"Time to stroke unit - reducing delays and barriers"
Northumbria Specialist Emergency Care Hospital

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Supervisor: Dr Mark Garside, Consultant in Stroke Medicine
OVERVIEW

- Stroke Department at NSECH
- Audit: Delays and barriers
- Intervention: Impact of additional stroke nurse practitioner
- Results
- Conclusions
- Limitations
STROKE DEPARTMENT AT NSECH

- Northumbria Specialist Emergency Care Hospital
- Opened in 2015
- Ward 7 - Hyperacute Stroke Unit (HASU)
- Stroke consultant and Nurse Practitioner on site 8am-8pm 7 days a week
- Stroke consultant on-call via phone 24/7
STROKE ASSESSMENT PATHWAY

GP Referrals

Pre alerted for thrombolysis

Referral from triage

Referral following A and E doctor review

Review by specialist Stroke Consultant

Admission to HASU
WHY DOES TIME TO STROKE UNIT MATTER?

- NICE Guideline [CG68]
  - Admission within 4 hours of arrival to ED
  - All patients should be admitted to a specialist stroke unit
  - Improved patient safety
  - Reduced disability and mortality
Best Practice Tariff:

- Direct admission
- 90% of spell spent in an acute stroke unit
- Review by stroke specialist within 14 hours of admission

Additional payments: £1,026
## COST

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<tbody>
<tr>
<td>13)</td>
<td>Acute BPT achieved %</td>
<td>53%</td>
<td>61%</td>
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<td>Acute BPT achieved money</td>
<td>£44,118.00</td>
<td>£58,482.00</td>
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<td>Acute BPT money &quot;lost&quot;</td>
<td>£38,988.00</td>
<td>£34,884.00</td>
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<td>14)</td>
<td>Rapid brain imaging BPT achieved %</td>
<td>93%</td>
<td>92%</td>
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<td>Rapid brain imaging BPT achieved money</td>
<td>£28,329.00</td>
<td>£28,078.00</td>
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<td>Rapid brain imaging BPT money &quot;lost&quot;</td>
<td>£1,995.00</td>
<td>£2,394.00</td>
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<td>15)</td>
<td>Acute &amp; Rapid brain imaging BPT achieved money</td>
<td>£72,447.00</td>
<td>£90,801.00</td>
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<td>Acute &amp; Rapid brain imaging BPT money &quot;lost&quot;</td>
<td>£40,983.00</td>
<td>£37,278.00</td>
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<td>16)</td>
<td>Alteplase BPT achieved %</td>
<td>4%</td>
<td>10%</td>
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<td>Alteplase BPT achieved money</td>
<td>£2,520.00</td>
<td>£7,560.00</td>
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Data sources: PAS, Sentinel Stroke National Audit Programme (SSNAP)
AUDIT

February/March 2017:
• SSNAPP data
• Case note review
• Themes

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<tr>
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<th>February</th>
<th>March</th>
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<tr>
<td>No of patients admitted with stroke</td>
<td>79</td>
<td>63</td>
</tr>
<tr>
<td>Did not meet 4hr target</td>
<td>25</td>
<td>11</td>
</tr>
<tr>
<td>Did not meet consultant review target</td>
<td>8</td>
<td>5</td>
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<tr>
<td>BPT missed</td>
<td>25</td>
<td>12</td>
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<tr>
<td>Money ‘lost’ to the trust</td>
<td>£25,650</td>
<td>£12,312</td>
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## FACTORS

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<tr>
<th>MODIFIABLE</th>
<th>NON-MODIFIABLE</th>
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<tr>
<td>Missed/delayed diagnosis</td>
<td>Unusual presentation of stroke</td>
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<tr>
<td>Incorrect data entered</td>
<td>Patients first presenting to a different unit</td>
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<td>Delayed imaging/prioritisation</td>
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<td>Phone opinion/review in person</td>
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<td><strong>Emergency Department Workload</strong></td>
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INTERVENTION

Additional stroke nurse practitioner

Improvements to ED workflow
INTERVENTION

• 26/2/18 – 11/3/18 - Normal staffing within the stroke team
• 19/3/18 – 25/3/18 - Additional nurse practitioner (SNP) present in the mornings
• Time taken for admission to stroke unit recorded
EXTRA STROKE NURSE PRACTITIONER

Patient Arrival Time to Stroke Unit Admission
EXTRA STROKE NURSE PRACTITIONER
CHANGES TO EMERGENCY DEPARTMENT

Patient Arrival Time to Stroke Unit Admission

April 2018
CONCLUSIONS

Addition of an extra SNP
• Reduction in median time to stroke unit (184.5 minutes vs 140 minutes)
• No change in the overall number of patients meeting the 4-hour target

Changes to ED
• Improved triage led to a reduction in both the median time to stroke unit (138 minutes)
• Proportion of patients not meeting the 4-hour target (24% vs 8.3%)
DISCUSSION

Extra staff can help, but expensive resource

Hospital Flow is integral
LIMITATIONS
QUESTIONS
REFERENCES


