CP-089 - "Start Smart": Improving the quality of empiric antimicrobial prescribing at TSCUH

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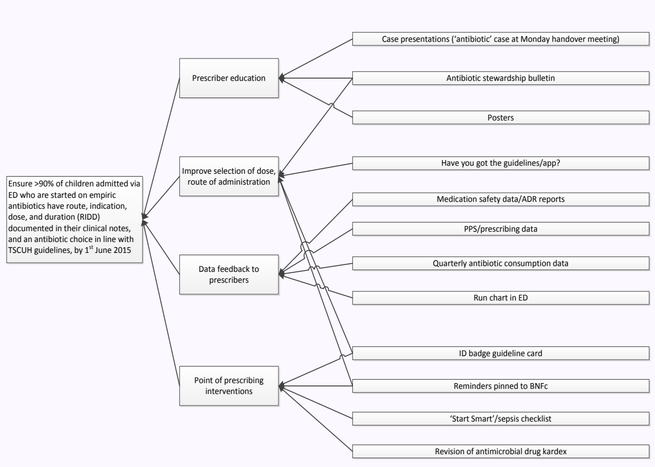
Appropriate choice of empiric antibiotic therapy, in line with local guidelines, improves outcome for children with infection, while reducing adverse drug effects, cost, and selection of antimicrobial resistance. Data from national point prevalence surveys showed compliance with local prescribing guidelines at TSCUH was suboptimal.

Project Aim: Ensure ≥90% of children admitted via the Emergency Department (ED) who are started on empiric antibiotic therapy, have the treatment indication documented in their medical notes and a choice of antibiotics in line with local prescribing guidelines, by 1st June 2015

Method

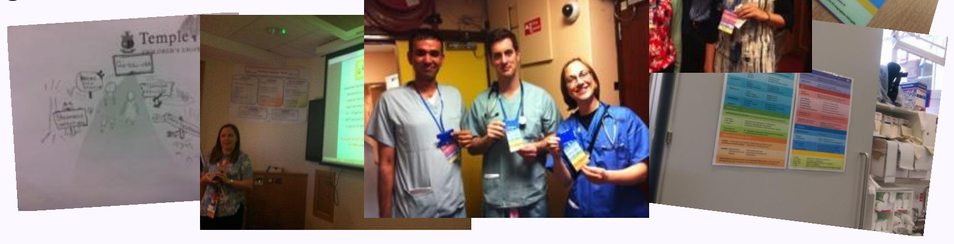
- Establish project team: review historical data, agree project aim and drivers, measurement plan etc.
- Brainstorming sessions with ED staff to identify initial tests of change
- Refinement of data collection (PDSA cycles 1-4: move from using extract from ED information system to incorporating data collection into routine ward rounds)



- Feedback of data to prescribers at weekly Monday morning handover meeting: update of run chart
- Brainstorming at Monday meeting to identify further tests of change (fostering of ownership of project by prescribers)

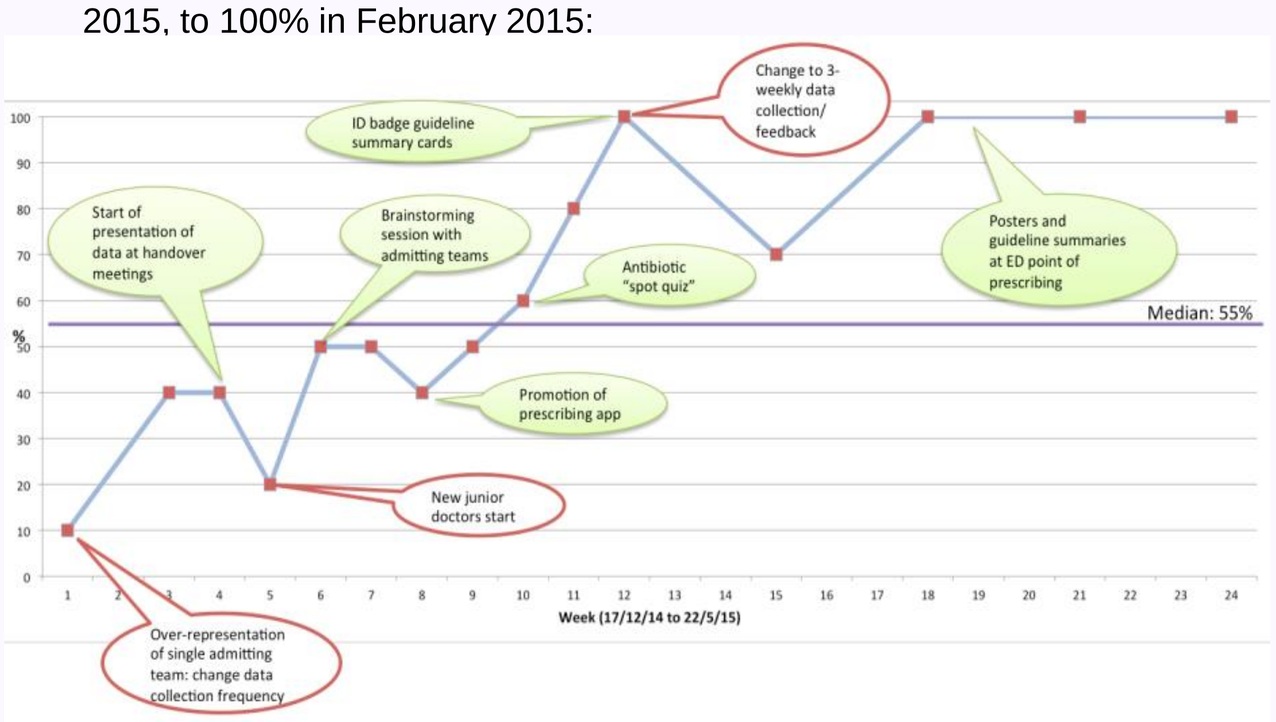
Process Change

- Application of prescriber-derived tests of change:
  - Regular antibiotic prescribing Q&A at Monday meeting
  - Antibiotic "spot quiz" for prescribers
  - Updates to prescribing guidelines, improved access, and promotion of prescribing app
  - Printed ID badge guideline summary cards
  - Reminders and guideline summaries at point of prescribing in ED



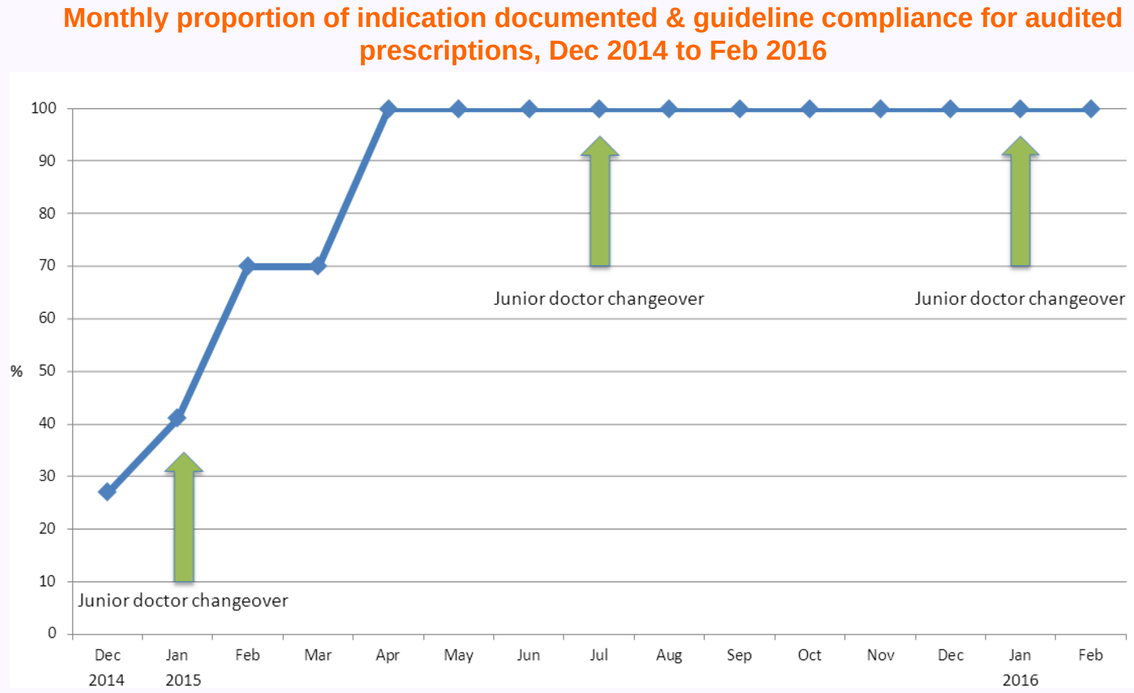
Results

- Combined measure of documentation of indication and compliance with guidelines increased from median of 30% in December 2014 and January 2015, to 100% in February 2015:

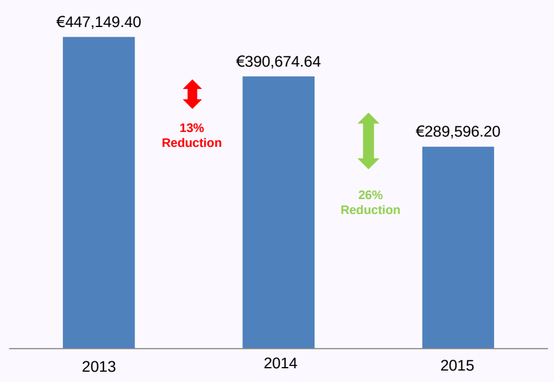


- Associated improvement in the hospital's results in a national point prevalence survey in 2015, and a decrease in antibiotic expenditure
- Monthly audits have shown a sustained 100% compliance with quality measure up to February 2016, despite three junior doctor changeovers during this time.
- Improvement in documentation of treatment rationale, planned duration, and other prescribing quality indictors in recent chart audits.

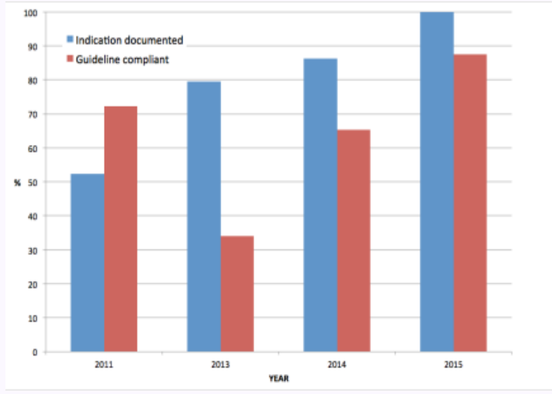
Monthly proportion of indication documented & guideline compliance for audited prescriptions, Dec 2014 to Feb 2016



Annual Antimicrobial Medication Expenditure 2013-2015



TSCUH national point results prevalence surveys, 2011 to 2015



Achievements

- Sustained improvement in the quality of antibiotic prescribing
- Sense of ownership of antibiotic stewardship by prescribers (shifted from "how's *your* project going?" to "how are *we* doing?")
- Support for promotion of quality improvement among consultant paediatricians and junior doctors
- 1st prize at Temple Street Research & Audit Day, presented at National Patient Safety Conference 2015

Conclusions

- Engagement with clinicians, rapid audit cycles and sharing of data promoted front line ownership and sustained improvement in the quality of antibiotic prescribing

Key Learning Points

- "The pen is mightier than the IT system": simple, paper-based, data collection proved easier and more adaptable than data extraction from ED systems (and fostered point of care interaction with prescribers)
- "The marker is mightier than the PowerPoint slide": hand drawing run charts led to greater engagement by prescribers
- "The answer is in the room": prescribers were able to identify interventions that were likely to work (and exclude interventions that were unlikely to work)
- The competitive nature of doctors can be exploited to help drive improvements (weekly run chart update, quizzes)
- Importance of having robust data collection plan at the outset (simplified data collection approach made measurement of secondary outcomes and balancing measures difficult)
- Demonstrating that improvement can be achieved in a short space of time has created a sense of achievement among clinicians and an increased interest in quality improvement

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