3.

Table 1 shows that the 2007 project leaders determined that some health professionals' learning needs did not need to encompass all areas. However, based on the input from the frontline providers in the ADAPTE process, in which there was a consensus that there should be a common base of understanding about stroke across all providers who are caring for stroke survivors, it is recommended that *all* providers should be provided access to training on *all* the learning objectives.

Because the project examined only the learning needs of health professionals, a column has been added to Table 1 to represent the potential learning objectives for PSWs, who, because they are primarily allied with nursing, should have the same learning objectives as nurses.

Table 1 – Interprofessional Learning Objectives for Stroke Care from Heart and Stroke Foundation of Ontario. 2007. Interprofessional learning objectives for stroke care report. ³

Learning Area	Nurse	OT	Pharm	PT	RD	RT	SW	SLP	PSW
1. Principles of Stroke Care	No	No	No	No	No	No	No	No	Yes
2. Anatomy and Physiology of Stroke	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
3. Cardiovascular and Respiratory	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
4. Psychosocial Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. Communication	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6. Mobility & Complications	Yes	Yes	No	Yes	No	No	No	Yes	Yes
7. Routine Activities of Daily Living	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
8. Instrumental Act. of Daily Living	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
9. Cognitive, Perceptual, Behavioural	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10. Sexuality	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
11. Nutrition	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes
12. Dysphagia	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
13. Skin Care	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
14. Continence Management	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
15. Stroke Prevention	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
16. Transition Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

³ Available at http://www.heartandstroke.on.ca/atf/cf/%7B33C6FA68-B56B-4760-ABC6-D85B2D02EE71%7D/ILO_Report_April_2007.pdf

In Phases 1 and 2 of the Stroke Program, training was required by the WWCCAC for all providers in a proprietary knowledge-building course called “Canadian Hemispheres™ Stroke Competency Series” from Apex Innovations of Lafayette, Louisiana (<https://www.apexinnovations.com/-CanadianHemispheres.php>). The course covers the following topics:

- I. Brain Anatomy & Physiology
- II. Stroke Pathophysiology
- III. Pre-Hospital & ED Stroke
- IV. In-Hospital Ischemic Stroke
- V. In-Hospital Hemorrhagic Stroke
- VI. Stroke Prevention
- VII. Canadian Stroke Strategy
- VIII. NIH Stroke Scale Training and Certification

While a detailed examination of the content of the course was not conducted for this report, the course does not appear to address the following interprofessional learning objectives:

1. Principles of Stroke Care
2. Anatomy and Physiology of Stroke
3. Cardiovascular and Respiratory Effects
15. Primary and Secondary Stroke Prevention

The Saint Elizabeth and Care Partners representatives on the Steering Committee confirmed that between their agencies, they have training materials for all of the learning objectives. In addition, the Heart and Stroke Foundation has published a new (November 2015) resource for healthcare providers called *Taking Action for Optimal Community and Long-Term Stroke Care* [17] that surveys most if not all of the learning objectives, and presents the requisite knowledge in a very useful and useable fashion.

However, training modules on the roles of the various disciplines involved in the community stroke program need to be developed. To define the roles, it is recommended that a 1-day workshop involving representatives of each of the disciplines involved be convened to work to describe the roles more finely than was possible in the ADAPTE workshop. This workshop and resulting description of the roles would be centred on the OCAR (Observe, Coach, Assist and Report) framework,[7] which was endorsed by all steering committee members as helpful to set expectations for and structure relationships among the various providers involved. The training modules on roles would then be developed from the description of the roles.

With respect to the self-evaluation tool, the Interprofessional Learning Objectives for Stroke Care project also produced a tool for each discipline that corresponds to the learning objectives matrix (in Appendix F, there is a copy of the Nursing Self Evaluation Template).

However, since it is recommended that all disciplines be required to know all aspects of stroke, it is further recommended that each Self Evaluation Template be reviewed carefully with a view to adding any missing elements in a manner appropriate to each discipline. For example, while a nurse may be required to know how to conduct a certain assessment, another member of the interdisciplinary team may need to know only what the assessment is for, and what part of the rehabilitation journey the assessment is useful for. Further, it is recommended that the Nursing Self Evaluation Template be adapted to the personal support worker role, for example, translating the assessment tasks for nurses to tasks appropriate to PSWs' role, using the OCAR framework.

It is recommended that Recommendation B be implemented in the following manner:

Stroke education

- 1. The Health Care Provider organizations should meet and identify the educational materials that they have access to (including *Taking Action for Optimal Community and Long-Term Stroke Care*). They should assemble a learning package that addresses all the learning objectives for all providers participating in the community stroke program. They should decide on a delivery method for the various components of the learning package (including in-person multi-disciplinary sessions, on-line and self-learning formats) so that the package can be provided to their care providers in the individual agencies in a cost-effective way.**

Self-assessment

- 2. The Health Care Provider organizations with the assistance of the Saint Elizabeth Research Centre should review and adapt each of the discipline-specific Self Evaluation Templates to refer to all learning objectives, and should review adapt the Nursing Self Evaluation Template to the personal support worker role, for example, translating the assessment tasks for nurses to tasks appropriate to PSWs' role, using the OCAR framework.**
- 3. The Health Care Provider organizations should have their healthcare providers use adapted versions of the discipline-specific Self Evaluation Templates to assess their knowledge and learning needs on a regular basis.**

Roles of the disciplines

- 4. The Saint Elizabeth Research Centre should design and facilitate a workshop on roles, and the Health Care Provider organizations should provide the participants in the workshop.**
- 5. The Saint Elizabeth Research Centre should produce a report that describes the roles of the disciplines involved in the WW Community Stroke Program.**
- 6. The Health Care Provider organizations should produce the necessary educational materials that reflect the role descriptions, and ensure that all providers have access to and use the materials.**

Evaluation

- 7. For the education materials on stroke and roles, the following should be measured and reported on:**
 - a. Proportion of the relevant staff who have had the education**
 - b. Staff satisfaction with the education**
 - c. Staff knowledge of the material in the education materials (through knowledge tests embedded in the education materials)**
 - d. Role clarity will be assessed in focus groups across the continuum**

- 8. For the self-assessment tool, the following will be measured and reported on:**
 - a. Proportion of the relevant staff who have used the self-assessment tool**
 - b. Staff satisfaction with the self-assessment tool**
 - c. Staff use of the outcome of use of the tool to guide professional development**

C. Focus on the client's goals

In Phases 1 and 2, the focus has been on maximizing the progress a client can make in recovering from his or her stroke. Each member of the interdisciplinary care team identified reasonable goals for the client's rehabilitation, and the OT Lead and the Designated Stroke Care Coordinator have worked to coordinate the progress toward those goals by each of the interdisciplinary team members.

In the ADAPTE workshop, the participants discussed what goal-setting itself could add to the WW Community Stroke Program, and they came to a consensus that there was considerable merit in moving to work closely with the client and his or her caregivers to identify one or more goals that the client him or herself has, expressed in language that is meaningful to the client and his or her aspirations for recovery in terms of something he or she would like to be able to do or participate in. This approach to goal-setting is highly aligned with more person and family centred care.[18]

One example that came out of the workshop was "the client wishes to attend a wedding in 6 months." Another example goal could be "the client wishes to be able to move from his bedroom to the kitchen on her own and make a cup of tea." A third example might be "the client wishes to return to modified work at her desk within the next 6 months." With these kinds of goals in mind, the individual members of the team would align their own therapeutic goals for the client and their therapy for the client to the client's goal or goals.

While several ADAPTE workshop participants said that their therapeutic goals are usually negotiated with clients, they felt that helping the client and his or her caregivers define their goals in their own words, this way would be a change in their approach that they would welcome. They agreed that with one or more client goals to focus on, they would be able to communicate more easily with each other about their contribution to achieving the client's goal

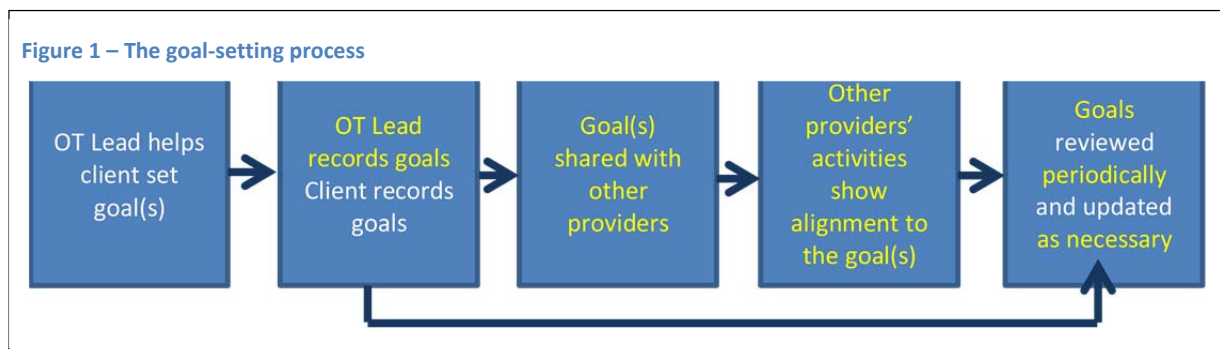
through their own *therapeutic goals*, and in this way help one another reinforce and support the efforts of all members of the interdisciplinary team.

While it might be hard to link a specific goal defined by the client to a particular providers' potential contribution, by helping the client define goals, the OT Lead could organize a care over time that would meet the client's expectations and needs. For a highly simplified example, if the client's goal required significant improvement in ambulation, there might be more physiotherapy might be emphasized at the beginning of a care plan. Or, if the client was more interested in regaining communication, there might be a greater emphasis on speech language pathology at the beginning of the care plan.

While it is easy to talk about a client goal or goals co-developed with the client in his or her language, this is harder to do in practice.[19] Providers in different disciplines have different approaches to person-centred care and goal setting,[20] and providers have in other settings perceived themselves as working toward client-centred goals when they may not have involved in the client in the goal-setting, for example.[21]

Goal Attainment Scaling has been identified as a client-centred means for not only identifying a goal or goals that the client wants to reach, expressed in the client's language, but also for measuring incremental progress toward that goal over time. In addition, Goal Attainment Scaling has been shown to be particularly applicable to rehabilitation in general [22, 23] and in stroke rehabilitation in particular [24] but difficult to implement in practice due to various barriers, including avoidance of conflict when client expectations are deemed too ambitious or when family members are involved, and low provider expectations in the ability of clients to engage in goal-setting.[21] There is also concern about the difficulty of the scaling part of the Goal Attainment Scaling – establishing the measures to assess progress over time.[21, 25]

It is recommended that the WW Community Stroke Program move forward to embrace client-centred goals that guide the development of care plans by the OT Lead, and of providers' therapeutic goals that complement one another to achieve the client's goals. Further, it is recommended that these differently-focused but complementary goals will be recorded, respectively, in a record for the client and family, and in a providers' record, and that the clients' and providers' progress toward the goals be evaluated and reconciled in a process led by the OT Lead at three points in the community stroke program – at the beginning, in case conferences at the six-week mark and near the end of a client's program (see Figure 1).



It is recommended that Recommendation C be implemented in the following manner:

Goal-setting methodology

- 1. Working with the two OT Leads currently in the program, the Saint Elizabeth Research Centre should facilitate a translation of the goal-setting component of Goal Attainment Scaling to fit within the Community Stroke Program, and develop a means of recording client goals so that interdisciplinary team members can align their therapeutic goals to the client's goals, and monitor and check the alignment over the course of a client's program and at the three specific check-in points – near the beginning of the Pathway, at 6 weeks, and near the end of the Pathway.**
- 2. The Health Care Provider organizations should adopt the emerging approach and monitor its implementation and participate in the development evaluation of the methodology (see recommendation 4 below).**

Recording the client goals for monitoring

- 3. Since the value of the client goal-setting is not only to guide providers' therapy activities but to enable the client to participate more actively in what is being achieved, the Saint Elizabeth Research Centre should facilitate a human-centred design initiative to develop a Client Record in which clients can keep a kind of diary or journal in which they monitor their own progress toward their goals, and their providers' contributions to their rehabilitation. The Client Record should mirror the providers' Coordinated Care Plan.**

Evaluation

- 4. Since this approach represents a different orientation and use of Goal Attainment Scaling than in the literature, there should be an ongoing development evaluation of the its use in the WW Community Stroke Program, and an iterative adaptation to the approach as learnings emerge about its appropriateness to practice.**
- 5. Finally, there should be an evaluation of the alignment of provider goals with client goals over time to ensure that the approach is successful.**

D. Add more flexibility to the care pathway

The care Pathway in Phases 1 and 2 of the WW Community Stroke Program (Appendix A) is structured by provider type; for example, there is a section for the Designated Stroke Care Coordinator, for a Physiotherapist, for an Occupational Therapist, and so on, and for most of the named disciplines, there is a range of for the number of possible visits. For example, for Occupational Therapy, the Pathway specifies that there be 8-16 visits over the 12 week program.

In the ADAPTE workshop, participants indicated that the total number of the visits seems generally to be appropriate, and the preliminary outcome data tend to confirm this. On the other hand, the participants held a variety of views about the flexibility of the Pathway. For some, the number of visits identified in the Pathway per discipline constituted a strict rule. For others, the number of visits had been in practice more flexible, so that, for example, an Occupational Therapist could “give up” a few visits if a Registered Dietitian could provide much-needed care to a client in place of those OT visits.

When the opportunity to layer in visits by personal support workers and nurses for Phase 3 was discussed by the workshop participants, they saw, regardless of their view of the Phases 1 and 2 Pathway, the need for greater flexibility in the disciplines who might be involved in a client’s care to achieve the individual client’s goals, as well as the number of visits that would be required by an individual healthcare provider to facilitate the meeting of those goals. The steering committee was surprised by the commentary from the ADAPTE workshop, and expressed the view that the Pathway had always been intended to be flexible, and that arrangements outside the specific discipline/visit numbers in the Pathway had in practice been accommodated on a case by case basis. The Steering Committee confirmed that if the capacity for the Pathway to be flexible was not clear, it should be made clearer in Phase 3.

Thus, it is important to ensure that the flexibility is explicit – with the provider mix and the number of visits specified in the current version of the Pathway considered as guides to the expectations about client/client needs that were assumed for Phases 1 and 2. Further, it is important to have a process in place for the team caring for a client to exercise that flexibility in individual cases.

In keeping with the Recommendations A and B, the OT Lead assigned to organize the care for a client will be the person who individualizes the care Pathway for the client, centred on achieving his or her goals. Subject to comments about nursing visits in Recommendation E, the Pathway should be individualized by the OT Lead as he or she establishes, monitors and revises (if necessary) the client’s care plan in the three specific points in time discussed in the commentary on Recommendation C.

One significant issue that has an influence on the recommendations for Phase 3 is the concept of rehabilitation intensity. Health Quality Ontario, the Ministry of Health and Long-Term Care and the Ontario Stroke Network have established expectations for rehabilitation intensity hospital based inpatient care [26] there is a general consensus that the intensity of rehabilitation in the first 60 days after stroke should mirror the expectations for inpatient acute care. Recommendation 9.3.1 of Ontario’s 2015 quality-based procedures for acute and post-acute stroke care [26] describes the expectation, based on expert panel consensus:

9.31.1 - Stroke clients should receive 3 visits per week for an average of 60 days per each rehabilitation discipline (occupational therapy, physiotherapy, speech-language pathology), in accordance to the clients’ individual complexities and needs. Clients should also be seen by other interdisciplinary team members

(personal support worker, social worker, etc.) as needed. Further intervention may be required based on the clients' residual needs.

Accordingly, the issue of who provides what rehabilitation and rehabilitation-oriented care in the community is important to how the Pathway visits are allocated, and the role of personal support workers and nurses, as they are going to be added to the WW Community Stroke Program.

In a 2014 article in the Canadian Journal of Neurological Sciences,[14] Ontario stroke experts said the following:

Canadian Best Practice Recommendations for Stroke Care state that therapy provided in the outpatient and/or community based setting should involve “a minimum of 45 minutes per day (up to 3 hours per day), 3-5 days per week” ... , and be “based on individual client needs and goals”....

The ideal intensity for community-based rehabilitation is unknown; however, a randomized controlled trial by Ryan et al. found that clients who received a higher level of rehabilitation, similar to that detected in the present study, experienced statistically significant improvements in social participation and quality of life scores.

As stated, the study by Ryan et al. [27] found minor but statistically significant improvements in social participation and quality of life, but there were also no statistically significant improvements in functional measures.

One of the issues in current research on intensity is, knowing how to measure intensity and how to monitor therapy to ensure that the right “dose” of therapy is being delivered to get optimal results. One aspect is what unit of time should be measured. It is common for intensity to be measured by the length of the encounter or visit with the rehabilitation professional; another approach is to measure the length of time that a client is actually engaged in therapy. For example, a one-hour visit with a physiotherapist does not mean one hour of physiotherapy *activity*, though it is *activity* rather than “face time” that seems to make a difference. [28-30]

Further, it is a combination of frequency and “task specificity” – repeated practice of a specific task – seems to produce accelerated functional recovery in the first six months after stroke.[28, 31]. This has led some researchers to suggest that “we need a team-based, whole-of-day approach to increase task-specific practice time, rather than less specific, discipline-based research that has dominated the literature to date,”[31] and some researchers are seeking to extend and amplify clients' task practice time with healthcare professionals, with practice time with other persons, including, for example, family caregivers.[32]

While it appears that the questions of intensity, let alone specific discipline-specific intensity, are far from definitively answered, the literature does suggest that the approach that is being

recommended for Phase 3 of the WW Community Stroke Program is likely helpful to clients' recovery from stroke. Regarding intensity, it appears important:

- (a) that there is a clinician who is coordinating the order, timing and focus of various therapies to meet a client's goals across the weeks of care in the Program; and,
- (b) that the efforts of each healthcare provider seeing a client – including PSWs and nurses – are coordinated, complementary, and reinforcing the therapeutic activities believed to be most important for the client, regardless of who has taken the lead in specifying those therapeutic activities, so that there is increased “task-specific practice time” across all the weeks of care in the Program.

The coordination, complementarity and reinforcement can only occur if there is significant and meaningful communication to the entire team (including PSWs and nurses) of the client's goals and the specific activities suggested by the therapists for the client to achieve his or her goals. Recommendation F deals with this issue.

The workshop participants also considered the experience of the client as he or she transitions in and out of the Pathway. It was observed that as the client enters and leaves the Pathway there will be significant changes in intensity of therapy and support: in the hospital, there are more opportunities for interaction with rehabilitation professionals and other healthcare providers, fewer opportunities while at home on the Pathway and still fewer when there is a transition to community-based programs and services. The participants agreed that the OT Lead should take this into account when planning the allocation of services across the weeks of the Pathway. This would usually mean that more services and greater intensity of interaction with providers toward the beginning of the Pathway, and less intensity and frequency toward the end of the Pathway.

It is recommended that Recommendation E be implemented in the following manner:

Flexibility

- 1. The WWCCAC should clarify the flexibility of the Pathway, and ensure that all involved in its implementation understand that it provides an overview of assumed care patterns, but that each client's care should be planned by the responsible OT Lead, taking into account the client's goals, the appropriate care providers to achieve the client's goals, and a gradual reduction in the intensity of client interactions with providers to smooth the transition to community-based services and providers at the end of the Pathway.**
- 2. The total number of visits in the Phase 3 Pathway should stay (subject to Recommendation E) the same as in Phases 1 and 2.**
- 3. The WWCCAC should clarify that the OT Lead's care plan, developed to achieve client goals, including a client-centred allocation of therapy resources and coordination with PSW and nursing resources, should generally be accepted by Care Coordinators, except when further rationale is requested by the Care Coordinator.**

4. **The WWCCAC should clarify that (subject to Recommendation E), any PSW or nursing visits need to be coordinated with, complementary to, and reinforcing of the therapeutic activities believed by the OT Lead to be most important for the client.**

Evaluation

5. **Since this approach introduces the possibility of a quite different composition of care patterns for individual clients, the evaluation of the Phase 3 of the Program should include monitoring the patterns of care plans and the frequency with which they are changed or confirmed, and efforts to relate the different patterns to outcomes.**

E. Add nursing visits

One of the issues that the participants in the ADAPTE workshop discussed when examining the issue of integration of nursing into the WW Community Stroke Pathway Plan is whether there is a specific role related to the rehabilitation purposes of the Pathway that would require nursing visits to be added to the Pathway. While there was consensus that the complementary role that nurses could play in clients' rehabilitation would be important, there was also a consensus that 2-3 nursing visits should be added explicitly to the care Pathway, and they would occur very early in the care Pathway with a follow-up 6 weeks into the Program unless the OT Lead had a strong rationale for not involving the nurses at those times. It was thought that the WWCCAC's Rapid Response Nurses might be deployed for this purpose, since they are intended to focus on the transition from hospital to home.⁴

Three purposes for these 2-3 visits were identified:

- (a) to reconcile medication and to make sure the client and any caregiver is aware of and understands the prescribed medications ;
- (b) to start the process of client education about stroke; and
- (c) to identify any possible medical issues that might compromise the client's rehabilitation or that had not yet been addressed.

Medication reconciliation at the time of transition is a best practice to reduce adverse events,[33] and also a best practice for transitions for stroke clients.[26] The workshop participants shared their experience that clients who have had strokes need help with their medications when they arrive home, and that confusion with medications can interfere with the rehabilitation process. As for client education, the workshop participants noted that nurses are ideally suited to provide education and the earlier the education about stroke and stroke prevention starts, the better. The third purpose, identifying any outstanding medical issues, also was seen by the workshop participants as important, since when a client returns to his or her home, previous or new medical issues may manifest.

⁴ See <http://oaccac.com/Innovations-In-Care/Nursing-Initiatives/rapid-response-nurses>.

It is recommended that Recommendation F be implemented in the following manner:

Nursing visits

1. **The WWCCAC should amend the care Pathway to add 2-3 nursing visits.**

Evaluation

2. **Since this approach introduces the possibility of a quite different composition of care patterns for individual clients, the results of the nursing visits should be evaluated to confirm whether the nursing visits are achieving the three identified purposes, whether they are producing benefits for clients (perhaps even beyond the three purposes), and their cost.**

F. Implement a common communication platform across settings

In the ADAPTE workshop, participants who are rehabilitation professionals with experience delivering the WW Community Stroke Program to clients discussed their use of group emails to keep one another up to date on the progress and challenges that individual clients are having. They find these emails an effective way to communicate within a small dedicated team.

The providers also said that they find short, weekly telephone meetings, facilitated by the OT Lead, helpful to sort out specific and critical challenges faced by specific clients. These weekly meetings are optional for all team members because it is often difficult to arrange for all team members to be available at one time. Those who are not present at the meetings but who should know what has been discussed are contacted by telephone or email. Within this approach, however, email communications are between providers within an agency and not across agencies, and the content of the communication is not centrally stored.

When rehabilitation assistants are involved in the care of a client, the strong relationships that have been built between rehabilitation professionals and individual assistants, and joint visits with the clients, have been helpful in ensuring good communication and collaboration.

At the ADAPTE workshop, the participants as a group recognized that hospital-based providers' assessments and recommendations for a client are sometimes not available to the OT Lead or the community-based team, and if they are available, they are sometimes not in a format that is most useful and convenient for use in the community (for example, they may be too long, or not summarized). Nonetheless, the workshop participants and the Steering Committee members were of the view that these assessments and recommendations were important to have in the community, even if they need to be interpreted through the lens of the client's actual home and caregiver environment.

The workshop participants also discussed the utility of paper-based communication tools that have been used successfully in the past. They discussed a "communication book" in the client's home that would be a place for providers to record the client's goals and their notes for other

providers. Another possibility raised was to use the *My Stroke Passport* (<http://www.strokebestpractices.ca/wp-content/uploads/2013/10/My-Stroke-Passport.pdf>), now updated by the Toronto Stroke Network as *My Guide to Stroke Recovery* (<http://www.tostroke.com/my-guide-for-stroke-recovery-soon-to-be-released/>) to be more a self-management resource than a communication tool. They noted that these are not necessarily ideal for recording, communicating and sharing the details of care plans or assessments, nor are they useful for team members who are not likely in the home but who need to keep up on the progress of the client (for example, the OT Lead), nor would they facilitate real-time communication and interaction that communication tools such as email enable.

When they discussed the possibility of a wider array of healthcare providers and agencies involved in the WW Community Stroke Program, there was support for enhanced communication approaches, and one participant mentioned that programs like the Integrated Comprehensive Care Project for cardiac care, centred at St. Mary's General Hospital, Kitchener, showed how good communication across teams could be very beneficial. Another participant mentioned how, within the hospital setting, good communication between rehabilitation professionals who work during the week and those who work on weekends is essential to ensure continuity of care for clients with best-practice 7-days-a-week rehabilitation activities.

The Steering Committee considered the comments of the workshop participants and agreed with the need for a strong cross-agency, cross-setting communication platform that would be robust enough to transmit and store essential information between and among provider teams. The requirement for confidentiality and privacy, and the possibility of transcending the agency boundaries was seen as essential, and the potential to include photos and videos with information about specific therapies was thought to be useful, particularly if consistent approaches to therapy and intensity of therapy are to be maintained across providers (see the commentary for Recommendation E). The Steering Committee fully endorsed providing a consistent tool for providers across sectors and settings involved in the Program to participate in dialogue and information-sharing virtually through an online platform.

The possibility of using Tyze Personal Networks (<http://www.tyze.com>) was raised by Saint Elizabeth representatives, and a review of the functionality of the Networks was provided. Though originally developed for use to bring together family caregivers around a person needing care, the Networks are being adapted to a wider variety of uses, including among healthcare providers. There was interest among the Steering Committee members in starting a trial of Tyze Personal Networks to facilitate team communication for the Community Stroke Program.

It is recommended that Recommendation F be implemented in the following manner:

- 1. The content and form of the communication of assessments and care recommendations from hospital-based providers to home-based providers should be reviewed, aligned and optimized.**

- 2. Health care provider teams should be encouraged to continue to be creative with communication tools until a specific cross-setting communication platform is decided upon.**
- 3. However, in parallel, Tyze Personal Networks should be tried as a potential solution to the communication across agencies, settings and providers, and an evaluation of the effectiveness of the functions should be conducted.**

G. Improve transitions in and out of the Pathway

One of the distinct innovations of the WW Community Stroke Program was the “Discharge Link” meeting that was scheduled as a client was transitioning into Program from a hospital-based program of rehabilitation. The concept was to bring together the hospital and home-based providers with the client and, where possible, caregivers, to discuss rehabilitation goals and plan for the transition to home. Though providers identified concerns with specific cases (such as the difficulty of convening all the relevant hospital-based providers, especially from a fast-paced acute care setting), overall the providers judged the Discharge Link meeting to be a success.

When they reflected on the end of the Program, however, there was consensus that a similar meeting should be held, involving clients (and caregivers) the home-based providers and community providers to whom responsibility for providing ongoing care is passed. While in Phases 1 and 2 there is provision for a meeting of the home-based providers with the client and caregivers, the community-based providers are not typically involved.

There was also a consensus that the planning for that transition out of the Program should start to take place earlier in the Pathway. For example, it may be advantageous for a client to start participating in an exercise program in the community while Pathway activities are still underway. The participants identified CareDove (<https://www.caredove.com/wwcss>) as a tool for referrals to community-based services, and suggested that it be made available to all Community Stroke Program providers.

Finally, the participants agreed that the Discharge Link meetings should be renamed and be called “Transition” meetings both at the beginning of the Pathway and the end of the Pathway. It was thought that this represents better the smooth transition experience the client should be having,[6] rather than being discharged by one institution and admitted by another.

It is important to measure the client experience, and as mentioned in previous recommendations, the WatLX™ can be used for this purpose. In addition, because one of the purposes of this recommendation is to smooth the transition between home-based care and community-based care, it would be important to monitor the number and pattern of referrals to community-based services from home-based services while the client is still active in the Pathway.

It is recommended that Recommendation G be implemented in the following manner:

Transition

- 1. The WWCCAC should rename the Discharge Link meeting as a Transition meeting, and formally institute a Transition meeting at the end of the Pathway that involves home-based providers, community-based providers, the client and his or her caregivers.**
- 2. Each health care provider organization involved in transitions into and out of the Pathway should be encouraged to ensure appropriate participation of care providers in Transition meetings.**
- 3. The OT Leads should be considering, with the advice and guidance of all involved health care providers, making referrals to community-based services throughout the course of, and near the end of, clients' journey on the Pathway.**

Evaluation

- 4. The changes resulting from this recommendation should be evaluated by monitoring the number and pattern of referrals to community-based services from home-based services. Client experiences across the transitions should be measured using the WatLX™ too.**

H. Blend outpatient and in-home rehabilitation

As the participants in the ADAPTE workshop considered the issue of flexibility in the Pathway, they entered into a discussion of the merits of enabling outpatient (hospital- or clinic-based therapy) to form part of the Pathway, in place of some or all of the home-based therapy that the Pathway describes. There was some debate on whether outpatient or home-based rehabilitation is inherently better (the evidence suggests strongly that there is no systematic superiority of one setting over another [34, 35]).

There was nonetheless recognition that in individual client circumstances, one setting might be better than another. For example, it was suggested that the equipment in an outpatient setting might be more appropriate for a client than what might be available in his or her home, or there might be some therapeutic value in the client leaving his or her home to participate in rehabilitation. It was also observed that if required to attend in an outpatient clinic program – even if near a client's home – might prevent a more homebound client from participating in appropriate rehabilitation. Further, it was said that enabling rehabilitation in the home – in the setting in which the client will be functioning – can be more “real” and therefore relevant.

After some discussion, there was a consensus that further work needs to be undertaken to determine the full range of factors that would need to be considered by the OT Lead, if this kind of flexibility in the Pathway were permitted.

The steering committee agreed that there is a need for further investigation of the possibility of including the option of outpatient rehabilitation in the Pathway. Further, the complexity of adding yet another setting outside the home care environment – with different reimbursement mechanisms, wait lists, and priorities – is something that will take more time to sort out.

It is recommended that Recommendation H be implemented in the following manner:

- 1. The question of what the relevant factors would be for deciding between home-based and outpatient clinic-based therapy should be released to the research and practice community for discussion and resolution.**
- 2. Once those factors are identified, further consideration should be given to this option, perhaps in a third phase.**

Next Steps

Planning for Phase 3 of the WW Community Stroke Program has revealed several recommendations for improvement. Next steps involve a staged implementation of each of the recommendations outlined in this plan. A possible timeline for implementation is attached as Appendix G.

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Appendices A to G