JOINING THE DOTS

Measuring the effects of a national quality improvement collaborative in ambulance services

Context
We undertook a national collaborative to improve cardiovascular care for heart attack and stroke by frontline clinicians in 12 English Ambulance Services.

Problem
Cardiovascular disease is the commonest cause of death in the UK. Early, effective treatment reduces death rates, improves long-term outcomes and reduces future disability. Ambulance clinicians, working to national evidence-based guidelines for Acute Myocardial Infarction (AMI) and stroke, should deliver specific aspects of care but are unreliable at delivering whole bundles of care.

We measured care using national ambulance Clinical Performance Indicators (CPIs) including care bundles.

Our main aim was to produce a sustainable improvement in care bundle delivery nationally for AMI from 57.4% (range 33.3% – 80%) to 70% and for stroke from 85.2% (range 53.5% – 98.1%) to 90% within two years.

Intervention
Ambulance Services developed and shared learning through a national Quality Improvement (QI) Collaborative. QI Fellows were appointed in each service and formed QI teams. They used QI methods to identify barriers and facilitators, for example through process mapping to redesign care and testing new processes for delivering care bundles using plan-do-study-act cycles.

Strategy for change
We developed and trialled interventions locally through the Quality Improvement (QI) Collaborative. The effects of interventions were measured using annotated control charts. Successful interventions were shared through QI network and an online repository and spread more widely within and between trusts.

Measurement of improvement and effects of change
Statistical Process Control (SPC) methods were utilised to measure the effectiveness and sustainability of interventions.

Within 18 months of the project start we were able to demonstrate improvements in the care bundle for AMI (mean 66.9%) and Stroke (mean 92.0%) with significant improvements in some but not all trusts.

Lessons learnt
Barriers in service reconfiguration caused delays in starting collaboratives or trialling interventions; this highlighted the importance of ensuring corporate bodies clearly understood the scale and purpose of the collaboratives.

Data collection took longer than expected and resources for this were stretched, particularly in Trusts without electronic systems.

Large scale collaboratives require clarity about roles and expectations from the outset.

Annotated control charts proved invaluable in monitoring the effects of interventions and their sustainability.

Message for others
Annotated control charts were a powerful tool for determining whether and to what extent interventions led to improvements in care and helped spread successful interventions on a national scale.