Using SSNAP Data As Providers To Improve Stroke Services

Dr. Andrew Hill, Clinical Lead for Stroke Services, St Helens and Knowsley Teaching Hospitals NHS Trust, United Kingdom

Email: Andrew.hill@doctors.org.uk
Twitter: @drewhill79
Hospital Twitter: @sthknhs
Aim and Introduction

• The Stroke Sentinel National Audit Programme is a rolling national audit conducted by the RCP.

• Primary goal is to produce national level strategic data on stroke care in the UK.

• Can play a valuable role in guiding service improvement if data can be interpreted to service-level.

• Aim of this talk is to walk through how to analyse SSNAP data at team level to identify areas for improvement.

• Share some of the tactics we have used in this process.
Alternatively…

Weekly variation in health-care quality by day and time of admission: a nationwide, registry-based, prospective cohort study of acute stroke care

Published last week – demonstrates variability by time of day and day of week in stroke care.

This talk goes some way to discussing ‘why’ and ‘what can be done.
In A Boardroom Near You…

• Your executive board and wider team are studying your previous quarter’s SSNAP results.

• “What do these numbers mean for us?”
• “What do we need to do to improve our service?”
What Information Is Collected?

- Over 200 data items.
- Used to produce approx. 44 Key Indicators.
- Key Indicators are combined to produce results in 10 different domains.
- Plus:
  - ‘Audit Compliance’ - a measure of timely and complete data collection
  - ‘Case ascertainment’ - a measure of whether all stroke patients have been included.
  - ‘Team Centred’ results look at the care provided by your team; ‘Patient Centred’ results look at care along a pathway provided by multiple providers where your team was a provider.
Local Results Formats

- Quarterly data
- Breakdown of domains
- Annual overview
- “Where are we?”

- Monthly data for trend analysis
- “Did our changes work?”

- Scrutinise door-to-needle response times
- Check data recording accuracy
The Admissions Process
Analysing The Admission Process

• Take the Summary Report (or the local / national report)
• Look at individual Key Indicators, pick out:
  • Median Stroke Nurse assessment time
  • Median scan time
  • Median admission time
  • % Admitted in 4hrs.
The ‘Gold Standard’ Admission Chain

Early Recognition / Triage
- Stroke nurse review (<30 mins) (+ basic swallow assessment)
- CT Scan (<1hr)
- Stroke nurse review (<30 mins) (+ basic swallow assessment)

CT Scan (<1hr)
- Thrombolysis (for ~15-20% of stroke patients)
- Stroke Unit (<2hrs)
- Consultant review (<6hrs)
- PT / OT / SLT Assessment (<12hrs)

‘A’ (‘World Class’) standards set by the Royal College of Physicians, Stroke Sentinel National Audit Programme, 2015
Implications – Triage / Referral

- A 24/7 stroke nurse team is invaluable in driving the admissions process.
- Stroke patients must be reliably identified either by paramedic crews or at the door.
- If there is a delay in referral to a stroke team, the rest of the pathway will fail.
- Pre-alert by paramedics remains the most satisfactory way of ensuring the stroke team knows of incoming strokes.
- Triage using ROSIER works – but needs clinical support in ED.
- Stroke teams need to be able to manage not just stroke but stroke mimic referrals at arrival: filtering them takes too long and stroke teams have the best expertise to diagnose/manage them.
Implications - Scanning

• Stroke patients must be able to be prioritized to the scanner.
• “Push” model of care works best here – the admitting team physically taking the patient to the scanner rather than waiting for scheduled appointment slots or the patient being taken.

• NB more efficient for radiology to do stroke CTs ‘ad hoc’ than to schedule them.
Hill’s Law of Coffee

• Why aim to admit a patient within 2hrs?

• Because this is the length of time relatives are prepared to wait in the ED before someone kindly agrees to go and ‘get the coffees’ and gives our dysphagic patients something to drink...
How do we fare nationally at admitting stroke patients within 4 hours?

Unclear diagnosis; failure to identify stroke by non-stroke individuals

Unconstrained services

Constrained services

Compromised services

Source: Stroke Sentinel National Audit Programme, National Quarterly Reports
Why Do Admissions Nationally Follow Hook’s Law?
Types Of Patients Arriving To ED

- Strokes Requiring Thrombolysis (unsafe outside of HASU)
- Definite stroke
- Diagnosis not clear – might be a stroke
- Stroke mimics
An Unconstrained Service

Stroke Unit (Capacity: 6 patients)  AMU or other medical wards
A Constrained Service

Stroke Unit (Capacity: 6 patients)

AMU or other medical wards
A Compromised Service

Stroke Unit (Capacity: 6 patients)

AMU or other medical wards
How do we fare nationally at admitting stroke patients within 4 hours?

Source: Stroke Sentinel National Audit Programme, National Quarterly Reports
Patient Selection Compounds The Problem

Length of stay in a stroke population

Patients ranked by length of stay (centiles)
Balancing The Caseload
When Do Your Patients Arrive?
How Many Minutes / %Days Do You Need?

Example calculations for Domain 6 (Physiotherapy).

Implications: little and often is recognised more than longer sessions less frequently. 6 and 7-day services don’t need to deliver 45 minute sessions of therapy.

* Chart using PT calculations, assuming 85% identified as eligible for PT
Data Quality And Completion
Managing Information Quality

• GIGO “Garbage In, Garbage Out”
• Site-specific:
  • Process issues in each site
  • Extent of electronic record usage
  • Data collection methodology must reflect the process
Analysing Your Data Quality

**DIY Analysis Tools**

- **DIY data analysis tool**
  A tool to provide teams with SSNAP data analysis for a range of key measures

- **DIY casemix analysis tool**
  Export locked data and paste into this tool to give a comprehensive breakdown for your casemix

- **DIY Best Practice Tariff tool**
  This tool allows teams to export their own data and calculate whether or not each patient is eligible to receive each of the three components of the best practice tariff.

DIY analysis tool 1.8
DIY casemix analysis tool 1.1
DIY Best Practice Tariff Tool 1.5
The Audit Compliance tab of the DIY Analysis tool lets you calculate audit compliance on locked records for the team.

Careful scrutiny of the data collection process helps find why data may be missing and to understand where to fix it.
Local Patient Record Measures

- We are a paper-based Trust with retrospective document scanning.
- We produced a multi-disciplinary admission document:
  - Medical clerking
  - Stroke nurse notes (and admission/scan/ward/review times).
  - NIHSS Scores at admission and 24hrs (for all patients)
  - Therapy / dietetics initial assessment notes.
  - MUST tool.
  - MOCA (the assessment form) and DISCS or space to record if more specialized tools were used.
  - Continence assessments.
  - Rehab goals
- Therefore a single document contains all the information measured by the KIs, and is easily reproduced / audited / checked.
- Continual process of revision and review to improve it.
Local Data Collection Measures

• Data put onto a paper-based proforma by our stroke nurse team.
• RCP data collection redesigned into ‘admission’, ‘24 hr’ and ‘discharge’ pages.
• Each page completed daily and as much pre-discharge as possible.
• Moving towards more automated collection tied to the proforma.

• Regular checking of data using in-house tools (advanced version of the DIY toolkit which allows us to drill down to patient level detail).
• Validation – any measure which is missed is investigated, and causes recorded (extra fields added to Section 9 of SSNAP for this).
• Monthly performance report written with predicted monthly performance, known failed measures and analysis of them. Distributed to execs, our team, ED and radiology.
Thankyou