

Preventing Frail and Elderly Hospital Admissions: Developing an Evaluation Framework for the ‘Closer to Home’ Quality Improvement Programme in NHS Forth Valley

Maria Cristina Martin
Computing and Information Sciences
University of Strathclyde
cristina.martin@strath.ac.uk

Matt-Mouley Bouamrane¹
Kimberly Kavanagh²
Computer and Information Sciences¹
Mathematics and Statistics²
University of Strathclyde
FirstName.SecondName@strath.ac.uk

Paul Woolman
Information Services
NHS Forth Valley
paul.woolman@nhs.net

ABSTRACT

‘Closer to Home’ is a co-ordinated programme in NHS Forth Valley aiming to improve the provision of community care for frail and older people at increased risk of unscheduled hospital admission. Evaluating the cost-effectiveness of such initiatives is essential towards shaping policies and optimising elderly care provision in the community. This paper underlines the early stages of the development of a data-analytics evaluation framework for ‘Closer to Home,’ incorporating all dimensions of the RE-AIM model for evaluating public health impact in health promotion interventions. The evaluation framework currently consists in: (1) understanding and documenting the context, (2) identifying the range of relevant data, (3) identifying outcomes and performance measures, and (4) synthesising all of the above into a coherent evaluation of the effectiveness of the programme. The purpose of this paper is to share our experience of the challenges and opportunities which arise in the early stages of developing a multi-faceted quality improvement programme evaluation framework.

KEYWORDS

Quality Improvement; Home Care Services; Evaluation Research; Informatics

1 Introduction

By 2024 the population of people aged over 75 in the UK is expected to reach 7 million, a 35% increase since 2014 [1]. In Scotland, the population of people over 75 is expected to increase by 29% to 0.56 million [2]. These stark figures highlight that current models of ‘reactive’ care are increasingly placing unsustainable pressures on secondary care services. In recent years, the Scottish Government and NHS Scotland have developed and implemented a number of health policies aimed at reshaping care for the elderly, focusing on providing enhanced community care services in order to prevent unnecessary hospital admissions and

support older people in remaining at home. One such initiative is the ‘Reshaping Care for Older People’ (RCOP) national programme launched in 2010 [5]. The RCOP vision considers that *‘older people in Scotland are valued as an asset, their voices are heard and older people are supported to enjoy full and positive lives in their own home or in a homely setting’* [5]. In alignment with the RCOP vision, NHS Forth Valley has developed a number of projects aimed at further developing the capacity for community-supported self-care. ‘Closer to Home’ is one such initiative.

Developing coherent evaluation frameworks for large-scale, uncontrolled, multi-faceted quality improvement programmes can be challenging [3, 4]. In this paper, we describe the main components of ‘Closer to Home’ and describe the early stages in developing a comprehensive evaluation framework aimed at evaluating the performance and effectiveness of the programme in Forth Valley.

2 Overview of Closer to Home

The ‘Closer to Home’ programme in the Forth Valley area of Scotland was formally put in place in December 2015 [6]. The programme is made up of three main initiatives: Advice Line for You (ALFY), Enhanced Community Teams (ECTs) – both established in December 2015 – and a GP Fellowship Programme, recently introduced in January 2017.

3.1 Advice Line for You (ALFY)

The ALFY service is a nurse-led telephone service aimed at supporting older people (over 65) to remain at home by providing advice on health and social care support or simply reassurance, 24 hours a day. In contrast to NHS 24, this advice line provides assistance directly from experienced community nurses who are especially knowledgeable on the care provision and services available to over 65s in Forth Valley.

3.2 Enhanced Community Teams (ECTs)

The Enhanced Community Teams (ECTs) in NHS Forth Valley are teams of community nurses and physiotherapists working closely with social care and home care staff. The teams provide care at home for older people after having had an accident, illness or stay in hospital. The services provided by the ECTs are designed to quickly provide support in the intermediate phase of arranging long-term support.

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DH '17, July 02-05, 2017, London, United Kingdom
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ACM ISBN 978-1-4503-5249-9/17/07.
<http://dx.doi.org/10.1145/3079452.3079481>

3.3 GP Fellowship Programme

The recently launched General Practitioner (GP) Community Hub Fellowship Programme aims to develop a new role bridging the gap between primary and secondary care. The fellowship enables GPs (called GP Fellows) to develop further experience working in intermediate care between the home and acute setting. Through the Forth Valley GP fellowship programme, GP fellows work as part of 'Closer to Home,' providing additional medical support not previously existent within the programme. They work closely with the ECTs and carry out home visits to observe patients, provide reassurance, prescribe medicine or request further testing. In Forth Valley, they have access to 'Step Up' beds – short-stay beds they can use for admission if necessary, as an alternative to acute hospital admission.

4 Evaluation framework and future work

The RE-AIM evaluation model for health promotion interventions views the public health impact of an intervention as a function of five factors: reach, efficacy, adoption, implementation and maintenance [7]. This model is being rolled out as the standard for evaluation within NHS Forth Valley for the governing bodies delivering the RCOP strategy, due to its comprehensive nature and ability to produce continuity in research. Using this model as a guide, we propose four main elements of a data-analytics framework for evaluation of 'Closer to Home.'

4.1 Understanding and documenting the context

Understanding the broader context of 'Closer to Home,' includes identifying the purpose, aims and remit of the programme. Within the RE-AIM model this includes identifying the reach, (participation and representativeness of the target population), adoption (uptake of the intervention within practises and settings) and implementation (the extent to which the initiative was implemented within mainstream practice).

4.2 Identifying the range of relevant data

Our second aim is to identify the range of relevant data repositories and data structures available to instruct the programme analysis. This involves identifying relevant data from routinely collected data that can be accessed within NHS Forth Valley. This includes emergency attendances, inpatient admissions, outpatient attendances, advice line phone calls and outcomes, nursing team visits and outcomes, among other data repositories, such as demographic data. Two main information systems are used for the three streams of 'Closer to Home.' The ALFY service uses eWard, ward management information system, recording information about calls made to the service. Using this system allows multiple calls to be handled on a virtual ward. The ECTs and GP Fellows use MiDIS (Multi-Disciplinary Information System) – used as standard across NHS Forth Valley community care. Service data is routinely extracted from these systems to the NHS Forth Valley data warehouse and individual databases can be queried using T-SQL (Transact-SQL). Hence, T-SQL queries are mainly used in identifying, collecting and linking together relevant data.

4.3 Identifying outcomes and performance measures

Identifying the outcomes and performance measures for evaluation will allow for meaningful interpretation of the programme achievements and limitations. These will include patient, carer and staff experiences, hospital admissions, re-admission rates, quality of life and location of care. The outcomes will be compared across two cohorts, matched on age, gender and data zone. The effects of differences in morbidities across cohorts will be taken into account by identifying main and long-term conditions from sources such as ICD-10 codes (10th revision of the International Statistical Classification of Diseases and Related Health Problems). Various options for study designs and cohorts exist for each of the 'Closer to Home' streams. Where possible, outcomes will be compared across the user cohort and a comparable matched cohort over a similar time period.

4.4. Synthesising a robust evaluation

The three aforementioned elements will be synthesised into a coherent evaluation of the effectiveness of the programme. Additionally, this element will investigate the efficacy (success rate if implemented as intended) and maintenance (extent to which the initiative and benefits can be sustained) of the programme, as outlined by the RE-AIM model.

ACKNOWLEDGEMENTS

This research is supported by a University of Strathclyde / Capita Strategic Technology Partnership PhD scholarship (2016-2019). We would like to acknowledge the practical support provided by NHS Forth Valley and Neil Mackin (Capita) for the advice on the evaluation framework.

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