Perth and Smiths Falls District Hospital | Brockville General Hospital | STROKE NETWORK of Southeastern Ontario

Geographic Consolidation of Acute Stroke Care Improves Outcomes for Three Communities

A QBP Implementation Project

LLG Advisory Committee

November 2017

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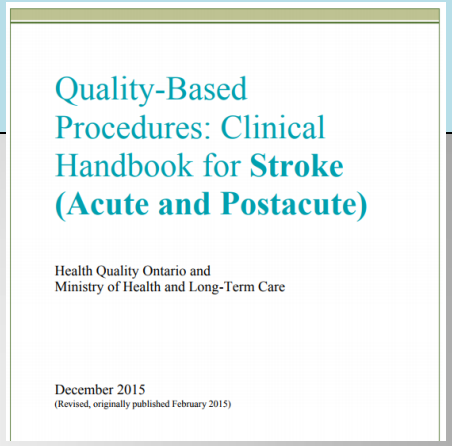
Summary of the Evidence: QBP Acute Stroke



- 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

ICES Institute for Clinical Evaluative Sciences

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.

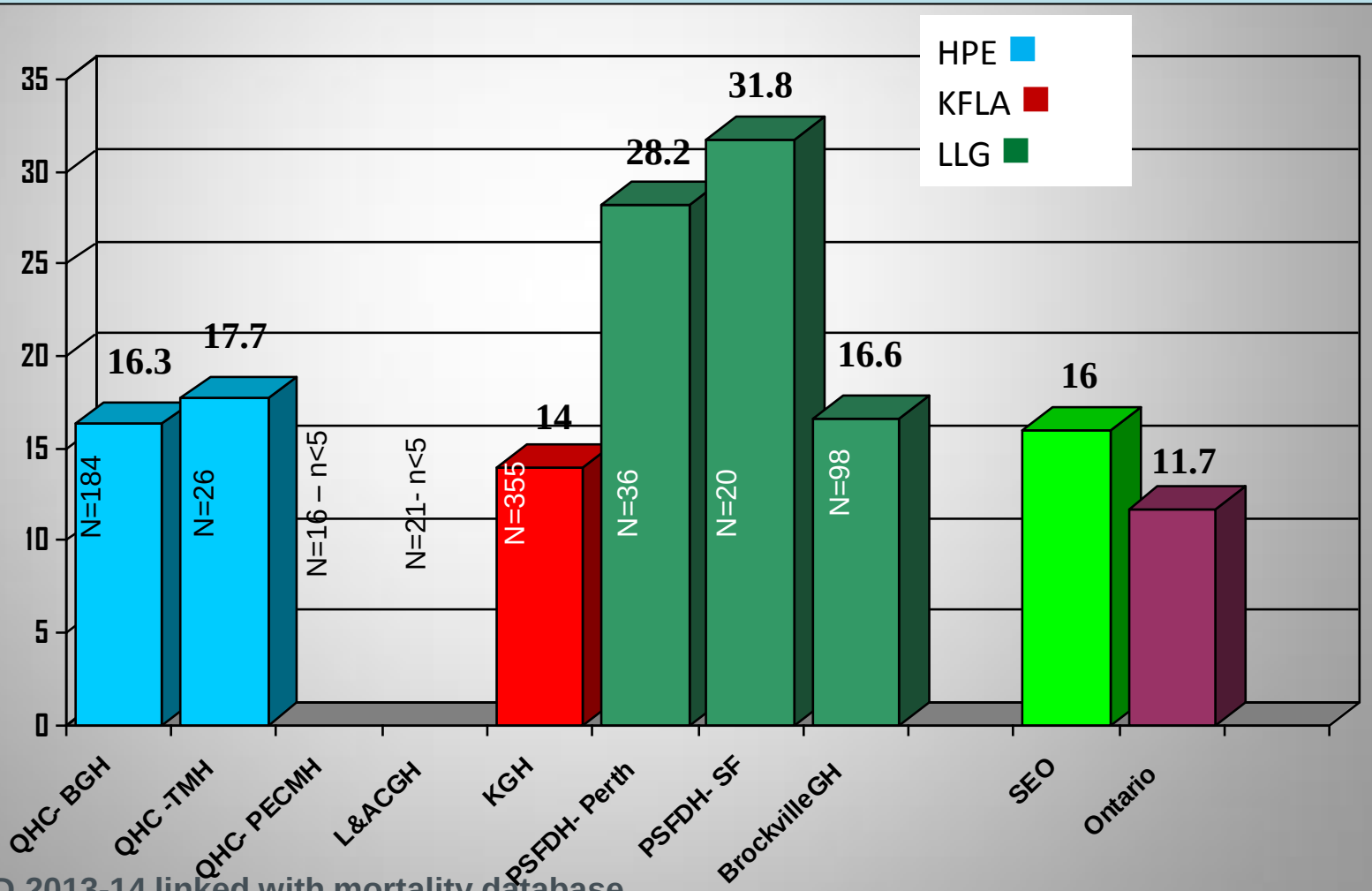
Acute Stroke Unit Care

- 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

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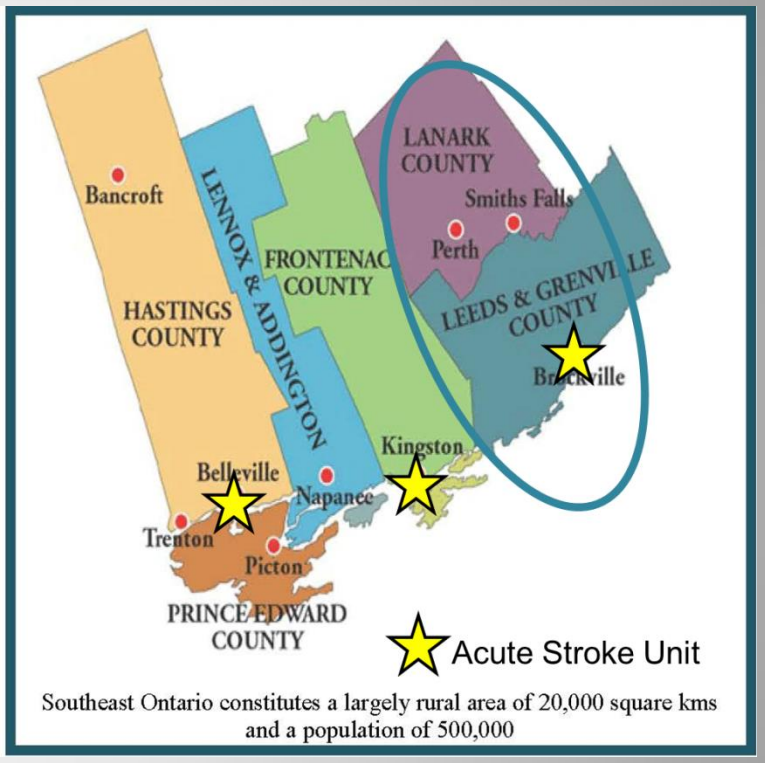
Acute Stroke Unit (ASU) Care in SE LHIN

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



Southeast Ontario constitutes a largely rural area of 20,000 square kms and a population of 500,000

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"***

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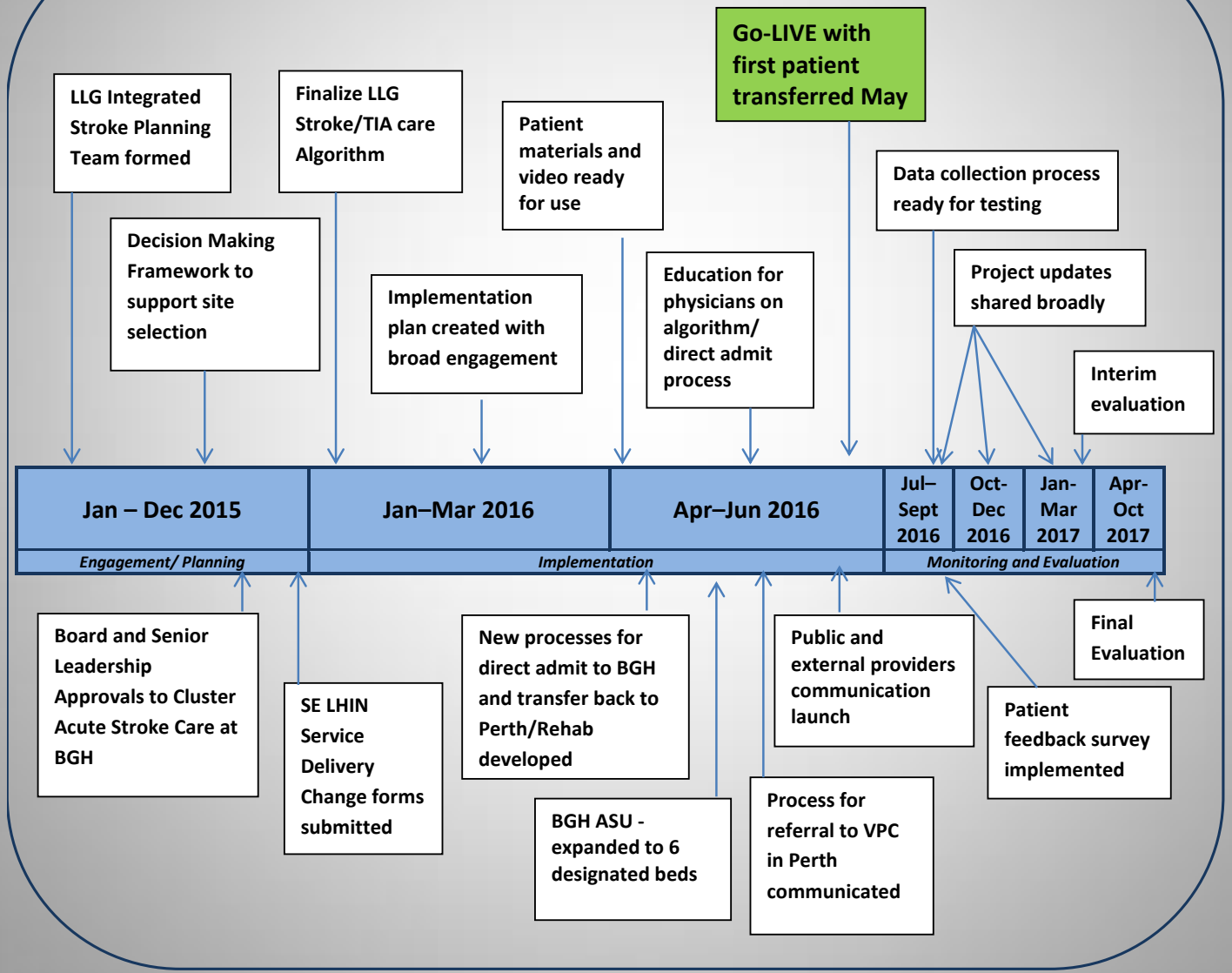
Key Project Activities



Processes and Communication

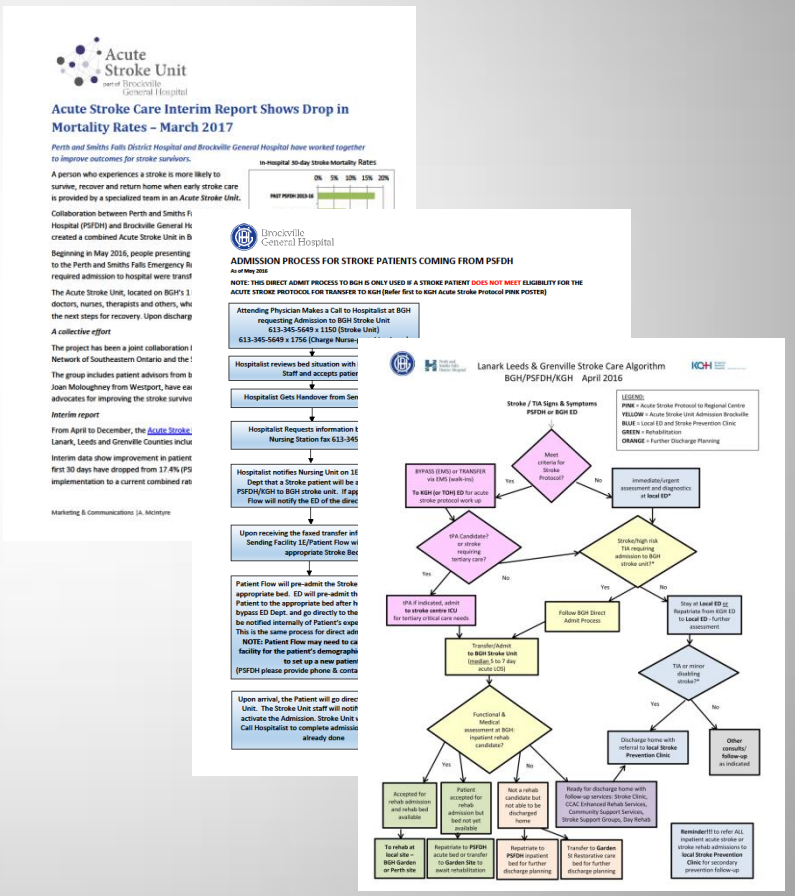
New Clinical processes:

- 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



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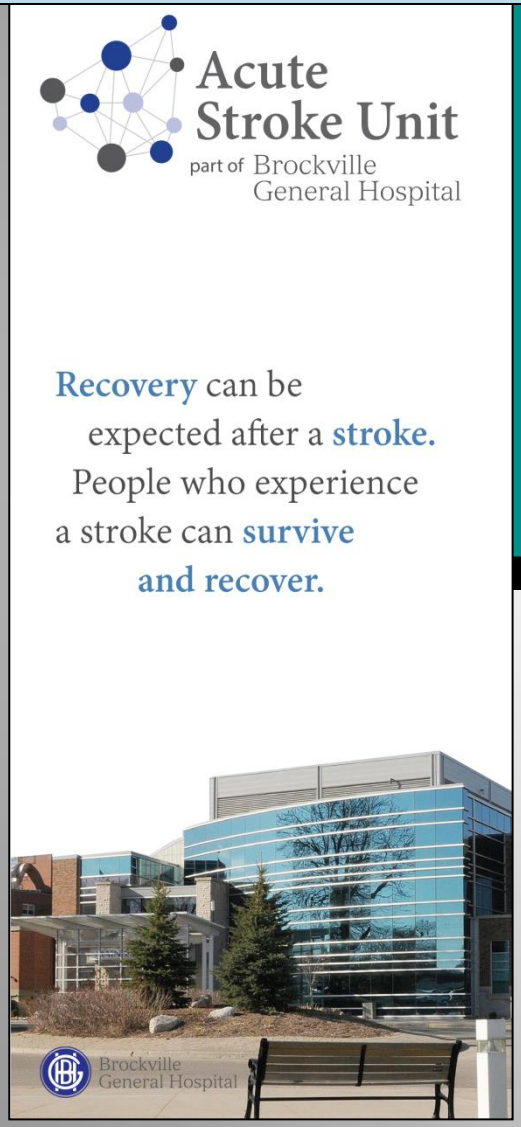
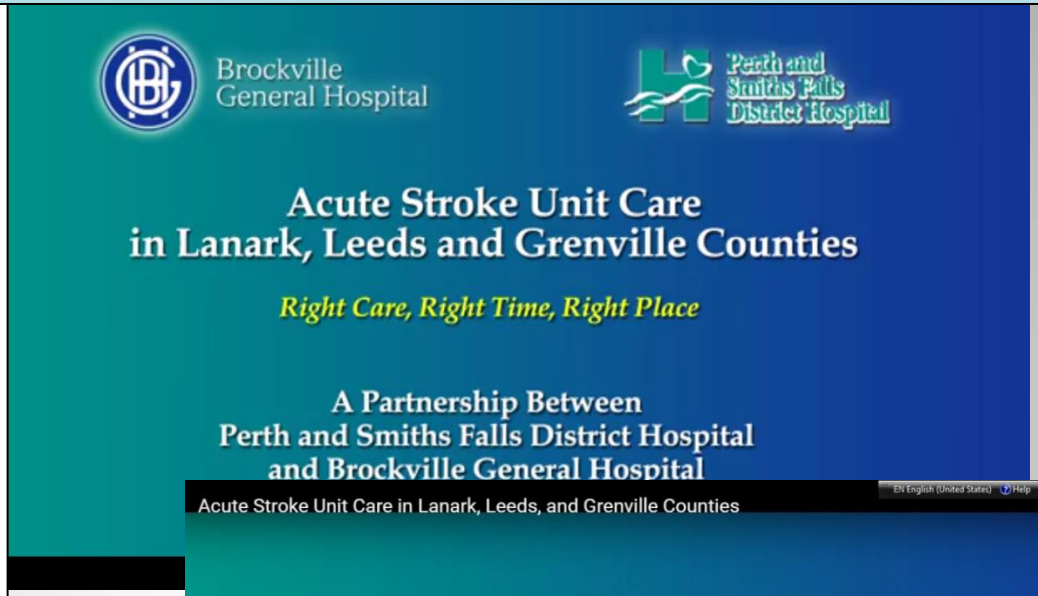
Patient and Staff Resources





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)

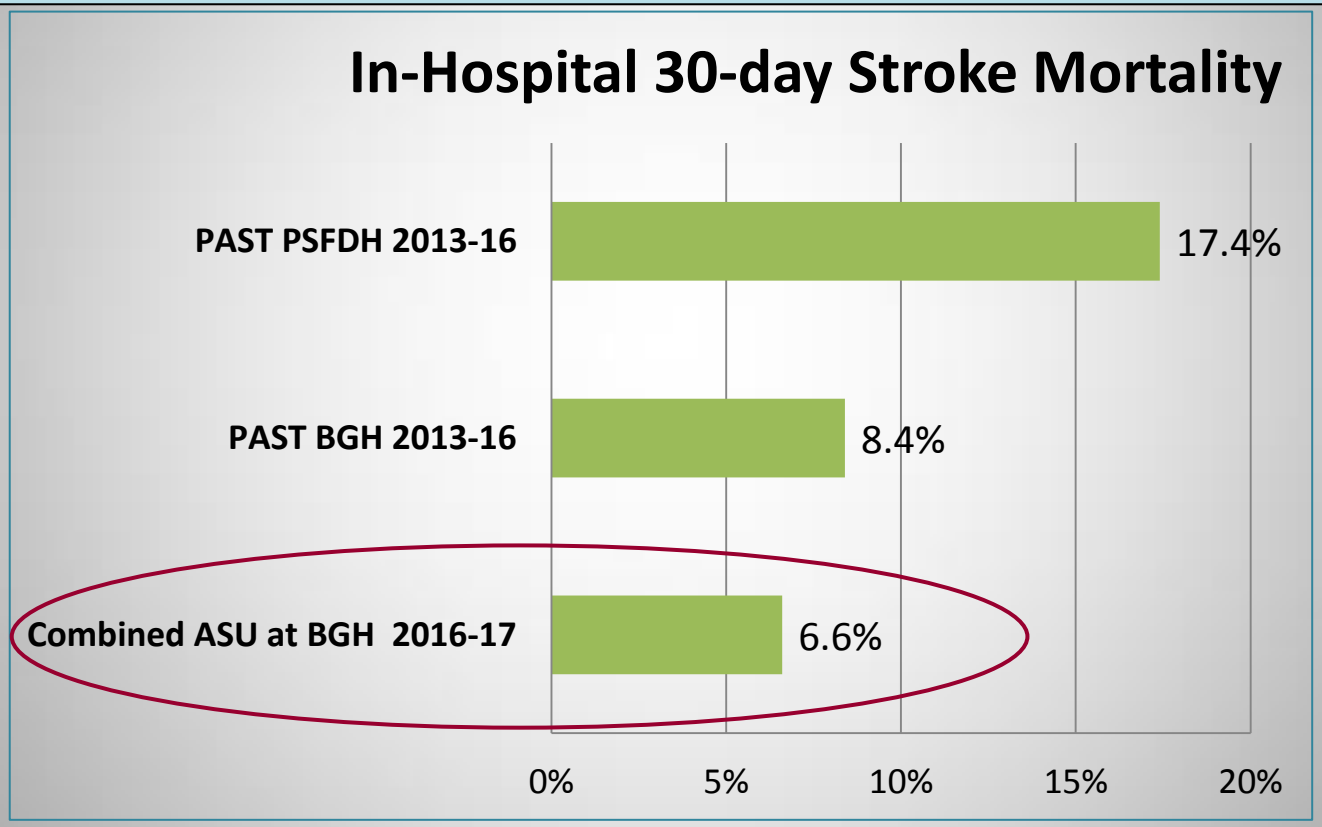
Volumes and ASU Utilization

Indicator	Pre LLG Integration			Post LLG Integration
	13/14	14/15	15/16	16/17
Inpatient Stroke Volumes at BGH	95	110	97	196
Volume of Stroke Admissions at PSFDH Direct from PSFDH ED	54	47	60	6
% Admitted to ASU - BGH	25.3%	79.1%	72.2%	87.3%
% Admitted to ASU - PSFDH	0	0	0	0
% Admitted to ASU – LLG area (May include admission to BGH or KGH)	30.9%	56.9%	47.0%	76.4% of all stroke admission in LLG admitted to ASU in BGH *(slightly higher when include any admissions to KGH that were repatriated to PSFDH)*

Meets QBP target for >165

Project Target was 75%

Key Indicator - Mortality



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)*

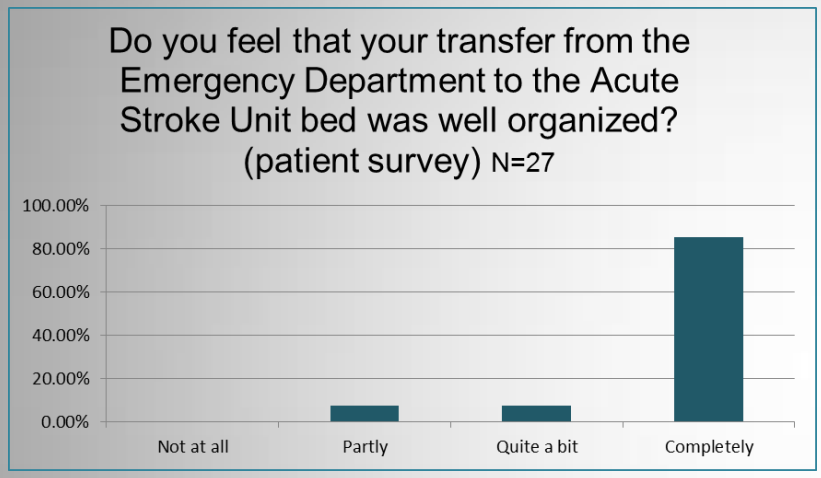
Providers Surveyed

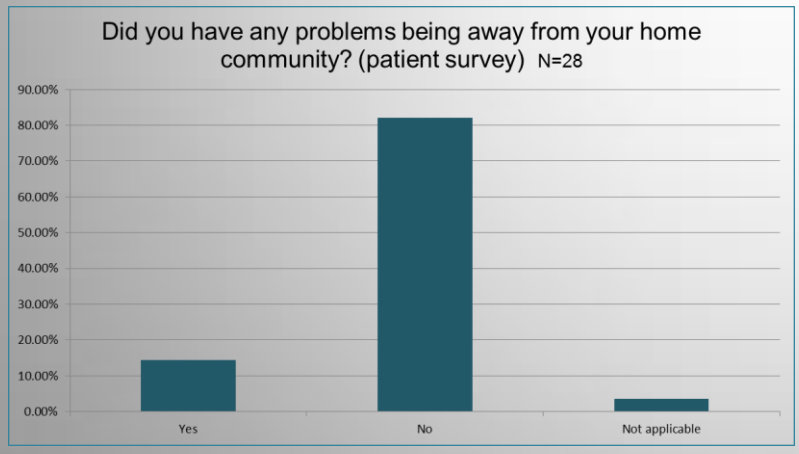
What's working well?	What could be improved?
• Patients accessing timely best practice stroke care • Collaborative planning and implementation • Joint problem solving	• Detailed patient information on transfers • Access to CT prior to transfer • Afterhours processes

"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





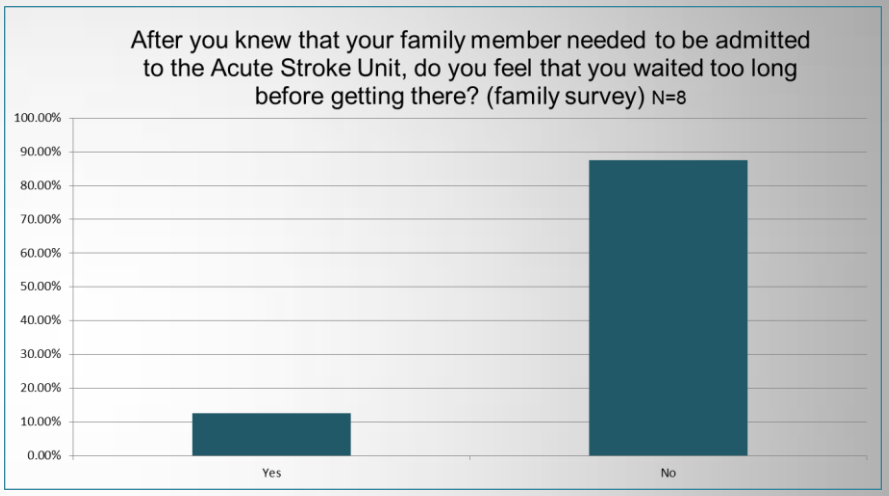
"Really good teamwork"
ASU Stroke Patient

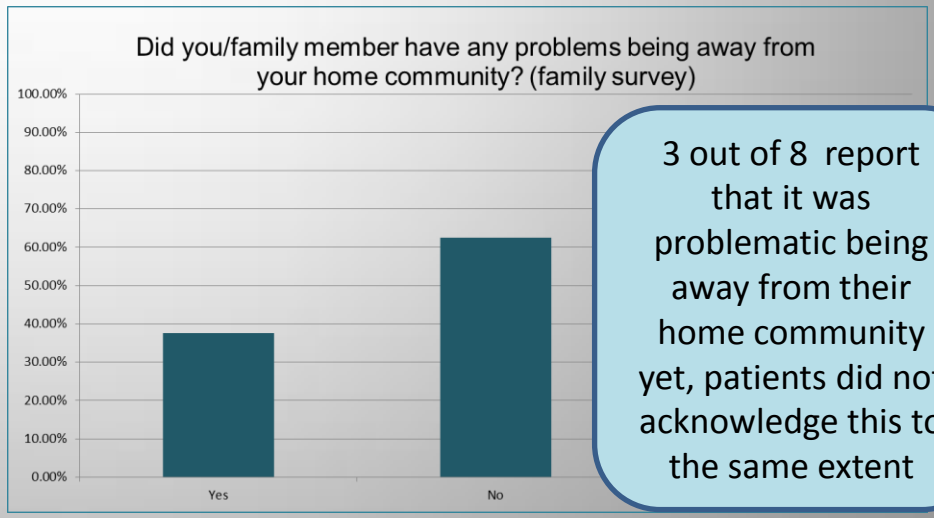
- Survey administered via iPads (Survey Monkey) or print copy on the unit just prior to discharge between July 8 2016 and July 31 2017.
- 29 Patient Surveys received from patients who had been transferred from PSFDH
- Consistently positive responses
- Little to no concerns from patients going to another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

Family Feedback

"It has been a relief knowing he was sent to this specialty unit." *Family Member*

- 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.





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

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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

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Special thanks to our patient advisors – Joan and Linda