

Community and Outpatient Stroke Rehabilitation Services: A Framework for Estimating Volumes, Planning and Referral Considerations

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Introduction

Quality-Based Procedures Clinical Handbook for Stroke (QBP)¹ describes best practices that should be in place for the care and support of persons with stroke in their community. This includes, but is not limited to, access to outpatient and in-home community rehabilitation services, stroke prevention clinics, stroke support groups for survivors and their caregivers, stroke specific exercise groups and other post stroke recovery supports. These services should be delivered in a coordinated way that is easy for person with stroke, their family and providers to navigate. A sustainable community model to support the delivery of specialized care to meet the needs of persons with stroke is required.

There is currently a gap in rehabilitation services available in the community to deliver on QBP recommendations. In order to provide best practice for stroke in the community, planning groups need to understand their community rehabilitation service needs and stroke population volumes in their geography. Regions also need to consider factors such as urban versus rural geographies as well as other unique regional planning aspects such as Indigenous populations or French language designations.

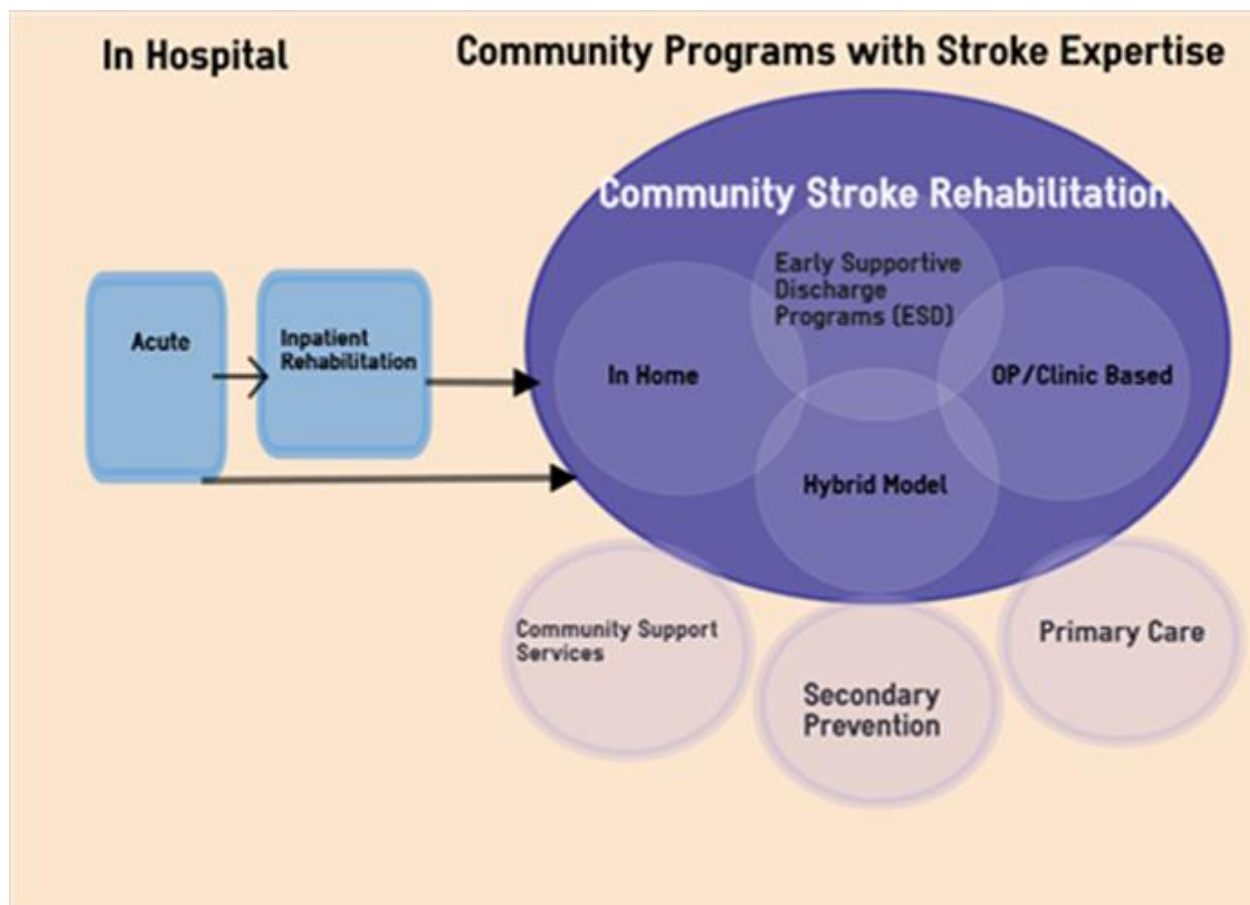
Community Stroke Rehabilitation within the Stroke System

The stroke system is complex and crosses the entire continuum of care. Generally, stroke survivors access community stroke rehabilitation after an encounter with an acute or rehabilitation hospital stay. To provide contextual relationships between Community Stroke Rehabilitation programs and other stroke specific services a high-level schematic is provided below. (see Figure 1).



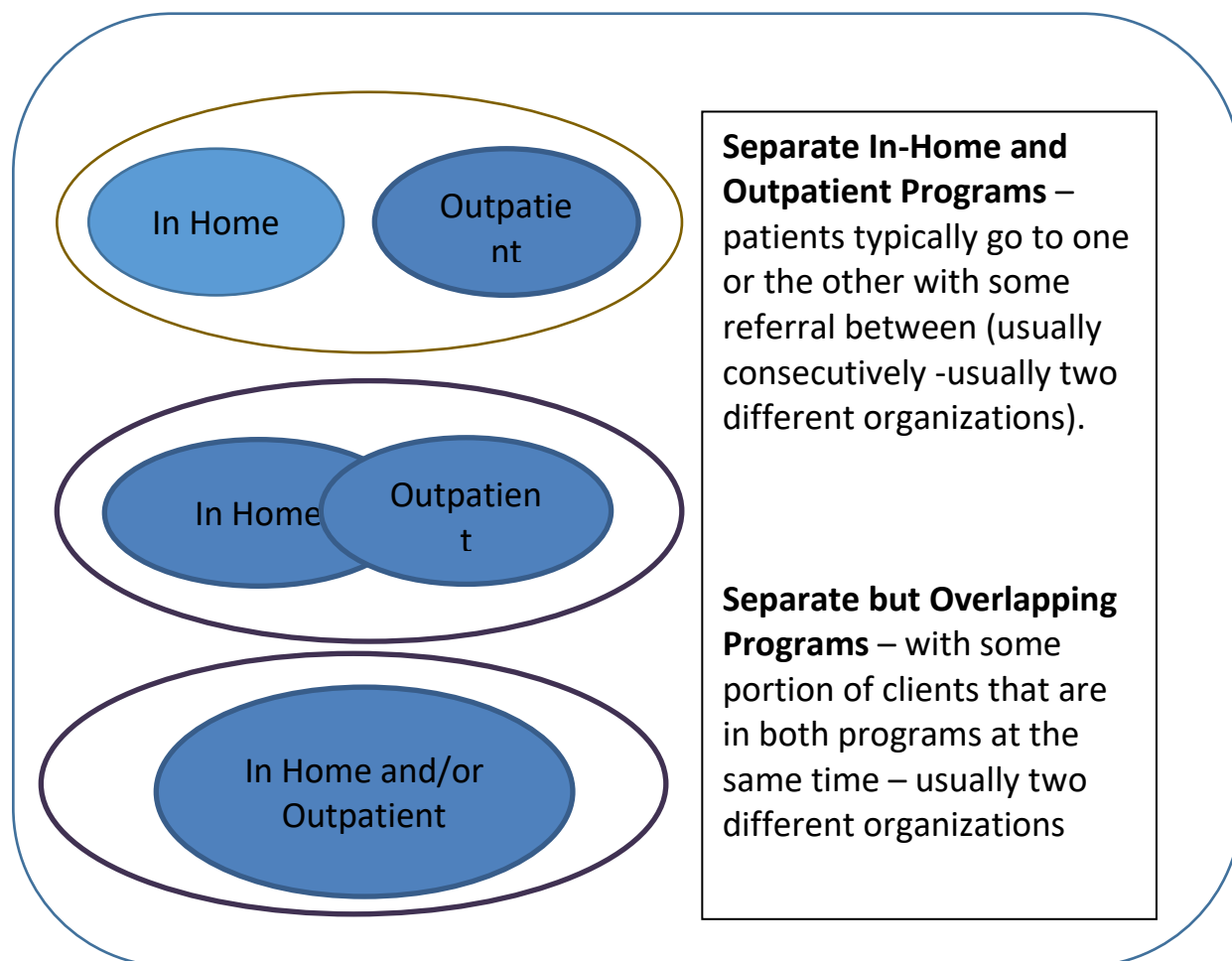
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Figure 1: Schematic of System



As described in Canadian Stroke Best Practice Recommendations (CSBPR), “Outpatient and/or community-based services should be delivered in the most suitable setting based on patient functional rehabilitation needs, participation-related goals, availability of family/social support, patient and family preferences which may include in the home or other community settings (Evidence Level C)”.² The following outlines potential models for providing services. Programs may include hospital-based programs, community-based programs, or home-based rehabilitation, depending on resource availability and patient considerations.

Figure 2: Examples of Community Stroke Rehabilitation Program Models



Early Supported Discharge (ESD) is a unique community rehabilitation service and can be included as a component of a complete model of rehabilitation. ESD is a form of rehabilitation designed to accelerate the transition from hospital to home through the provision of rehabilitation therapies delivered by an interprofessional team, in the community. ESD is intended as an alternative to a complete course of in-hospital rehabilitation and is most suitable for patients recovering from mild to moderate stroke. ESD has been further defined to include services that are provided by a well-resourced, specialized, interprofessional team with stroke expertise whose work is coordinated through regular team meetings. Services should be provided five days per week at the same level of intensity as would

have been delivered in the inpatient setting in order to address individual patient needs.

Further information and resources for ESD planning can be located here:

<https://www.corhealthontario.ca/resources-for-healthcare-planners-&-providers/stroke-general/quality-based-procedures-resource-centre/health-system-level-tools-&-guidelines/community-rehabilitation>

Planning for Community Stroke Rehabilitation

Below are some key QBP criteria critical to consider when planning:

- Outpatient and/or community-based rehabilitation services should be available within 48 hours of discharge from an acute hospital or within 72 hours of discharge from inpatient rehabilitation ¹
- Community-based clinic services (including hospitals) are preferred. Where centre-based rehabilitation is inaccessible or does not address a patient's individual needs, home-based rehabilitation should be provided by a coordinated and organized interprofessional team ¹
- An interprofessional rehabilitation team should be available based on individual needs and should include an occupational therapist, a primary care provider, a nurse, a physiotherapist, a speech-language pathologist, a psychologist, a social worker, a registered dietitian, a pharmacist, a therapeutic recreational specialist, therapy/rehabilitation assistant(s), the patient, and the family and/or caregivers ¹
- *Patients should be given 2–3 visits/week for 8–12 weeks for Physiotherapy, Occupational Therapy and Speech Language Pathology* ¹

For further information on QBP implementation facilitators from existing comprehensive hospital outpatient programs please see the additional document: “Exploring Implementation of Stroke Best Practices in a Sample of Community and Out-Patient Rehabilitation Settings in Ontario”. Please contact your Regional Stroke Rehab Coordinator to obtain this.



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In designing and planning services, planning processes and decisions should be aligned with The Excellent Care for All Strategy which is based on the following principles:

- Care is organized around the person to support their health
- Quality and its continuous improvement is a critical goal across the health care system
- Quality of care is supported by the best evidence and standards of care
- Payment, policy and planning support quality and efficient use of resources⁴

Planning for community stroke rehabilitation is best supported when completed in conjunction with other regional planning efforts and should align with other diagnostic groups or at least identify where similarities and/or differences occur to leverage shared resources and planning. The framework discussed in this document will support a regional analysis for community stroke rehabilitation (sub-acute, non-inpatient services) based on best practice parameters described in QBP. Community stroke rehabilitation can occur in ambulatory settings and/or in-home. The focus of this document will be on a description of programs and services and not on the provider agency as depending on location, services may be provided through hospital teams, LHIN Home and Community Care, other LHIN funded agencies or combinations thereof.

Scope:

The focus of the remaining document is to provide a framework to assess the system demands for Community Stroke Rehabilitation (Outpatient/In-Home). It does not encompass all the detailed analyses for the broader system components that are outlined above as part of the needs of persons with stroke in the community nor does it consider the intensity levels for ESD, however one could adapt the tools for higher intensity. Planning principles would apply.

Principles:

Some basic planning principles should be generated by the appropriate system level and/or decision-making group responsible at the onset of the planning exercise. These core principles would be used in regional conversations to support assumptions and in future planning and decision-making processes. The



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principles listed below are examples that may meet the needs of your organization or planning group (may need to be modified or enhanced for local application).

- Organizations commit to a patient-centred planning process that reflects the best interests of persons with stroke and caregivers.
- Use of patient engagement strategy
- All recommendations/modelling characteristics/inputs are in line with QBP
- Data inputs are from the most reliable and current sources.
- Modelling is based on best evidence and experience available.
- Shared accountability for patient and system outcomes across the continuum.
- Reciprocal and timely communication of a shared plan with and among health service providers, persons with stroke and caregivers
- Equitable access
- Based in the community whenever possible to support the community reengagement and improved patient experience
- Integration of services to enhance transitions, linkages and navigation including communication strategies to ease transition for patients
- Critical mass may be a consideration in planning delivery of services with an interprofessional team with stroke expertise
- Sustainable quality of care with ongoing evaluation
- Cross LHIN collaboration for bordering areas is incorporated in planning
- Acknowledge and learn from experience of existing outpatient and community rehabilitation programs.

NOTE: For previous provincial review of in home community rehabilitation program information please see: [Community-Stroke-Rehabilitation-Models-in-Ontario-Final-June-2016](#)



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Community Stroke Rehabilitation – Predicting Patient Volumes

To determine proportions of patients requiring service and contributing variables, the workgroup completed an environmental scan within Ontario Stroke Networks for existing examples of planning or project work underway prior to December 2017. The examples listed in the section below represent planning assumptions that were obtained in that environmental scan, reviewing draft documents or verbal conversations. The following gives examples of planning assumptions used in existing programs regarding proportions of patients requiring access to community rehabilitation programming from the settings of acute, rehab and 'other'. After review the working group made final suggestions and these have been used to create the formulas in the sample **Community Stroke Rehabilitation – Annual Patient Volume Predictor and Service Team Predictor**.

Assumptions for proportion of stroke patients from acute care:

- Will be influenced by proportion of TIAs admitted to acute care if using total volumes
- Percentages based on experiences of work to date:
 - 13% of patients from acute - based on Matthew Meyers previous work 6
 - 15% used in Southwest (ESD and SIRT)
 - 30% used in planning of Cornwall/Champlain model
 - 15-18% used in Southeast Enhanced Community Rehab Program (but varies by local area)
-

Workgroup Suggestion: Use 15% as the proportion of stroke patients discharge directly from acute care for a low estimate of demand and 20% for high estimate of demand. 15% was used in the sample excel table (below).

Assumptions for proportion of stroke patients from rehab:



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- 90% - based on Integrated Funding Model (IFM) Project, Toronto Stroke Networks (TSN)
- 100% - as outlined by M. Meyers ⁶,
- 94.2% - used in Southwest planning
- 48% of stroke patients proceed to inpatient rehab after acute care and of those, 80% will require community stroke rehabilitation (CSR) – based on Champlain model

*Workgroup Suggestion: Of the 35.5 % of stroke patients discharged from acute care proceeding to IP active rehab, **90%** will require community rehab programming.*

(The 35.5% represents the provincial rate referred to rehab from acute as reported in the Ontario Stroke Report Card.⁷)

Patients Re-entering System from Community: Unknown

- A portion of patients for a variety of reasons will need to re-enter the system at a later point in recovery - regions may wish to include this in their model unless have different resource providing neuro rehabilitation follow up services
- Although this is not specifically covered within QBP, clinical practice and patient experience discussed within the provincial workgroup identifies that in some cases patients have rehabilitation needs beyond the 8-12-week time frame related to: delayed recovery, other comorbidities impacting participation, new patient goals identified that are rehabilitation appropriate and not addressed earlier.
- The CSBPR states: “at any point in their recovery, stroke survivors who have experienced a change in functional status and who would benefit from additional rehabilitation services should be offered a further trial of outpatient rehabilitation if they meet eligibility and criteria” (Evidence Level B”). ²

*Workgroup Suggestion: A conservative **5%** was used in the sample excel table as a placeholder. Regions may wish to adapt this based on other available data or stroke survivor and provider feedback.*

The following sample was created utilizing the principles described above to determine an estimated volume of stroke patients requiring community stroke rehabilitation services. This “calculator” has been developed in excel with built in formulas for easy estimation using acute stroke discharge volumes. It can be applied for an organization, or a geographical planning area for planning purposes. This excel table is available through your Regional Stroke Rehabilitation Coordinator.

Figure 3: Community Stroke Rehabilitation Volume Predictor Snapshot

Community Stroke Rehabilitation - Annual Patient Volume Predictor					
Total Volume of Stroke Patients Discharged from Acute for planning area	Proportion Discharged Home Directly likely to require CSR (15%)	Proportion Transferred to Inpt Rehab (35.5%)	Proportion of those transferred will require CSR after their inpatient rehab stay (90%)	Proportion from other referral sources and/or system re-entry (5%)	Total annual volume of stroke patient that require CSR
500	75	177.5	159.75	25	260
<i>** (calculate by hosp or by LHIN or by a certain FSA/postal code)</i>		<i>** based on current stroke report card, can use local %</i>			<i>** Add Column B,D and E</i>
Instructions: In Cell A4, enter volume of acute stroke patients discharged annually for a) LHIN b) organization c) other planning area. Hit enter. The remaining cells will autopopulate to provide the total volume of stroke patients that require Community Stroke Rehabilitation based on the assumptions described.					

Boxes shaded this "orange" colour require data entry -- all other numbers will autogenerate.

Data Sources that may be used to support planning include:

- **Local hospital DAD (examples – stroke volumes discharged from acute care)****
- Local hospital NRS (examples – stroke volumes discharged from inpatient rehabilitation to the community)
- Ontario Stroke Network Report card (and supporting data)
- LHIN population/hospital level data (example – FSA – Forward Sortation Analysis)
- Referral Databases (example – e-stroke)
- Patient Registration and/or Organizational Databases (registration, administrative and other)
- Home Care Database (CHRIS data, local (especially those with stroke programs) and provincial level)

*** Calculations used as examples in this report are based solely on predictions based on acute stroke admissions only for ease of use*



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Community Stroke Rehabilitation – Model of Service Delivery and Team Models

Once the number of stroke patients to be served by a community stroke rehab model has been calculated, regions need to determine where those patients can be best served, and how much staffing is required to deliver services in different models of care. Therapy models are changing to not just meet system needs but have a focus on providing therapy in the most appropriate setting to meet the patient's goals. Treatment location may not need to be an exclusive location, but a combination based on clinical judgement in consultation with the patient.⁸ Proportions for a particular setting may be variable based on geography and access. The following describes findings/current experiences from the environmental scan process including estimated proportion receiving in home and/or clinic based service, transportation considerations and other regional factors.

Planning assumptions used in exiting models:

Toronto area Integrated Funding Model (IFM) work

- Estimate 30% will require home based rehab (based on IFM & Central East Stroke Network [CESN])
- Estimate 70% will require outpatient rehab (based on IFM & CESN)

Champlain Community Stroke Rehab program

- Planning expectation were 60% visits delivered in home and 40% would receive therapy in clinic.
- In 2016/17 – Champlain CSR enabled access in both settings with 24% of patient receiving in-home only, 13% in clinic only and 66% percent accessing both settings at some point in their stay



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South West

- Based on previous work in 2016, the Southwest uses the planning assumption: 50% would access services in outpatient and 50% in home

West GTA

- The Community Outreach and Stroke Rehab Program was a collaborative effort between William Osler Health Systems Brampton Civic Site, the Central West CCAC/LHIN and one of their service provider organizations (One to One Rehab) with consultation provided by the West GTA Stroke Network. The population targeted were milder stroke patients (AFIM over 80 and/or those in in-patient active rehab with an RPG of 1150 or 1160).
-
- With this pilot we assumed that 100% of patients would benefit from a combination of both in home and in clinic therapy provision and wanted the location of service provision to align with patient's goals not health system level factors. Each patient required a unique constellation of in home and clinic visits for each discipline that needed to contribute (OT, PT, SLP, OTA/PTA, Care Coordinator) to help patients, achieve their goals. At pilot midpoint (Oct to Dec 2018) all patients received treatment both in the home and in the clinic setting. Overall for the OT, PT and SLP therapies 78% of visits occurred in the clinic setting and 22% of visits occurred in the home setting. 100% of the additional home visits were delivered by the OTA/PTA's from One to One Rehab working in the program.

Expected Patient Travel Time:

- Regional differences that may influence time such as rurality and reasonable transportation available outside urban areas will need to be considered.
- Patient clinical factors may need consideration (fatigue, mobility, cognition etc.) as a result - in home therapy may be required even for those within the travel radius.



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- A travel time of < 30 min has been identified previously as a guideline to access outpatient services <https://www.corhealthontario.ca/The-impact-of-moving-to-stroke-rehabilitation-best-practices-in-Ontario-OSN-Final-Report-Sept-14-2012.pdf>
- Determine the region's acceptable patient travel time to reach service (e.g. 30, 45, 60 min.) based on current regional practice or patient engagement process. For planning purposes, may plan by local areas as proxy for general travel time initially.
- May need to consider seasonal differences for the planning region.

Other Regional Factors:

- In using volumes – is there a high volume of TIA patients in the admitted volumes?
- Rurality of region may influence in-home vs outpatient proportions due to travel distances or size of geography program will service
- Patient transportation systems available to support outpatient clinic models
- Existing flow data or local project experience - previous referral patterns etc.; outpatient trends in other programs and services

Sample Service Team Predictor

The following section describes key assumptions and sample team complement for planning purposes to implement community stroke rehabilitation at the levels described in QBP. The assumptions described are selected based on environmental scan and/or QBP Clinical as referenced. This is serving as a sample and local context and planning goals would need to be applied.

Program Delivery assumptions:

1. All therapy sessions are 1-hour in length (based on IFM, CESN & QBP)¹
2. Weeks of therapy used in modelling based on averages (10 weeks) (actual weeks provided determined by patient needs) (QBP – 8 – 12 weeks, 2 – 3 times/week)



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3. Interprofessional team required (QBP, best practice)^{1,2} – modelling here uses PT, OT, SLP and SW (noting that QBP recommends access to additional team members as well; these should be discussed and concerned regionally as appropriate with other programs). Care Coordination/System Navigation have been incorporated as key facilitators of best practice.
4. Regional differences will determine linkages and flow between in home and outpatient services. Note: Where feasible to meet patient goals in outpatient setting, this may be preferred model from economic and patient recovery principles if critical mass supports this. Patients who transition between programs would require less visits by another program.
5. Previous analysis supports that Community based programs implemented at QBP levels could support a decrease in LOS in Acute and Rehab Stroke Units⁶

Health Discipline Service considerations:

- 100% of patients will receive PT
- 100% of patients will receive OT
- 50% of patients will receive SLP (1/3 patients experience aphasia and 1/3 experience swallowing difficulties but are not mutually exclusive)
- Consistent with staffing ratio recommendation on inpatient units for Stroke Units
- Not as clear for other disciplines such as Social Work – but locally should factor in needs based on resources likely to be received in previous setting (ie social work support available prior to discharge, ongoing needs, and access available via primary care settings)). Champlain Community Stroke Rehab evaluation in 2017 reports 25% of patients needing Social Work with an average of 7.5 visits over the course of the program, workgroup thus chose 25% for their model as it resonated with experience as well.

Additional considerations when calculating FTE requirements:

Outpatient/Clinic Based Providers:

- 1 FTE = 1950 hours worked
- Direct therapy provision - **1350 hours**



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- *6 hours of direct therapy provision (max able to deliver), 5 days per week, 46 weeks per year (assumes 4 weeks vacation and 10 stat holidays)*

In Home Providers:

- 1 FTE = 1950 hours worked
- Direct therapy provision - **920 hours**
 - *4 hours of direct therapy provision** (max able to deliver allowing for travel time), 5 days per week, 46 weeks per year (assumes 4 weeks vacation and 10 stat holidays)*

*** Calculation used in TSN IFM project*

Program Planning Considerations:

- Plan for system re-entry to the community stroke rehabilitation system in the future - consider if locally wish to plan for this in your model (see column in calculator)
- Consider elements of secondary prevention within rehabilitation programs (these elements are not necessarily all addressed in the program parameters used in calculations – e.g. nursing education FTEs etc.
- Consider resources required to navigate patients/families to secondary prevention and other community support services to facilitate successful reintegration to community. This may or may not be a separate team member, but the role/function should be considered in the planning of the FTEs. For example, in the Champlain Community Stroke Program, the team is allocated 1 – 2 visits per client for navigation and coordination.
- Commitment to evaluation as currently outpatient databases do not exist – programs need to commit to their own data collection in the short term. Evaluation should include program and patient centred metrics. Detailed evaluation models were out of scope for our workgroup.

Team Examples

The following three tables summarize a projected team complement based on delivering a program on the above assumptions at QBP levels of therapy. It utilizes the volumes of patients predicted previously described. The first chart assumes that all patients being discharged will be served in an outpatient program, the second chart assumes that all patients being discharged will be



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served in an inpatient program and third is patients have access to a hybrid model. The charts included here are samples. The templates are available in excel from Regional Stroke Rehabilitation Coordinator and can be adjusted for any volume of patients desired.

Figure 4: Outpatient or Clinic Setting Predictor Excel File Snapshot

Outpatient Service Team Predictor						
To serve "X" patients annually, 2.5 visits per week for 10 weeks in an outpatient setting where "X" is the number calculated above or enter number of patients served in B9						
Number of Patients served	260					
Discipline	# of visits	# of hours of direct patient care	Direct patient hours available/FTE	Staffing Levels in FTEs (includes regulated staff and assistants)	Additional Considerations	Assumptions
Physiotherapy	6500	6500	1380	4.71	The FTE could be divided to staff for rehabilitation assistants to provide up to 33% of the visits, consistent with inpatient rehabilitation intensity guidelines.	Assumes 100% of patients receive physiotherapy
Occupational Therapy	6500	6500	1380	4.71		Assumes 100% of patients receive occupational therapy
Speech Language Pathology	3250	3250	1380	2.36		Assumes 50% of patients receive speech language pathology
Social work	1625	1625	1380	1.18		Assumes 25% of patients receive intensive social work support or proxy recognizing less visits for higher number of patients
Coordination or Navigation	520	520	1380	0.38	Could build this FTE into professional team and members take on this coordination role	Assuming 2 visit equivalent of navigation support
Other (consider resources accessible to team - dietitian, administrative coordination, access to psychiatry, nursing etc.)				To be determined locally		
			**for every FTE of 1950 hrs (37.5 hr week with vacation and stat = 1380 of direct therapy per year			

**could adjust anywhere between 2.5 visit to 5 days a week if were looking at ESD component if desired or planning a program at different frequency or length

Figure 5: In Home Service Team Predictor Excel File Snapshot

In Home Service Team Predictor						
To serve "X" patients annually, 2.5 visits per week for 10 weeks in an in home setting where "X" is the number calculated above (F4) or enter number of patients served in B23						
Number of Patients served	260					
Discipline	# of visits	# of hours of direct patient care	Direct patient hours available/FTE	Staffing Levels in FTEs (includes regulated staff and assistants)	Additional Considerations	Assumptions
Physiotherapy	6500	6500	920	7.07	The team is expected to staff for rehabilitation assistants to provide up to 33% of the visits, consistent with inpatient rehabilitation intensity guidelines.	Assumes 100% of patients receive physiotherapy
Occupational Therapy	6500	6500	920	7.07		Assumes 100% of patients receive occupational therapy
Speech Language Pathology	3250	3250	920	3.53		Assumes 50% of patients receive speech language pathology
Social work	1625	1625	920	1.77		Assumes 25% of patients receive intensive social work support or proxy recognizing less visits for higher number of patients
Coordination or Navigation	520	520	920	0.57	Could build this FTE into professional team and members take on this coordination role	Assuming 2 visit equivalent of navigation support
Other (consider resources accessible to team - dietitian, administrative coordination, access to physiatry, nursing etc.)				To be determined locally		
			**for every FTE of 1950 hrs (37.5 hr week with vacation and stat = 920 of direct therapy per year			

**could adjust anywhere between 2.5 visit to 5 days a week if were looking at ESD component if desired or planning a program at different frequency or length

Figure 6: Hybrid of Outpatient and In-Home Team Predictor Excel File Snapshot

Hybrid Service Team Predictor						
To serve "X" patients annually, 2.5 visits per week for 10 weeks with 40% of visits in outpatient setting and 60% in home setting where "X" is the number calculated above (F4) or enter number of patients served in B38 & B48						
Number of Patients served	260	Assume 40% visits in outpatient clinic setting	104			
Discipline	# of visits	# of hours of direct patient care	Direct patient hours available/FTE	Staffing Levels in FTEs (includes regulated staff and assistants)	Additional Considerations	Assumptions
Physiotherapy	2600	2600	1380	1.88	The FTE could be divided to staff for rehabilitation assistants to provide up to 33% of the visits, consistent with inpatient rehabilitation intensity guidelines.	Assumes 100% of patients receive physiotherapy
Occupational Therapy	2600	2600	1380	1.88		Assumes 100% of patients receive occupational therapy
Speech Language Pathology	1300	1300	1380	0.94		Assumes 50% of patients receive speech language pathology
Social work	650	650	1380	0.47		Assumes 25% of patients receive intensive social work support or proxy recognizing less visits for higher number of patients
Coordination or Navigation	208	208	1380	0.15	Could build this FTE into professional team and members take on this coordination role	Assuming 2 visit equivalent of navigation support
Other (consider resources accessible to team - dietitian, administrative coordination, access to physiatry, nursing etc.)				To be determined locally		
			**for every FTE of 1950 hrs (37.5 hr week with vacation and stat = 1380 of direct therapy per year			
Number of Patients served	260	Assume 60% visits in home setting	156			
Discipline	# of visits	# of hours of direct patient care	Direct patient hours available/FTE	Staffing Levels in FTEs (includes regulated staff and assistants)	Additional Considerations	Assumptions
Physiotherapy	3900	3900	920	4.24	The FTE could be divided to staff for rehabilitation assistants to provide up to 33% of the visits, consistent with inpatient rehabilitation intensity guidelines.	Assumes 100% of patients receive physiotherapy
Occupational Therapy	3900	3900	920	4.24		Assumes 100% of patients receive occupational therapy
Speech Language Pathology	1950	1950	920	2.12		Assumes 50% of patients receive speech language pathology
Social work	975	975	920	1.06		Assumes 25% of patients receive intensive social work support or proxy recognizing less visits for higher number of patients
Coordination or Navigation	312	312	920	0.34	Could build this FTE into professional team and members take on this coordination role	Assuming 2 visit equivalent of navigation support
Other (consider resources accessible to team - dietitian, administrative coordination, access to physiatry, nursing etc.)				To be determined locally		
			**for every FTE of 1950 hrs (37.5 hr week with vacation and stat = 920 of direct therapy per year			
IF Hybrid Program provided by the same team - the FTE could be combined.				Staffing Levels in FTEs (includes regulated staff and assistants)		
Physiotherapy				6.12		
Occupational Therapy				6.12		
Speech Language Pathology				3.06		
Social work				1.53		
Coordination or Navigation				0.49		
Other (consider resources accessible to team - dietitian, administrative coordination, access to physiatry, nursing etc.)						

Clinical Referral and Implementation Considerations

In addition to having planning numbers to establish programs, it is important to have a deeper understanding of who should be seen in which program when options are available. Ultimately, patients would be available to receive care in the most appropriate setting to meet their goals and flow between those as their needs identify. When determining a patient's ability to attend certain programs a few factors can be considered. Every patient is an individual and the working group recommends individualized care planning, but some key elements may support that planning and clinical decision making.

Alpha FIM®

Component of triage using Alpha FIM® in acute care (while used as a guide, the Alpha FIM scores may be used in modelling to determine mild, moderate, severe stroke population and help support predictions about rehabilitation services)

AlphaFIM® Score		Recommended Referral
Mild	> 80	Community-based rehabilitation
Moderate	40 to 80	Inpatient rehabilitation
Severe	< 40	Admit to inpatient rehabilitation, if eligible, OR consider an alternate program (e.g. restorative care /short term complex medical) with regular assessment for admission to inpatient rehabilitation

*The AlphaFIM® score is only **one** component for consideration in discharge planning.

Patient Travel:

Patient clinical factors may need consideration (fatigue, mobility, cognition etc.) as a result in home therapy may be required even for those within a certain travel radius.

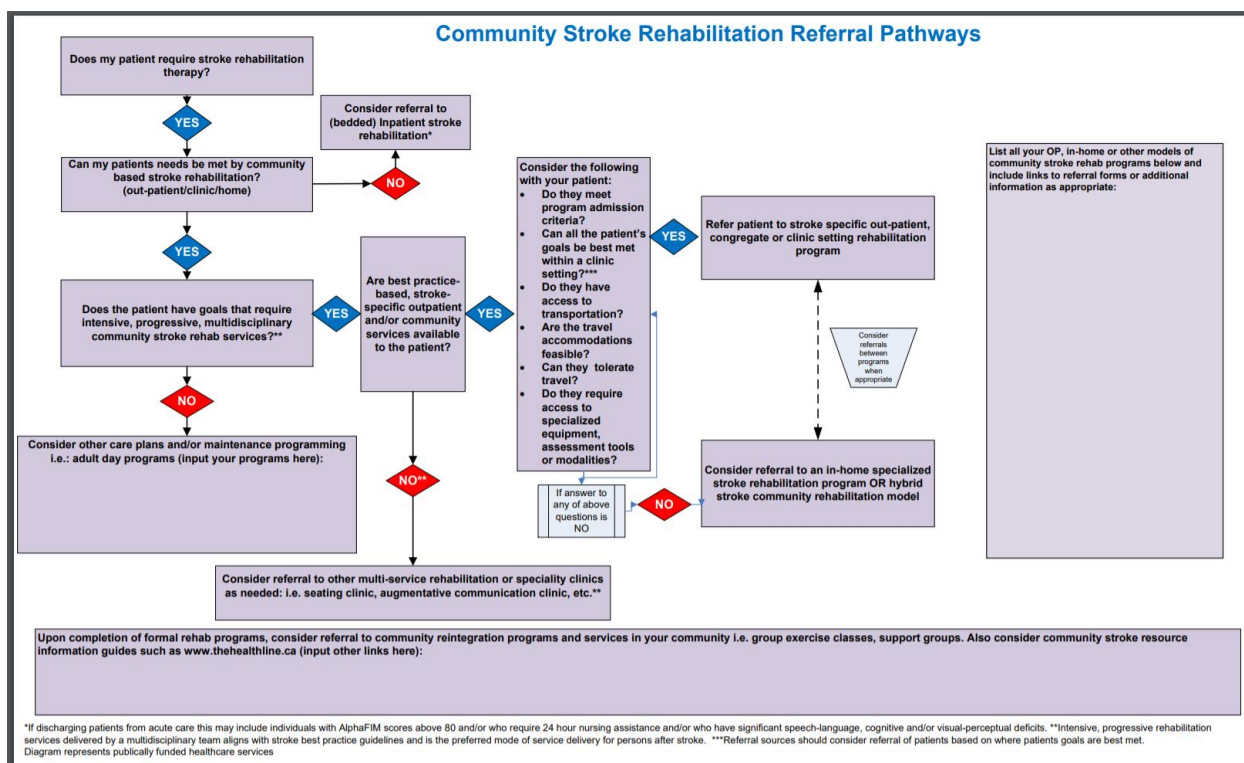


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Community Stroke Rehabilitation Referral Pathways

Utilizing existing work from the Rehabilitation Care Alliance⁹ for community referrals the workgroup considered the specific experience of stroke patients and modified the tool. The figure below represents a tool that can be customized regionally to support clinicians in determining referral direction with their stroke patients. It should be emphasized that simply existence of a program may not be the most appropriate referral depending on patient goals/needs, wait times, clinical expertise, and accessibility. The tool attempts to incorporate the more common key questions to consider in referrals. This referral pathway (Figure 7) is available in a fillable format from your Regional Stroke Rehabilitation Coordinator.

Figure 7: Community Stroke Rehabilitation Referral Pathway



Additional Planning Considerations

In addition to considering volumes served and type of programs, in the environmental scan a few other key points were shared. Below is a summary list that requires further detail and exploration and is by no means exhaustive but

should be considered in planning outpatient and community based rehabilitation programs. Some of these can be found in more detail in the [Community-Stroke-Rehabilitation-Models-in-Ontario-Final-June-2016](#)

- Patient centred and goal-oriented treatment models
- Developing stroke expertise in providers
- Enabling intraprofessional teamwork
- Education and linkages with other community resources for community integration (support groups, exercise groups etc.)

Conclusion

To provide a comprehensive, patient centred stroke system based on best practice, stroke patients should have access to comprehensive, intensive community stroke rehabilitation services delivered by an expert interprofessional team. To support regions or organizations in planning or developing these programs, estimators can be used to support modelling. In addition, many regions in the province are working on various models and future work should conduct a more comprehensive evaluation of these programs to leverage improvements and learning for the stroke system. All partners currently providing, or planning stroke services should consider community stroke rehabilitation as an essential component of their service delivery models.



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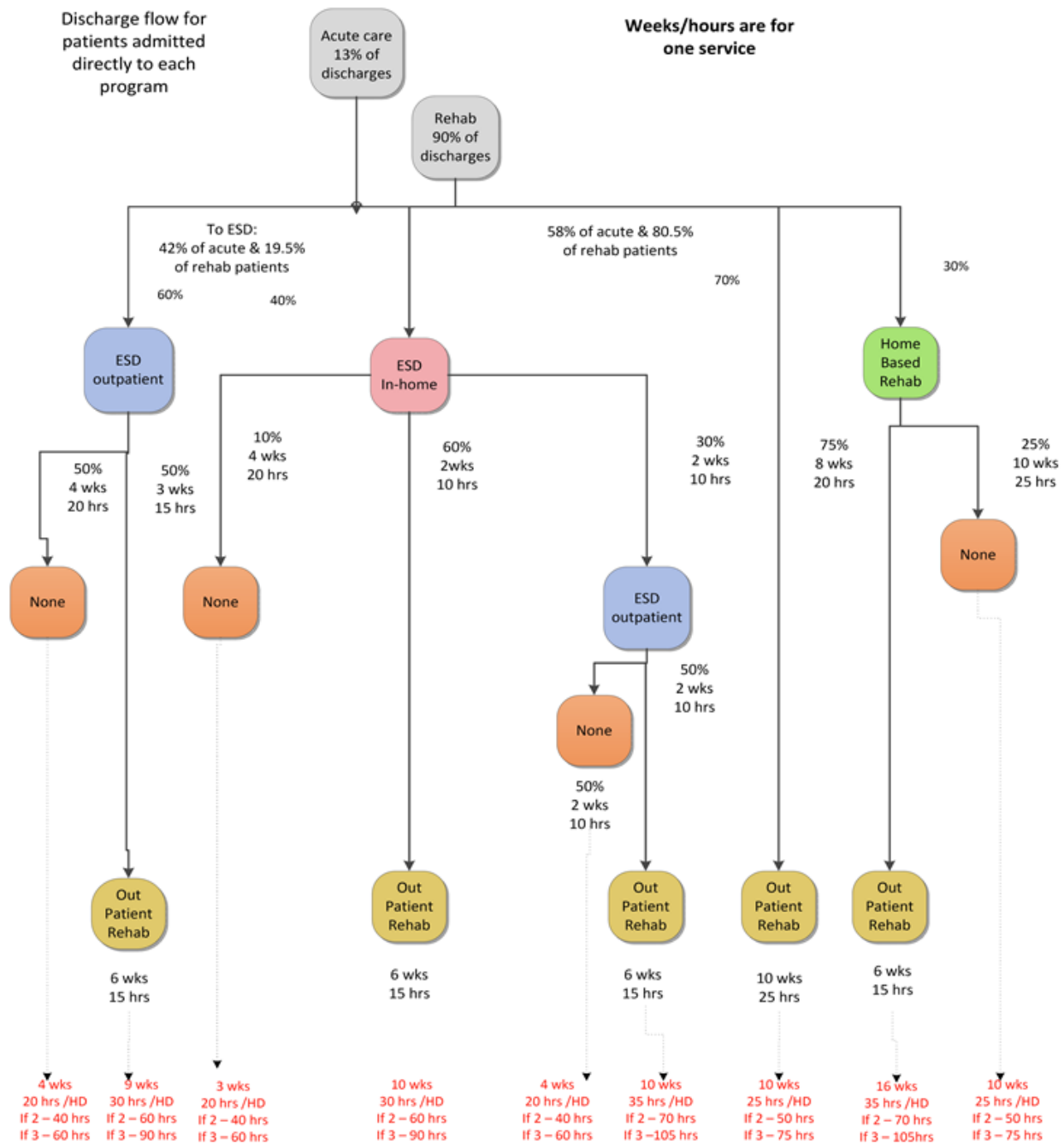
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<http://www.rehabcarealliance.ca/definitions-1>



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Appendix A: Toronto Stroke Networks - Pictorial Representation of Assumptions and volumes demands by service (Note –includes ESD calculations)



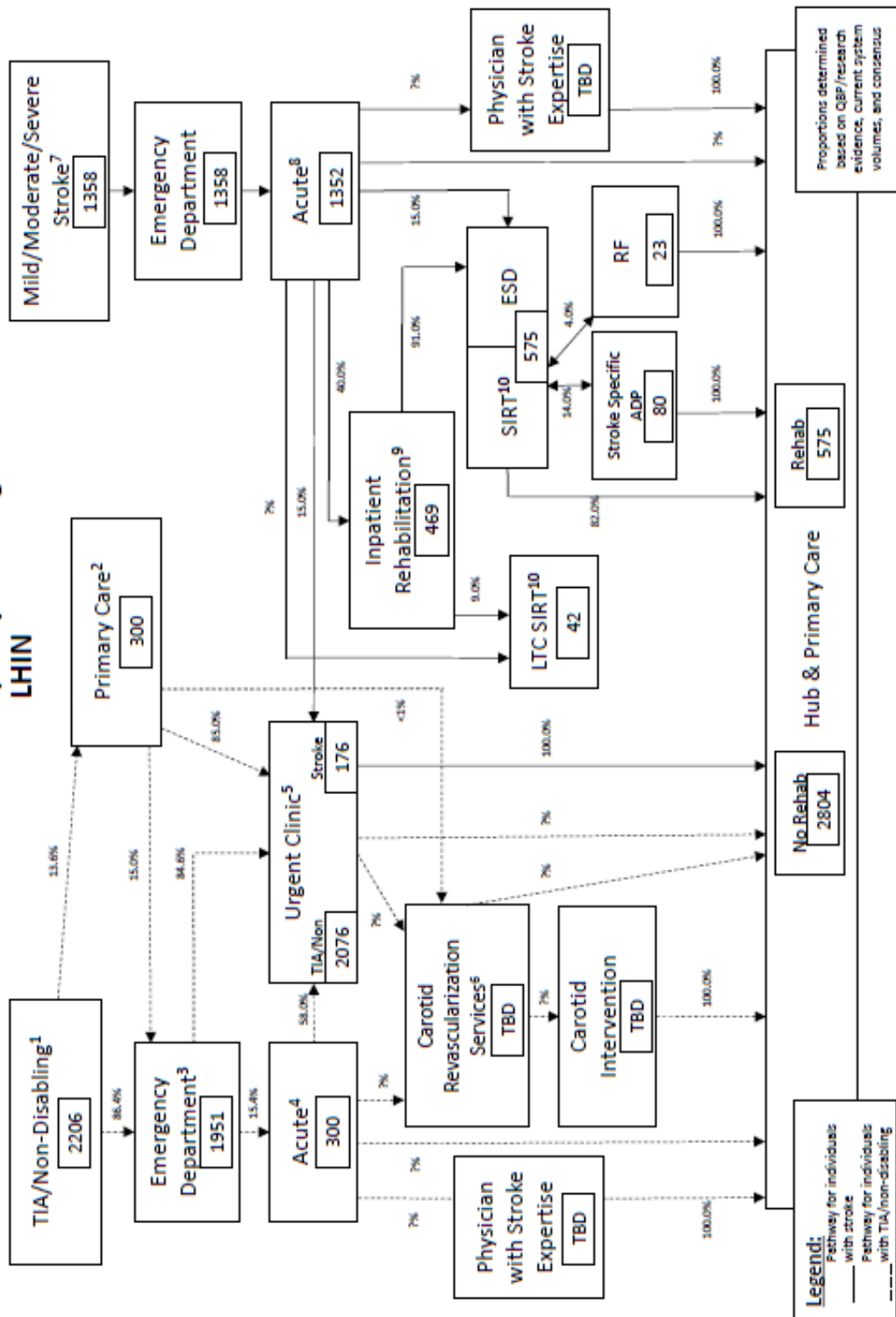
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Appendix B: TSN - Program Delivery Models – determining FTEs for service delivery models

Sub region	Early Supported Discharge Outpatient											
Sample Subregion	Patient Volumes (based on flow between programs)					hours of therapy (all visits are 1 hour)		Allied Health FTEs				
						visits/ week	5	hours of therapy provided by 1.0 FTE AH (1FTE=1950 h)			1380	
	program pt admitted to ESD OP from	# patients	program pt discharged from ESD OP to	%	# patients	# weeks	# hours of therapy per AH	discipline	% patients treated	# hrs therapy required	FTE required	
	acute / rehab	5	Home (pt had ESD OP only)	50%	2.5	4	50	PT	100%	96.5	0.07	
			OPR	50%	2.5	3	37.5					
			ESD IH	0%	0	3	0	OT	100%	96.5	0.07	
			home based	0%	0	3	0					
	ESD in- home	30%	0.9	Home (pt had ESD IH & ESD OP)	50%	0.45	2	4.5	SLP	50%	48.25	0.03
	OPR	0%	0									
	home based	0%	0									
Total patients		5.9	Total patients		5.9	total hours	96.5					

Appendix C: Southwest Region Stroke Capacity Planning Document

South West Stroke Capacity Planning Document LHIN



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