Early evaluation of a national Urinary Tract Infection (UTI) improvement collaborative

David Charlesworth, Emma Cramp, Linda Dempster, Gaynor Evans, Gavin Eyres, Ranvir Virk, Helen Wilkinson (all NHS Improvement)

Background

The Secretary of State for Health and Social Care launched an ambition to reduce healthcare associated Gram-negative bloodstream infections (GNBSI) by 50% by 2021 and reduce inappropriate antimicrobial prescribing by 50% by 2021. GNBSIs are believed to have contributed to approximately 5,500 NHS patient deaths in 2015. The urinary tract is the source of a significant proportion of GNBSI and can cause considerable morbidity. *Escherichia coli* is the causative organism in 55% of GNBSI cases nationally[1].

Aims of the quality improvement collaborative

- Reduce by 5% the number of patients acquiring healthcare associated UTI / CAUTI from the trust team's baseline and / or a 5% reduction in the number of urinary catheters used in the pilot settings.
- Improve the experience and quality of care received by patients.
- Learn to use quality improvement (QI) tools and techniques in practice.
- Opportunity to share good practice.

Programme

As a clinically-led joint venture with NHS England, NHS Improvement coordinated two national improvement collaboratives focussing on local system wide improvement interventions to reduce healthcare associated UTI and CAUTI.

Trusts with the highest numbers or rates of *E.coli* BSI were invited to attend a collaborative. Each trust was requested to bring a team of up to five participants from across their local health economy to four contact days along with other trust-led teams. The national data for *E.coli* BSI suggests that 74% of cases are community-onset[2] and learning from cohort 1 teams included CCG colleagues in cohort 2 improvement journey. Cohort 2 also included a number of CCGs independently, based on those with the highest number of community-onset *E.coli* BSI cases.

The programme (Fig. 1) followed an established NHS Improvement framework and utilised the Model for Improvement[3] (Fig. 2). All participants received support from quality improvement advisors (QIAs) with the use of quality improvement tools, including collecting baseline data, measurement for improvement, driver diagrams, process mapping, Plan Do Study Act (PDSA) cycles and spread and sustainability. Teams self-identified their preferred area for improvement and were encouraged to test potential improvement interventions on pilot areas in between each contact day. Day 4 was a celebration event for teams to present their projects.

Each event included presentations from external speakers on best practice and examples of successful interventions. All organisations shared their learning and improvement journey via a collaborative storyboard (Fig. 3). Supplementary webinars were provided to embed QI tools and techniques and QIAs were in contact with each team to offer advice and guidance and any additional bespoke support.

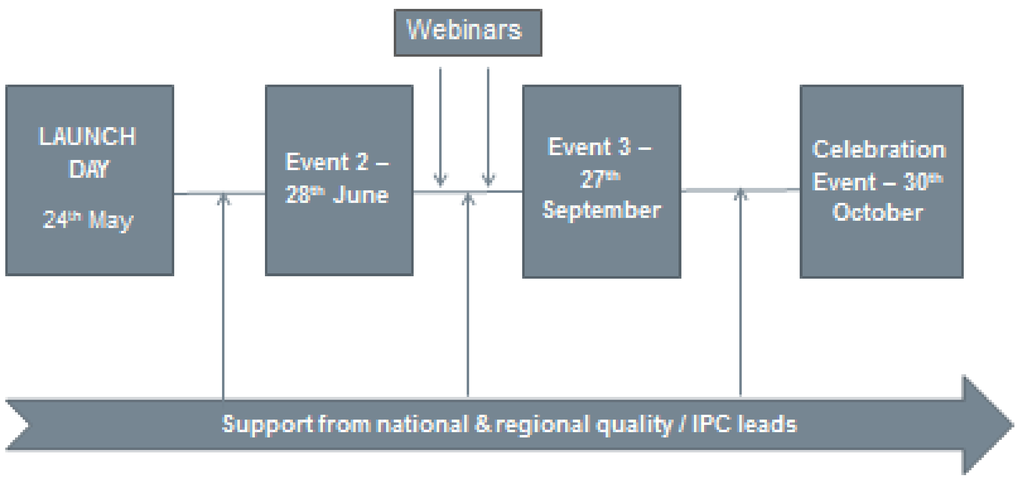

Fig 1 - Four day collaborative programme (Cohort 1 dates shown)

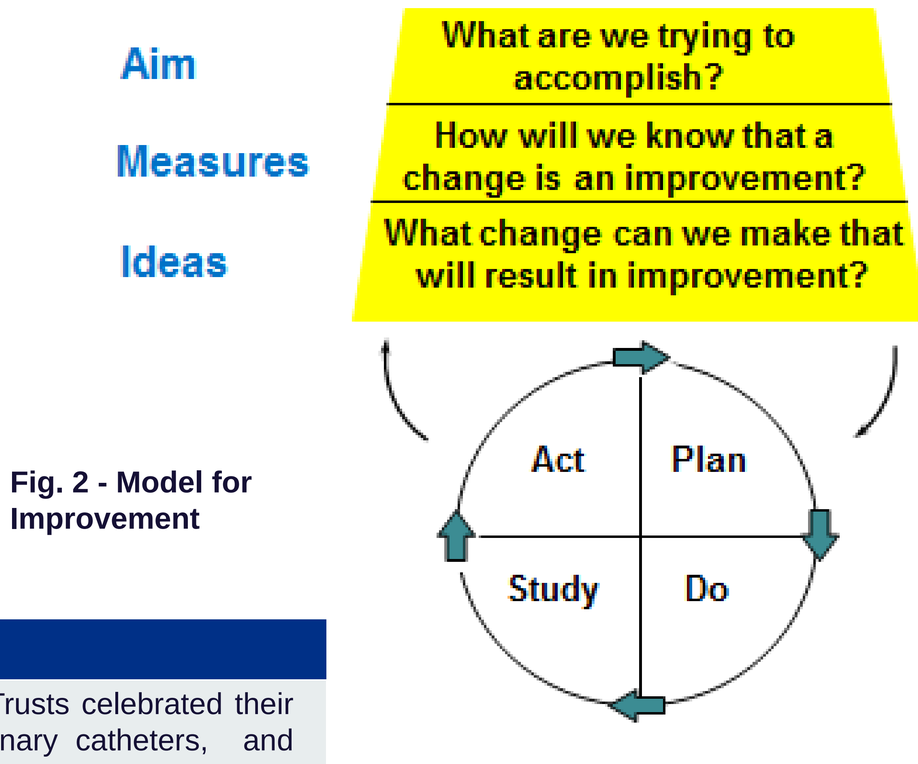

Fig. 2 - Model for Improvement

Evaluation to date and discussion

Cohort 1 comprised of 27 Trust led teams, commencing June 2018 and concluding October 2018. Trusts celebrated their success and continuing improvement plans focus on improving hydration, reducing UTIs and urinary catheters, and improving communication between agencies.

Feedback gleaned after each contact day provided insight into the confidence using quality improvement methodologies. This informed changes to the existing programme and directed the focus for cohort 2, that commenced September 2018.

Feedback and learning from cohort 1

- 78% of teams felt confident that their improvements will be scaled up and sustained across their trust, with 89% recommending using a NHS Improvement collaborative to other trusts.
- 79% believe they will achieve their goal within 6 months while 14% of Trusts achieved their initial goal within the timeframe.
- 89% of those attending the collaborative identified that their quality improvement knowledge and skills had been enhanced by taking part in the collaborative.
- Mutual learning was a significant contributing factor in the success and sessions were extended to create more opportunity to share storyboards.
- A specific, centralised resource (Kahootz) was created for teams to share resources, presentations and storyboards, and has been enhanced for cohort 2.

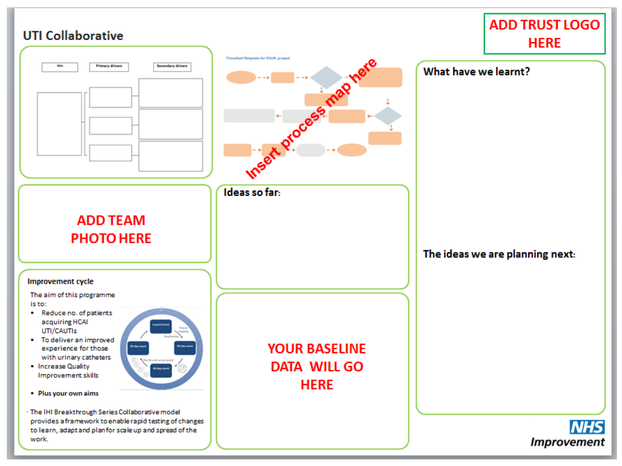

Fig 3 - Storyboard template – teams required to complete, update and share for each contact day

Conclusion

- Collaborative programmes are often described as a model for rapidly implementing change across multiple settings, allowing teams from different organisations to share learning, while testing change interventions to implement existing best practice to improve patient care. This may also involve testing new processes or interventions on small pilot areas, or developing new knowledge.
- Our learning from cohort 1 led to providing greater clarity to teams to utilise the existing evidence of UTI prevention and management and to measure progress against this. We found some teams over-focussed on collecting new data and identifying and developing new interventions but missed early opportunities to implement existing and shared best practice.
- Whilst exciting and innovative work was started during the lifetime of the collaborative, earlier commencement may have enabled greater shared learning with other collaborative teams. Equally, the lifespan of the collaborative needs to be extended to support sustainability and wider roll out.
- The authors and collaborative teams jointly believe that collaborative working is an effective method of delivering improvement in UTI prevention and management.
- We are identifying further learning planning to expand to a wider audience; to include case studies, delivering professional improvement network learning events and developing a peer support network.

References

1. Department of Health and Social Care (2016) *Reducing infections in the NHS*. Available at: https://www.gov.uk/government/news/reducing-infections-in-the-nhs

2. Public Health England (2018) *E. coli bacteraemia: infographic, financial year 2017 to 2018.* Available at: https://app.box.com/s/exuptcg3ois1dvl9czuh2koz2htlwh54

3. Associates in Process Improvement (2009) *Model for Improvement.* Available at: http://www.apiweb.org/

© Crown copyright 2018