Geographic Consolidation of Acute Stroke Care Improves Outcomes for Three Communities

A QBP Implementation Project

LLG Advisory Committee
November 2017
Summary of the Evidence: QBP Acute Stroke

- Clustered Acute Stroke Unit Care
- Stroke volumes: at least 165 ischemic stroke patients per year per organization.
- Expected Acute LOS 5-7 days
- Clinical best practice

Supported by analysis of Ontario stroke data, 2002–2009: hospitals admitting < 130 ischemic stroke patients/year had 38% higher odds of dying in 30 days compared to hospitals admitting 205–470 patients/year.
Acute Stroke Unit Care

- Patients should be admitted to a specialized, geographically defined hospital unit dedicated to the management of stroke patients. (Evidence Level A)
- The core stroke unit team should consist of a healthcare team of professionals with stroke expertise. (Evidence Level A)
- The stroke unit environment leads to standardized care

Logistical Challenges:
Hospital transfers, bed management, infection control, volumes vary
Challenge! SE LHIN 30-day Risk-Adjusted Mortality Rates 2013-2014

CIHI DAD 2013-14 linked with mortality database
Acute Stroke Unit (ASU) Care in SE LHIN

Kingston ASU opened in 2004 and integrated service with L&A in 2014
Belleville ASU integrated service across 4 sites in 2014
Brockville - ASU in 2013, low volumes
Perth and Smiths Falls – NO ASU

PROJECT CONTEXT

- Performance on SEO Stroke Report Card
- High variability in mortality rates in LLG
- Limited & variable access to ASU care
- LLG resources allocated/deployed most effectively for best stroke care outcomes?
LLG Integrated Stroke Project

Aim: “75% of all patients admitted with stroke in the LLG area will receive care by an interprofessional team in a geographically clustered acute stroke unit as recommended and defined by the QBP Clinical Handbook for Stroke Care”
Key Project Activities

Jan – Dec 2015
Engagement/Planning
Board and Senior Leadership Approvals to Cluster Acute Stroke Care at BGH
SE LHIN Service Delivery Change forms submitted

Jan–Mar 2016
Implementation
Go-LIVE with first patient transferred May
LLG Integrated Stroke Planning Team formed
Finalize LLG Stroke/TIA care Algorithm
Implementation plan created with broad engagement
Data collection process ready for testing
Project updates shared broadly
Interim evaluation

Apr–Jun 2016
Monitoring and Evaluation
Public and external providers communication launch
Patient feedback survey implemented
Final Evaluation

Jul–Sept 2016
New processes for direct admit to BGH and transfer back to Perth/Rehab developed
BGH ASU - expanded to 6 designated beds

Oct–Dec 2016
Process for referral to VPC in Perth communicated

Jan–Mar 2017
Decision Making Framework to support site selection

Apr–Oct 2017
Education for physicians on algorithm/direct admit process
Final Evaluation
New Clinical processes:
- Stroke Care Algorithm
- Direct Admit Process
- Rehab Referral/Repatriation

Updates/Training:
- Clinical pathways and Collaborative Care plans
- CNS training for nursing
- Additional training for staff new to the ASU

Communication and Project News for all stakeholders
Patient and Staff Resources

Recovery can be expected after a stroke. People who experience a stroke can survive and recover.
Expansion of Acute Stroke Unit

- Increased from 4 – 6 beds as of May 2 2016
- Increased Allied Health Staffing including Social Work
- Updated Stroke Pathways
- Developed champions and standard orientation
Data Highlights

- Combined ASU provided care to **196 patients from across LLG Counties**
- **53 patients from PSFDH** with 27 discharged directly home, 49 referred back to Stroke Prevention clinic in Perth
- **Critical Mass >165 pts.** for Best Practice achieved
- Low mortality rate observed for patients who spent time in the ASU
- Clinical best practices were more likely to occur for patients who spent time in the ASU (e.g., timely CT scan, Vascular Imaging, & Alpha FIM rehab triage score administered)
- **LOS Median of 4 days** (including for those from PSFDH)
## Volumes and ASU Utilization

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<tr>
<th>Indicator</th>
<th>Pre LLG Integration</th>
<th>Post LLG Integration</th>
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<tbody>
<tr>
<td></td>
<td>13/14</td>
<td>14/15</td>
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<tr>
<td>Inpatient Stroke Volumes at BGH</td>
<td>95</td>
<td>110</td>
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<tr>
<td>Volume of Stroke Admissions at PSFDH Direct from PSFDH ED</td>
<td>54</td>
<td>47</td>
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<tr>
<td>% Admitted to ASU - BGH</td>
<td>25.3%</td>
<td>79.1%</td>
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<tr>
<td>% Admitted to ASU - PSFDH</td>
<td>0</td>
<td>0</td>
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<tr>
<td>% Admitted to ASU – LLG area (May include admission to BGH or KGH)</td>
<td>30.9%</td>
<td>56.9%</td>
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Meets QBP target for >165

Project Target was 75%
In-hospital mortality rates within the first 30 days have dropped from 17.4% (PSFDH) and 8.4% (BGH) for the three years pre-implementation to a combined rate of only 6.6% (Fiscal 2016/17)
Providers Surveyed

<table>
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<tr>
<th>What’s working well?</th>
<th>What could be improved?</th>
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<tr>
<td>• Patients accessing timely best practice stroke care</td>
<td>• Detailed patient information on transfers</td>
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<td>• Collaborative planning and implementation</td>
<td>• Access to CT prior to transfer</td>
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<td>• Joint problem solving</td>
<td>• Afterhours processes</td>
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“Patients are receiving quicker treatment.”
Healthcare Provider

- Electronic and paper survey - 7 and 14 months post launch
- 60 surveys received
- Positive feedback on the process received from both sites along with specific examples for opportunities for improvement
Patient Feedback

- Survey administered via iPads (Survey Monkey) or print copy on the unit just prior to discharge between July 8 2016 and July 31 2017.
- 29 Patient Surveys received from patients who had been transferred from PSFDH.
- Consistently positive responses.
- Little to no concerns from patients going to another hospital for care.

“Really good teamwork”
ASU Stroke Patient
Family Feedback

Survey administered via iPads (Survey Monkey) or print copy on the unit just prior to discharge between July 8 2016 and July 31 2017.

- 11 Family Surveys received
- All indicated being well informed and felt the transfer was well organized.

“It has been a relief knowing he was sent to this specialty unit.” — Family Member

3 out of 8 report that it was problematic being away from their home community yet, patients did not acknowledge this to the same extent.
Project: What worked well?

- Involvement of patient and family advisors
- Stakeholder engagement sessions – comprehensive plan and awareness
- Early involvement from Decision Support Teams and Communications Teams
- Site visits to connect teams
- Communication – resolving issues, responsiveness
- Project News Updates
- Ongoing follow up and education
- Project Workgroups – Advisory and Subgroups
- Meeting coordination through the Stroke Network
Project Outcome

• Collaboration to create a shared local ASU across three hospital sites 45 to 60 minutes apart is feasible and effective.

Result: “76.4% of all patients admitted with stroke in the LLG area will receive care by an interprofessional team in a geographically clustered acute stroke unit as recommended and defined by the QBP Clinical Handbook for Stroke Care”
Recommendations

1. Continue to transfer acute PSFDH stroke/TIA patients requiring admission to BGH ASU
2. Monitor stroke indicators quarterly
3. Joint annual review with BGH, PSFDH and SNSEO
4. Seek out and incorporate patient and family feedback ongoing
5. Develop education plan/supports to deliver best practice stroke care
6. Monitor Acute Stroke Unit (ASU) occupancy rates and performance
7. Share project findings to influence timely access to brain and vascular imaging in LLG.
8. Communicate stroke care program enhancements and embed integrated stroke care processes into ongoing orientations (LLG Stroke Care Algorithm)
9. Inform stakeholders regarding processes related to accessing secondary stroke prevention programs
10. Ongoing communication with public/community stakeholders on stroke care in the LLG area
Special thanks to our patient advisors – Joan and Linda