A protocol to evaluate the effectiveness of a nationwide Acute Medicine programme: examining what works, for whom, how, and in what circumstances.

17th International Conference on Integrated Care, Dublin, 08-10 May 2017

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Introduction: To address major deficits in the delivery of acute services in Ireland, the National Acute Medicine Programme (NAMP) was established to optimize the management of acutely ill patients in the hospital setting, and ensure their supported discharge to primary and community-based care.

NAMP aims to reduce inappropriate hospital admissions, reduce length of hospital stay and ensure timely treatment in the most appropriate setting.

To meet these aims, the NAMP has established four patient pathways:

1- Ambulatory care pathway - provides access to care and avoids admission by utilizing Acute Medical Assessment Units (AMAUs)

2- Medical short stay pathway - Short Stay Units (SSUs) for assessment and treatment up to 48 hours

3- Routine specialist in-patient pathways - efficient processing of patients with stays between 3 and 14 nights

4- Pathway for frailer and older patients with complex needs after discharge - appropriate care and discharge of complex patients

Methods:

Study design: This mixed method study will follow a realist evaluation approach to understand how implementation of NAMP has improved patient flow across care settings. To assess its impact, data on structures (e.g., patient flow through ED and the AMAUs, access to senior medical staff), processes (e.g., patient experience time, length of stay, readmission rates), clinical outcomes and programme sustainability will be examined.
This approach involves successive phases of data collection to first establish the underlying rationale for the NAMP and to specify intervention strategies to improve patient flow, secondly generate hypotheses about how the programme is working, and thirdly test these hypotheses using data from hospital administrative systems and interviews with frontline staff.

Data sources: The evaluation will draw on multiple data sources:

i- Documentary analysis
Documents outlining new models of care and patient pathways, and programme reports will be analyzed to develop initial programme theories, identify interventions, and refine evaluation questions.

ii- Qualitative data
Focus groups and interviews with NAMP programme staff will be conducted to generate hypotheses about how the programme works in different contexts.

iii- Hospital administrative datasets
Hospital level datasets will be analyzed to examine structural and process outcomes.

iv- Comparative case studies - mix of quantitative and qualitative data
Six hospital sites will be purposively sampled based on their performance on process indicators. A value stream map will be created for each site and hospital specific documents (e.g., protocols, SOPs, hospital audits and surveys, staffing levels) will be reviewed to create a profile of each hospital. Interviews with front-line staff will be conducted to identify what aspects are working, for whom, how, and in what circumstances.

Data analysis: Data will be analyzed using an explanatory sequential design. Quantitative data will firstly be analyzed to assess variation across hospitals, and qualitative research conducted to explain these results. Findings will be synthesised using analytic induction to develop middle range theory on how the programme leads to specific outcomes.

Discussion: Evaluation of this large national programme will enable us to generate practical theory about how specific adaptations in hospital acute care pathways can promote effective patient flow through the continuum of care from presentation at the emergency department through safe discharge home.

Keywords: acute medicine; programme impact; patient flow; hospital data