

A Clinical Network Project Improves Care of Patients with Atrial Fibrillation with Rapid Ventricular Response in Victorian Emergency Departments



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Received 18 March 2015; received in revised form 14 May 2015; accepted 19 July 2015; online published-ahead-of-print 29 July 2015

Objectives

Atrial fibrillation with rapid ventricular response is a common condition in emergency departments (ED) and despite published guidelines, variation in practice is common. The aim of this nine-month evidence-based care improvement project was improving the management of atrial fibrillation with rapid ventricular response (AFRVR).

Methods

This was a quality improvement project, evaluated using before and after chart review methodology. The outcomes of interest were the proportion of patients managed according to a local treatment pathway, the proportion with duration of symptoms documented, the proportion with rate control versus rhythm control strategy documented and the proportion with a CHADS2 score (or equivalent) documented.

Results

Ten ED participated. Management according to a local treatment pathway increased from 8% (27/326) of patients to 68% (191/281); $p < 0.0001$. The proportion of patients with symptom duration documented increased from 62% (201/326) to 81% (227/281); $p < 0.0001$. The proportion of patients with CHADS2 score (similar) documented increased from 16% (49/310) to 47% (126/268); $p < 0.0001$.

Conclusion

This project has led to clinically and statistically significant improvements in management of AFRVR across a health system, although there is still room for improvement. Work continues to embed these gains and make further improvements.

Keywords

Emergency department • Atrial fibrillation • Quality improvement • Change

Introduction

Atrial fibrillation with rapid ventricular response (AFRVR) is a common condition in emergency departments (ED) and despite published guidelines, variation in practice is common [1,2]. The Victorian Emergency Care Clinical Network (ECCN, Victoria, Australia) works with 40 ED across

the state to improve clinical care by uptake of evidence-based practice and reduction in variation in practice. Member EDs vary in size, staffing and supporting specialist services; approximately half of general EDs are based in rural and regional areas. The Victorian Emergency Care Clinical Network has undertaken six annual cycles of improvement projects covering a range of conditions.

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In 2013 and 2014, the network offered a nine-month evidence-based care improvement project aimed at improving the management of AFRVR. This report documents the results of those projects.

Methods

This was a quality improvement project, evaluated using before and after chart review methodology.

Development of Treatment Recommendations

An expert panel made up of cardiologists, emergency physicians and a rural physician developed recommended treatment strategies based on best available evidence/guidelines [3–6] for treatment of ED patients with AFRVR (online appendix). These recommendations were disseminated to participating ED in February 2013.

Local Implementation

Participating in ECCN projects is by an expression of interest process, as Victoria has a devolved clinical governance structure.

The Victorian Emergency Care Clinical Network uses a modified knowledge transfer model (Figure 1). The network management team develops the project parameters, conducts awareness raising activities, provides resources (including published papers, data collection tools), provides project management training for project leads, analyses data and

mentors project leads throughout the project. Local clinical leads and supporting teams develop a local implementation plan (including education), implement changes and collect before and after data. Other than awareness-raising activities (a presentation at an annual evidence-based care forum and availability of that presentation on the ECCN website), ECCN did not provide direct training to ED regarding the treatment pathway. A small grant (average \$4500) is provided to support local implementation.

For evaluation of this project, the outcomes of interest were the proportion of patients managed according to a local treatment pathway, the proportion with duration of symptoms documented, the proportion with rate control versus rhythm control strategy documented and the proportion with a CHADS2 score (or equivalent) documented. Regarding the choice of stroke risk stratification tool, the aim was for a suitable tool to be used but the decision regarding which tool was made locally. Some sites chose the CHADS2 score and others, the CHADSVaSc score. Data collected was limited to these items in keeping with the quality improvement nature of this project. Sites were asked to provide data on 30 patients pre-intervention and 30 (or all patients in the ‘after’ period if less than 30) post-intervention. We also collected qualitative data on project success factors and barriers.

Analysis was by before and after comparison of proportions (Chi square/ Fisher’s test) using Analyze-It™ software. No sample size calculation was performed. Most organisations regarded this as a quality improvement activity under the relevant NHMRC guidelines [7] and did not require

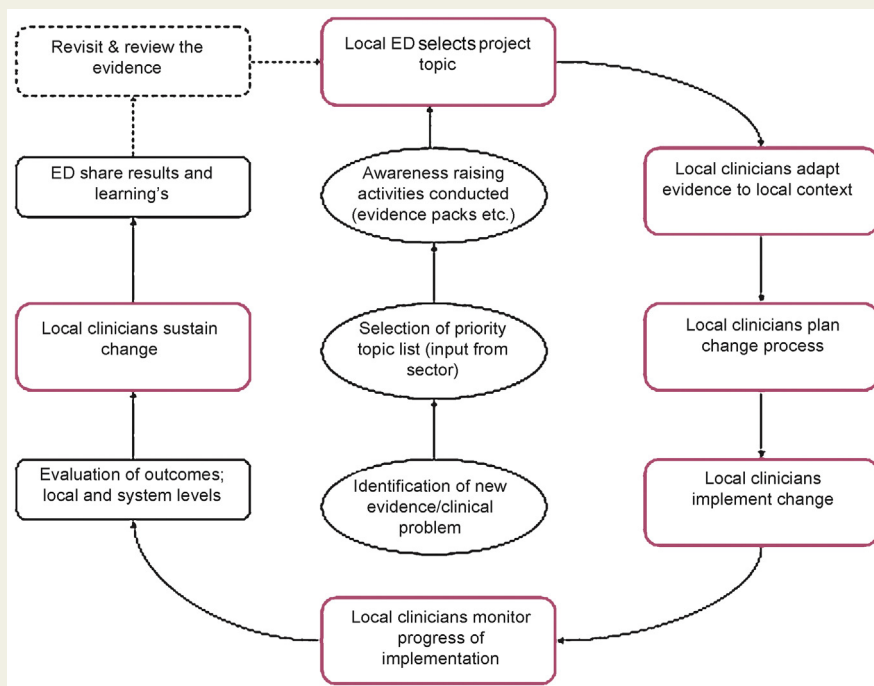


Figure 1 ECCN knowledge transfer model.

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