Implementing a clustered acute stroke unit at a community hospital improves patient care

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Disclosure

Conflict of interest – none to declare
Bluewater Health – Sarnia, Ontario

- Large community hospital with 2 sites serving the urban and rural needs of Lambton County (126,000 residents)
- Sarnia site, 285 bed facility providing acute, rehab, palliative and continuing care along with surgical, obstetric, pediatric and mental health services.
- Sarnia site hosts the District Stroke Centre and stroke services
The need to organize stroke care

Stroke Care in 2008
- Stroke patients could be admitted to one of 4 medical units
- Stroke order sets
  - Canadian Neurological Scale
  - Dysphagia Ax and screening
  - AlphaFIM as part of an Inpatient Rehab Candidacy Screening Tool
- Multi-disciplinary team
- Weekly patient rounds
- Stroke Nurse – part-time

Making change happen
- Support from the clinicians, Unit Manager and Program Director
- The Vision

Challenges
- No funds or increased resources
- Fluctuating patient volumes
- Planning for care in a facility that was in the process of being built/renovated and stroke unit care had not been part of the original plans
Steps along the way...

Stand alone unit – *not an option*

Clustered unit within medicine unit

- Plans for unit following move to new facility
- Trials at the existing Mitton Site and *challenges* to the process
- The move and implementing plans at the new facility
  - Challenges – *old* and *NEW*
  - The team – holding on to the *Vision*

Re-evaluating our plans, processes and outcomes

- Daily stroke inpatient census – the patients were *not* in the *right* place at the *right* time for the *right* care
- Critical Mass - essential to sustaining stroke processes and care
The turning point...

- If we were to be successful, the program needed to work with/be part of an existing service and benefit both
  - Neurology – no unit
  - Rehabilitation – did not address acute needs
  - Telemetry – similar focus: vascular management of patient population

- What if we were to cluster the stroke patients on the Telemetry unit?

**Overcoming the barriers:**

1) Dedicated Stroke Clinician

2) Facilitate patient flow to and from the unit
Welcome to the Acute Stroke Unit
One year of delivering Acute Stroke Unit Care

In-house acute care stroke data

- 83% of the 231 admissions received ASU care
- 86% of ASU patients were on “stroke protocol”
- In the ED, 10 new AF diagnoses; an additional 15 new diagnoses made on the ASU
- Endarterectomy consult – 10; only 3 the previous year

Discharge destination

- 50% home
- 36% inpatient rehab
- 6.3% complex continuing care
- 3.4% long term care

Stroke onset to admission to rehab: 6 days (median)
Dedicated Stroke Clinician

Clinical Nurse Specialist

- Provides support for stroke programming across the organization (from ER-ASU-Rehab) – the *champion*
- Mentors and supports clinician care practices – the *specialist*
- Facilitates appropriate and timely patient transitions – the *navigator*
- Educates and supports stroke patients and families – the *teacher*
Interprofessional Team

- Initiating care in the ER
- Advocate for care most appropriate to patient’s needs
- Shared history and assessment as appropriate
- Team rounds weekdays 8:30 am
- Daily interactions *foster and enhance respect and effective working relationships*
## Acute Stroke Unit within Telemetry – why did it work?

<table>
<thead>
<tr>
<th>#</th>
<th>Factors</th>
<th>General Medicine Unit</th>
<th>Telemetry Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unit size</td>
<td>large, 30 beds</td>
<td>smaller, 20 beds</td>
</tr>
<tr>
<td>2</td>
<td>Staffing RN/RPN Days Nights</td>
<td>1 :1 5 patients: 1 nurse</td>
<td>3:1 5 patients: 1 nurse</td>
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<tr>
<td></td>
<td></td>
<td>7-8 patients: 1 nurse</td>
<td>5 patients: 1 nurse</td>
</tr>
<tr>
<td>3</td>
<td>Interprofessional team</td>
<td>some members vary</td>
<td>more consistency</td>
</tr>
<tr>
<td>4</td>
<td>Physician practice</td>
<td>Family practice (hospitalist) led</td>
<td>Internist led</td>
</tr>
<tr>
<td>5</td>
<td>District Stroke Centre support</td>
<td>part-time Registered Nurse</td>
<td>full-time Advanced Practice Nurse</td>
</tr>
<tr>
<td>6</td>
<td>Transitions</td>
<td>as per hospital processes</td>
<td><strong>facilitated</strong> patient flow</td>
</tr>
<tr>
<td>7</td>
<td>Cardiac monitoring</td>
<td>no</td>
<td>routine</td>
</tr>
<tr>
<td>8</td>
<td>Critical mass</td>
<td>divided within facility challenging organization of care practices</td>
<td>maintained to enable implementation of stroke processes and care</td>
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</table>
# Comparison of Key Components of an Acute Stroke Unit*

<table>
<thead>
<tr>
<th>#</th>
<th>Key Component of ASU – CSS Guide</th>
<th>BWH Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Specialized, geographically defined hospital unit</strong></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>i.  Dedicated</td>
<td>i.  Not exclusive to stroke</td>
</tr>
<tr>
<td></td>
<td>ii. Evidence based protocols</td>
<td>ii. ✓</td>
</tr>
<tr>
<td></td>
<td>iii. Patient admission asap from ER dept.</td>
<td>iii. ✓</td>
</tr>
<tr>
<td></td>
<td>iv.  Patients receive acute care and early rehab</td>
<td>iv. ✓</td>
</tr>
<tr>
<td></td>
<td>v.   Patient and carer education</td>
<td>v.  ✓</td>
</tr>
<tr>
<td>2</td>
<td><strong>Core interprofessional team</strong></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>i.  Dedicated, stroke interest/advanced training</td>
<td>i.  <em>Consistent, not exclusive</em>*</td>
</tr>
<tr>
<td></td>
<td>ii.  Assess and plan within 24-48 hrs</td>
<td>ii. ✓</td>
</tr>
<tr>
<td></td>
<td>iii. Utilize standardized, valid tools</td>
<td>iii. ✓</td>
</tr>
<tr>
<td></td>
<td>iv.  Meet once/week</td>
<td>iv. ✓  <em>rounds 5 days/week</em></td>
</tr>
<tr>
<td></td>
<td>v.   Shared decision making/goal setting</td>
<td>v.  ✓</td>
</tr>
</tbody>
</table>

* Adapted from Canadian Stroke Strategy Guide to the Implementation of Stroke Unit Care 2009, page 8

** Dedicated Stroke Clinician
Successes

1) Improved communication and team collaboration

2) Patients and families acknowledge appreciation for the care they have received

3) Improved stroke care and the consistency of best practice - decreasing the variation in practice

4) Greater identification of stroke etiology and risk reduction practices

5) Increasing stroke knowledge and skill amongst our clinicians

6) Improved patient flow across the organization
Lessons learned...

- Organizing stroke care *really* does improve outcomes ... as does *each step along the way*

- Critical mass – 200 may be “on the bubble”

- Routine cardiac monitoring on the unit supports identification of paroxysmal atrial fibrillation and provides the opportunity for treatment intervention

- **Dedicated stroke clinician/champion/navigator** has been vital to our success, supporting the care, team, processes and transitions

- Patient flow and transitions are enhanced with excellent communication - *trust and respect amongst clinical team members are key to the communicating well*
Moving forward – year 2, 3...

1) Refine processes  
2) Increase utilization of stroke care practices  
3) Enhance clinician skill and expertise  
4) Monitor performance  

*Equitable access to ASU care for all Lambton County residents*
Summary - final thoughts

- It is possible to implement an *effective* clustered acute stroke unit within a community hospital.
- It can be done in a fiscally challenging healthcare environment - processes and care can be reorganized to be cost neutral to the organization.
- A clustered care model in a telemetry unit can improve processes and patient outcomes.

- *You cannot attain what you do not pursue* -
Thoughts, questions...

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