CLAHRC BITE

Brokering Innovation Through Evidence

31 A bite-sized summary of a piece of research supported by NIHR CLAHRC West Midlands

Can the LACE index identify patients at high risk of readmission following an inpatient episode? A retrospective cohort study

Background

- Readmissions to hospital within 30 days of discharge incur annual costs of £2.5bn to the NHS

- Reducing avoidable readmissions has become a key focus for many NHS Trusts

- If patients at high risk of readmission could be accurately identified, supportive interventions could be put in place to prevent readmission

- 'Case finding' tools are widely used to identify which patients are likely to be readmitted after discharge, but these are often complex to use

- The LACE index uses routinely collected hospital data to generate a risk score for individual patients, with higher scores denoting higher risk

- Scores are based on **L**ength of stay, **A**dmission type, **C**omorbidity and **E**mergency department use

- This study aimed to assess how well the LACE index and its individual elements predicted 30-day readmissions in a patient cohort from a large NHS Trust in the West Midlands

Findings:

- Analysis included data on 91,922 patient episodes of care, of which 7,107 were followed by readmission within 30 days (7.7%)

- Each of the four components of the LACE index were strong independent predictors of readmission

- A LACE score of 11 out of 19 was most effective to distinguish between patient episodes with a higher vs. lower risk of 30-day readmission

- However, only 25% of all readmissions episodes occurred in the higher risk group and 2.4% of patients accounted for 53.1% of all readmissions

- Whilst the LACE index was *statistically* strong in predicting readmission risk, the large number of readmissions occurring in the 'low risk' group suggests that LACE would not provide added value beyond clinical judgement

- A simpler model including A&E visits and admissions in the previous 12 months performed better than the LACE index

- Rather than having separate risk tools for every point in the patient journey it may be better to have one general tool reflecting risk

Reference

Damery S, Combes G. Evaluating the predictive strength of the LACE index in identifying patients at high risk of hospital readmission following an inpatient episode: a retrospective cohort study. BMJ Open 2017; 7:e016921. http://bmjopen.bmj.com/content/bmjopen/7/7/e016921.full.pdf
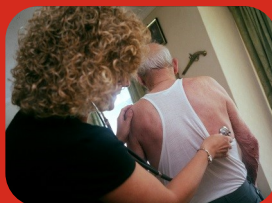
Recommendations for Practice

Readmissions could be reduced if at-risk patients could be accurately identified. In this study, the LACE index was not sensitive enough to discriminate between patients who were readmitted and those who were not. However, using a locally tailored version of LACE as a screening tool alongside clinical judgement may increase case finding accuracy

What is NIHR CLAHRC West Midlands?

The Collaborations for Leadership in Applied Health Research and Care (CLAHRC) is a partnership between universities (Birmingham, Warwick and Keele) and a number of health and social care organisations in the West Midlands. We are funded by the National Institute for Health Research with a mission to undertake high-quality applied health research focused on the needs of patients to improve health services locally and beyond.

For further information, visit:
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