

Successful Interprofessional Knowledge Translation and Implementation for TOR-BSST (Toronto Bedside Swallowing Screening Tool) Best Practices in Stroke Care

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Background

- Stroke complicated by dysphagia has a substantial impact on patients and may result in death¹.
- These critical complications are well documented in the literature^{2,3,4} and include silent aspiration, pneumonia, long term dependence on feeding tubes, depression, malnutrition and increased length of stay.
- To prevent these complications, improve quality of life and to meet best practices, dysphagia screening was introduced to the interprofessional stroke team in 2010.
- As clinical practice guidelines continue to be under-utilized⁵, effective implementation of best practices in stroke care is relevant to many organizations throughout the Toronto Stroke Network (TSN) and internationally.
- Strategies based on experience and retrospective review of statistical data from 2013 to 2016 are shared.

Methods

- An andragogical approach to knowledge transfer was utilized.
- Education provided to core interprofessional group of eight screeners, (Registered Nurses and Registered Practical Nurses and Registered Dietitians (RD)) and to users of the TOR-BSST®, including Physicians, Nurses and RDs by Speech Language Pathologists (SLP).
- Patients who failed screening referred to SLP for assessment.
- Education used Coordinated Stroke Strategy Dysphagia tools
- Multi-modal educational approach included didactic classroom time, simulation and supervised practice with a mentor.
- Dysphagia policy and algorithm developed to sustain integrity of the process. Screeners go to location of patient to screen for dysphagia. Colleagues provide coverage for assignment until return. On-going evaluation ensured competency of skill.
- Compliance and effectiveness evaluated using stakeholder feedback, statistical data and manual tracking process by newly trained screeners.
- 3 years of data were retrospectively analysed by Decision Support.
- Data sources used for analysis included:
 - 1) patients with a qualifying stroke discharge diagnosis,
 - 2) completion of Acute Swallowing Screen order and
 - 3) Time from registration to electronic order completion.

Results

- Compliance for using Stroke Pathway Order sets steadily increased.
- In 2013/14, compliance to the stroke pathways approximately 65%. By 2015/16 compliance increased to 70%.
- Completion rates for TOR-BSST screens is at 65-70%.
- In 2013/14 83% of all screens were done within 24hrs. By 2015/16, 91% of all screens were done within 24 hours.
- Volumes of patients passing the screen also increased from 61% to 67% over the 3 years.

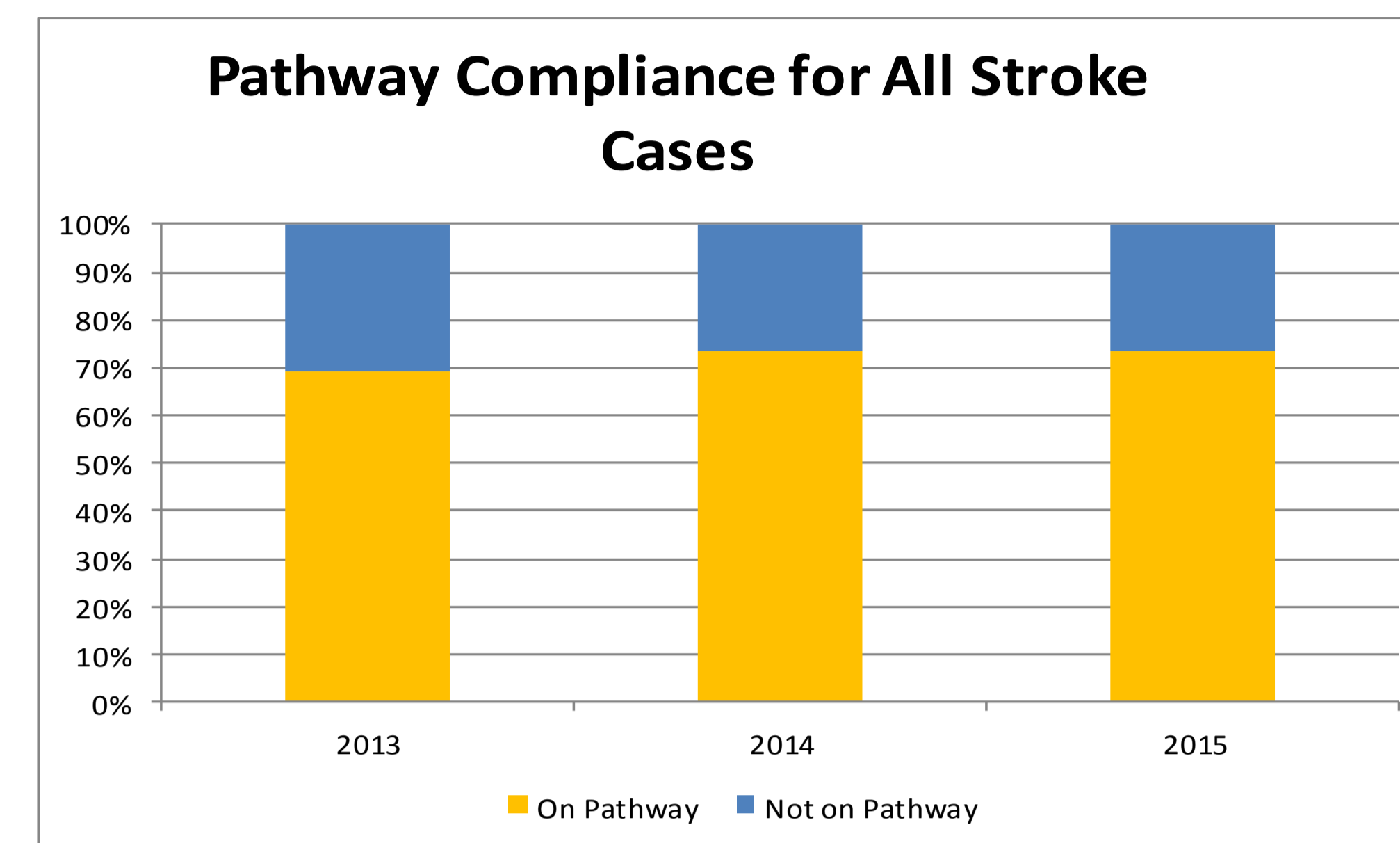


Figure 1: Percentage of stroke patients on a stroke pathway at discharge versus not on a pathway

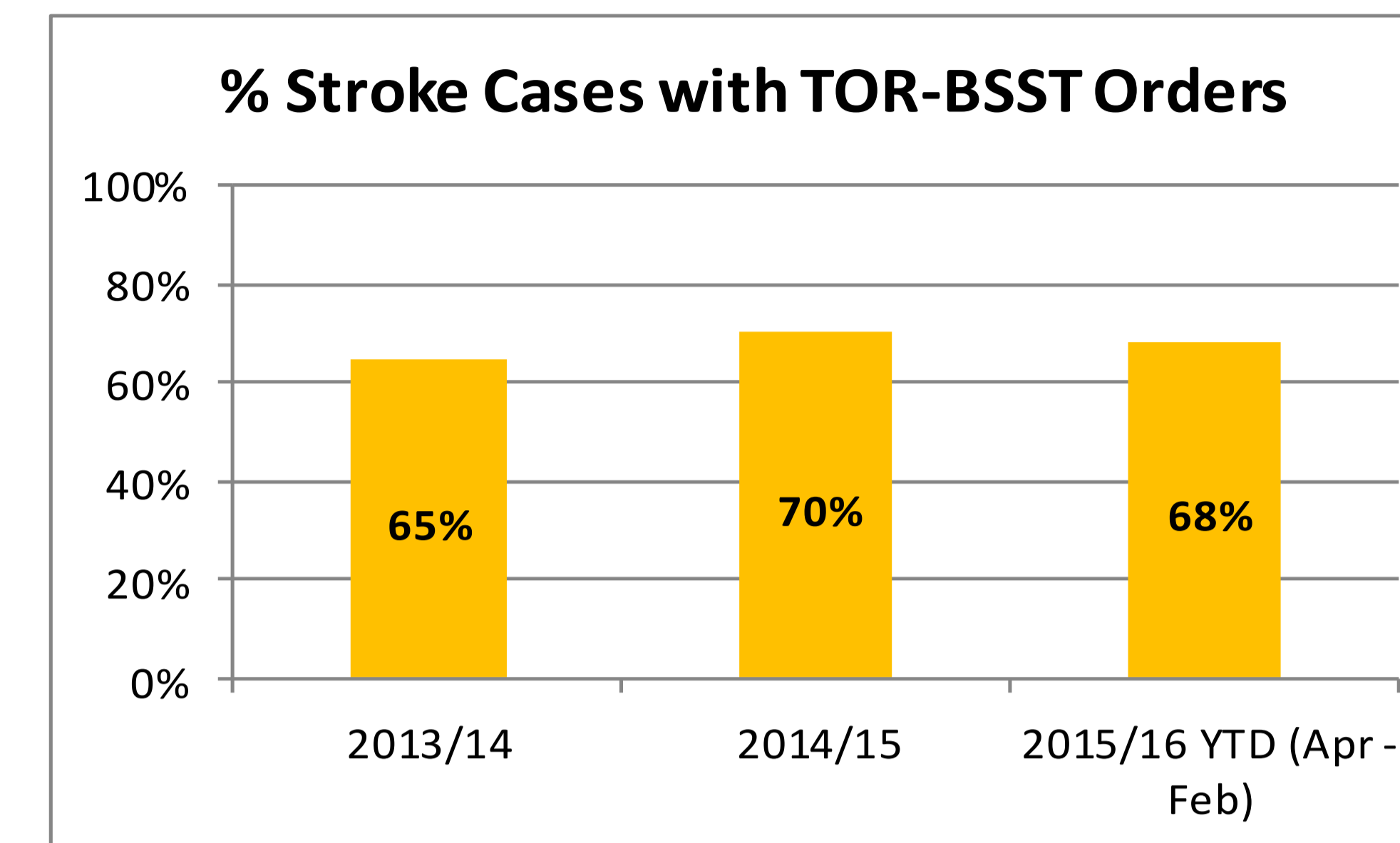


Figure 2: Percentage of total stroke patients (both on and off pathway) at discharge with completed TOR-BSSTs®

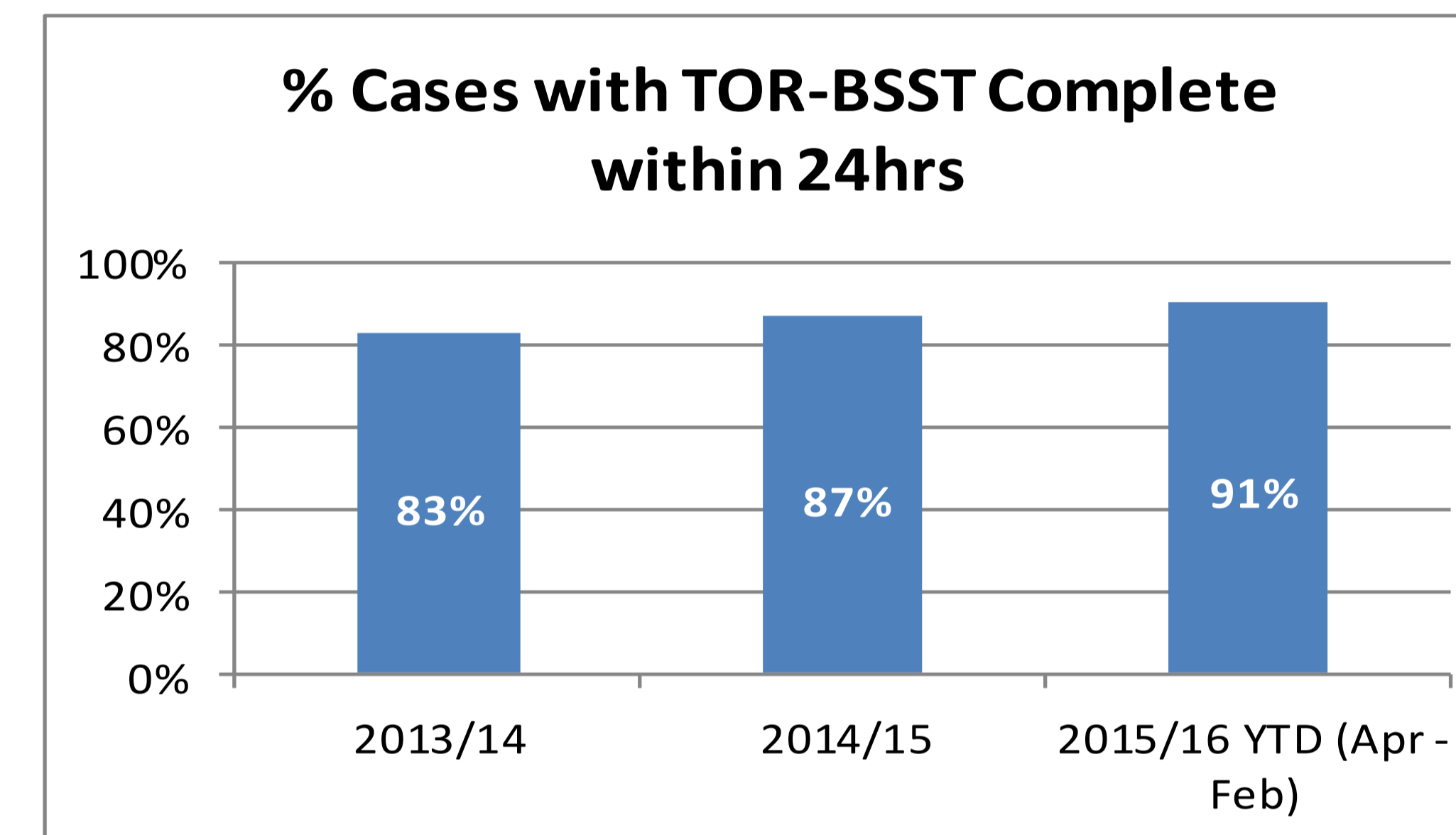


Figure 3: Percentage of TOR-BSST® screens completed within 24hrs

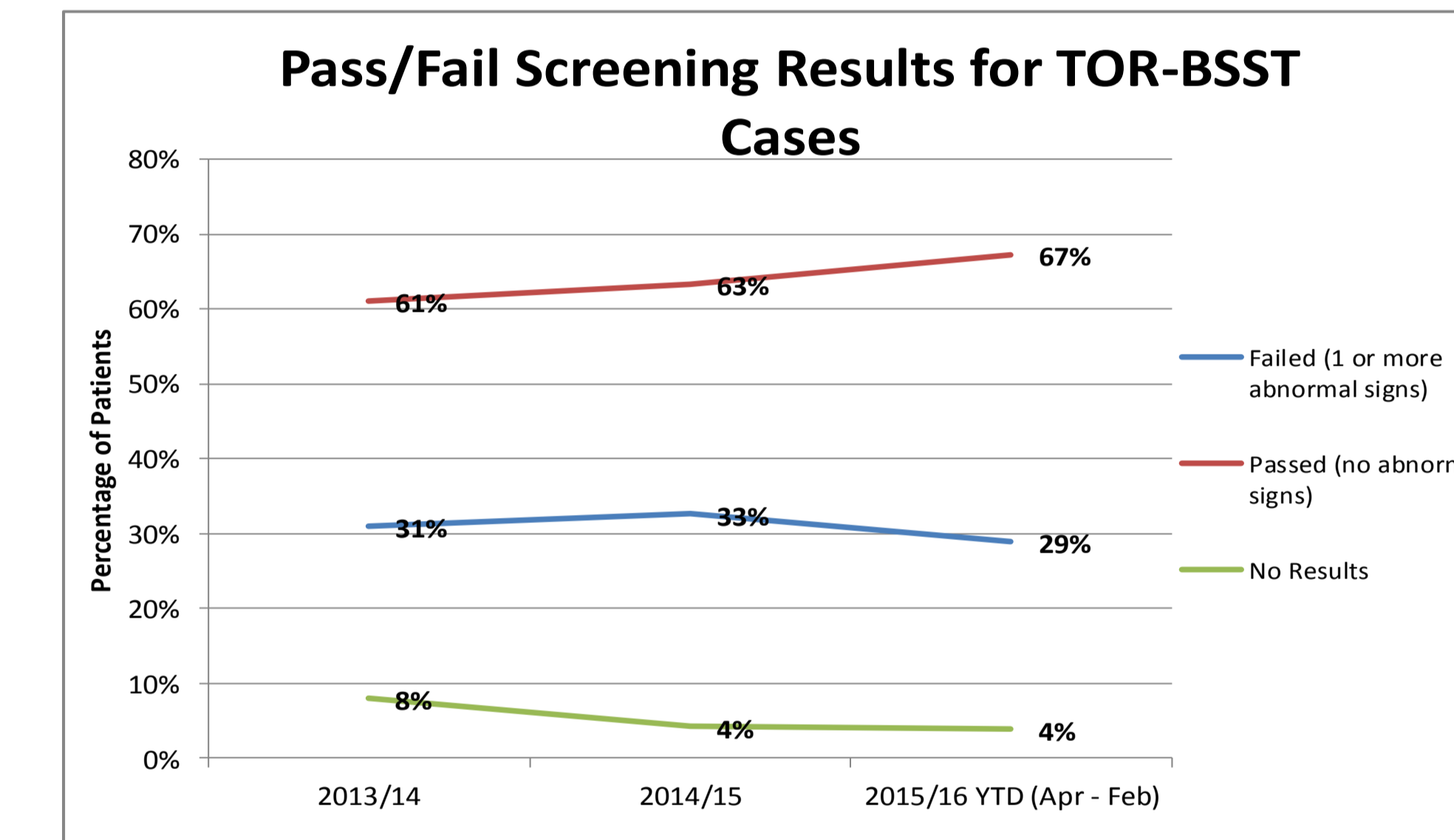


Figure 4: Distribution of screening results over three years

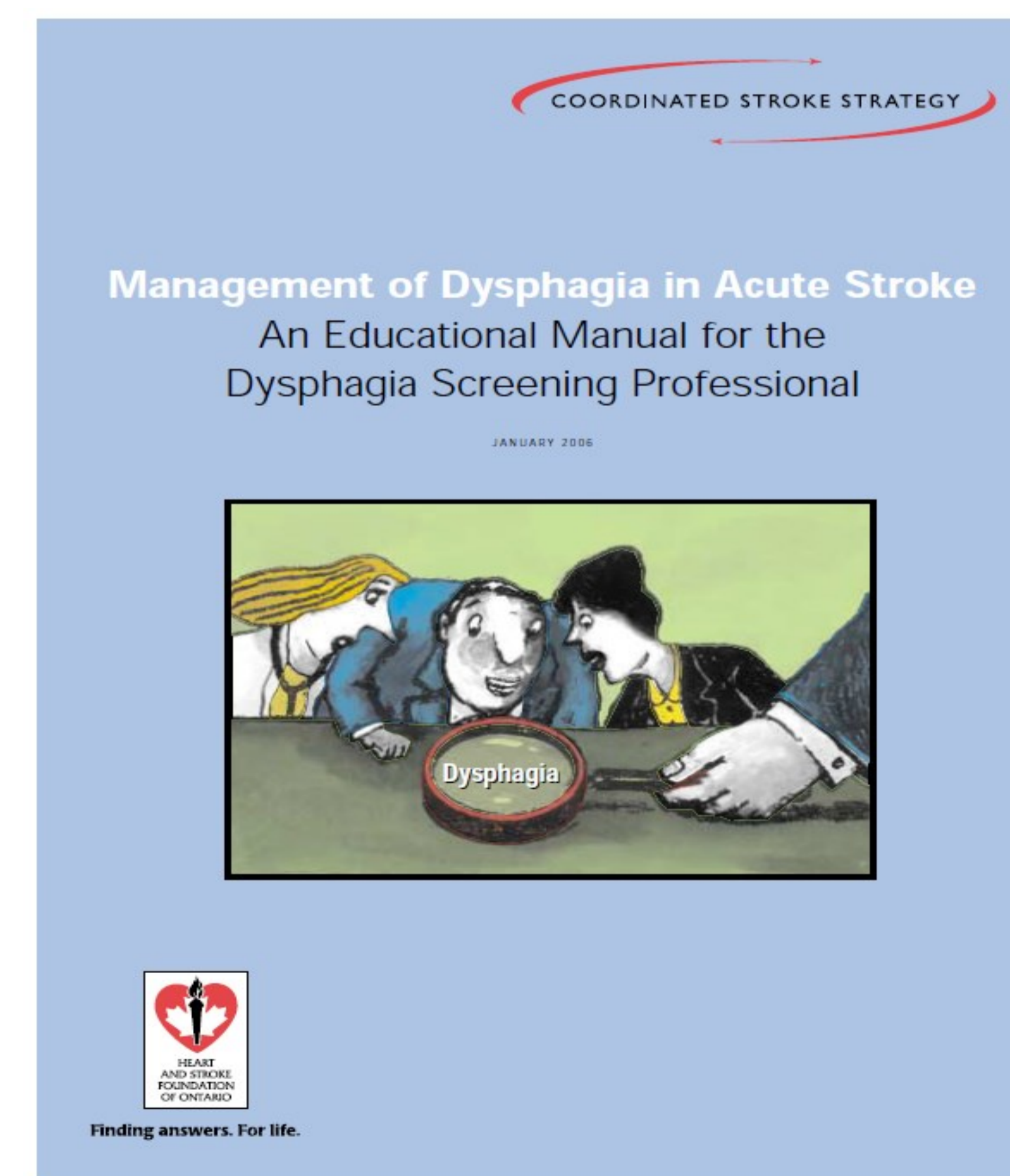


Figure 5: Coordinated Stroke Strategy tools

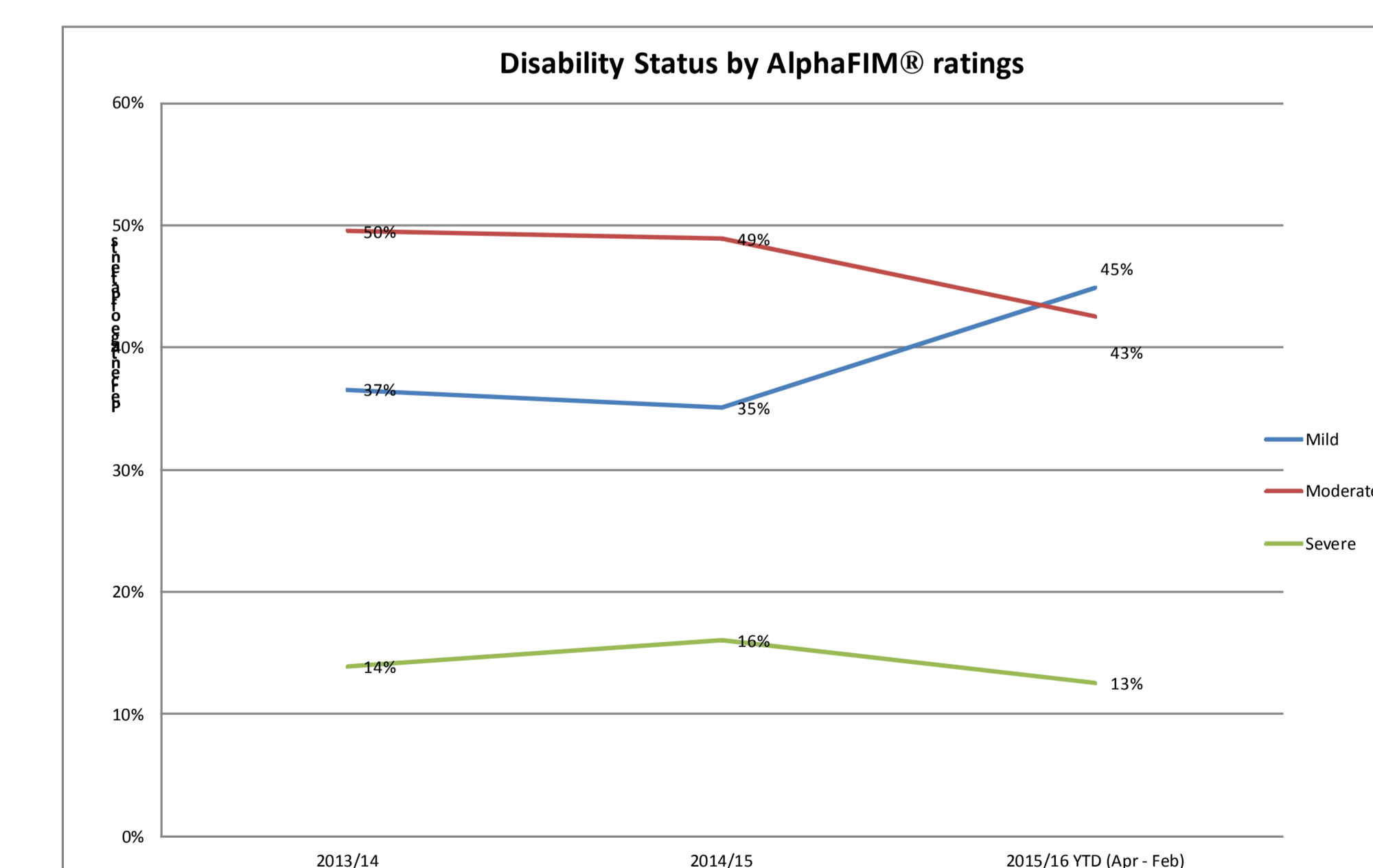


Figure 6: Distribution of AlphaFIM® ratings over three years

Feedback from Training Sessions (n=9)

- 100% responded "enough time for material"
- 100% responded "enjoyed session"
- 22% responded "value mentoring time with SLP" & "I valued feedback from SLP, made it easier"
- 11% responded "videos are old, need updating"

Discussion & Implications

- 100% of screeners volunteered to be TOR-BSST® trained; this is directly related to success of educational program.
- Screening in place for 6 years now; entire team may feel more comfortable with the process, therefore less barriers to coverage on neuro-stroke unit when screeners leave to screen patients in Emergency Department (ED).
- Competency maintained by having small core group of screeners.
- Classroom videos, return demonstrations and 3 observations with SLP successful in developing well-trained screeners.
- Percentage of patients with ambiguous clinical presentation to ED precludes 100% pathway compliance (Fig.1)
- Screening orders embedded in electronic order sets; completion of TOR-BSST® directly related to use of stroke order sets (Fig.2)
- Retrospective review revealed patients without TOR-BSST® (Fig.2) never required SLP consult; suggests stroke severity was mild and clinical judgment made for no assessment with no subsequent consequences; or patients were catastrophically ill or intubated (and therefore not able to be assessed or screened) or were made palliative or comfort measures only and did not require SLP care.
- Interprofessional team continues to improve efficiency in completing screens within 24 hours (Fig.3). May be due to improved efficiencies to designated stroke unit admission times or improved awareness from rest of hospital to call TOR-BSST screeners.
- Increase in percentage of successful screens (Fig. 4) may be reflective of milder strokes (Fig. 6). This may be due to effective public awareness campaigns instructing early presentation to hospital. These findings consistent with studies examining incidence of dysphagia related to severity of stroke⁶ however we used AlphaFIM® ratings rather than NIHSS (Fig. 6).

Conclusions

Team collaboration and varied educational methodology promotes success. Initial investments in time and resources are worth long term benefits of program. Dedicated frontline support is critical to success.

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