

EMU – A NEW MODEL OF EMERGENCY CARE FOR THE FRAIL & ELDERLY

Geriatrics, General practice, Emergency medicine, ‘Interface medicine’

SUMMARY

An integrated, community emergency service specifically designed for elderly and frail patients, offering acute care as close to home as possible, with rapid comprehensive geriatric assessment and treatment, provision for admission of up to 72hrs, and ‘hospital at home’ nursing for patients sent home to recover.

The EMU presents an innovative patient-centred alternative to acute hospital admission, reducing pressure on ED and inpatient beds.

THE EMERGENCY MULTIDISCIPLINARY UNIT (EMU)

A new model of emergency healthcare for frail elderly patients called the Emergency Multidisciplinary Unit (EMU) in Abingdon Community Hospital is the first of its kind in the UK [1,2,3].

Target population: Elderly patients living in the area (average age in 80s)

Location: Abingdon Community Hospital, Oxfordshire, UK.
Designed by the Department of Primary Care Health Sciences at the University of Oxford.

Date first implemented: 2 November 2010

Problems addressed:

- Frail elderly patients ‘bed-blocking’ acute general hospital beds due to long stays and high readmission rates.
- Lengthy general A&E wait times
- Emergency attendances in older people will continue to increase as the population ages
- Lack of community based comprehensive care for frail elderly patients – who must travel to a major hospital for assessment during acute episodes of functional decline.
- General A&E does not offer comprehensive geriatric assessment (interdisciplinary physician, social work, OT, and physiotherapy assessment of the patient’s medical, psychological, and functional capability) which is often necessary to enable frail elderly patients to be discharged straight home with a plan for treatment and follow-up. Comprehensive geriatric assessment has been shown to improve health outcomes for older people, including reduced mortality or deterioration, improved cognition, improved quality of life, reduced length of inpatient stay, reduced readmission rates, reduced rates of long-term care use and reduced costs.
- Detrimental effects of hospital admission for frail elderly patients include the high risk of adverse events eg, falls, the mentally unsettling experience of a strange environment, decreased confidence and independence, and increased reliance on other people during (often lengthy) admission, which can result in discharge to long-term residential care, rather than back to their own homes.



Dr Daniel Lasserson, senior clinical researcher, and Maggie Webb, unit manager, in the EMU.

How it works:

Patients living within the Abingdon EMU's catchment area (population of 140,000, 11 registered general practices in South Oxfordshire) are referred to the unit by GPs, community nurses or ambulance paramedics, as an alternative to the general hospital A&E. Patients cannot simply 'walk-in' / self-present.

The EMU has a 12 bed assessment ward, two in-patient wards providing 5 hospital beds for admissions of up to 72 hours maximum, a treatment room, a physiotherapy room, an isolation room, a kitchen for patients to test their at-home mobility/daily living skills, and point-of-care diagnostics (blood tests and radiology) providing rapid test results.



Most acute medical conditions can be treated, except for heart attack and stroke (these patients are still sent straight to the acute hospital A&E). The majority of patients presenting to Abingdon EMU have chest infections, urinary tract infections, or heart failure. Although the unit does not turn any patient away, its main focus is on treating elderly, vulnerable patients closer to their own homes. The average patient age is 89 years.

Patients receive an immediate comprehensive multidisciplinary assessment by EMU staff, which includes geriatricians, GPs, nurses, healthcare assistants, physiotherapists, occupational therapists and social workers, with the aim of giving patients a clear and coordinated management plan within four hours. The EMU goal is to diagnose and treat patients and get them home, with necessary supports, as rapidly as possible, avoiding acute hospital admission and its detrimental effects on functional independence. Multidisciplinary treatments can be started quickly, allowing patients to go home the same day and have repeated visits over a number of days without having to stay overnight in hospital. A "hospital at home" nursing team provides support to patients who are sent home to recover, and other home help such as meals on wheels is organized prior to discharge, as required.

The EMU is open 8am – 8pm weekdays, and 10am-4pm weekends, presenting a credible alternative to acute hospital admission.

“It is essentially a one-stop shop assessment centre for older people ... patients are given a full assessment by doctors and therapists with the support of the social worker.” – Maggie Webb, EMU manager.

How effective is it?

According to media reports, 65% of patients assessed at the EMU are able to stay in their own home. Only 17% require acute hospital admission for care. Lengths of acute inpatient stay have been reduced by more than 40% and the number of admissions from the Abingdon area to the general hospital (John Radcliffe Hospital) has reduced by 12%.

It is too early to draw conclusions about financial viability, or impact on residential care admissions.

In October 2013, the EMU was named as the best Service Delivery Innovation at the Guardian Healthcare Innovation Awards in London.

Evidence base: suggestive - the EMU has only been fully up and running for 1 year, no published data analysis on quality outcomes, longterm impact on other services, or financial viability available yet. However, informal reports from

service management, staff and patients are positive. The evidence base for comprehensive geriatric assessment producing benefit to health outcomes in elderly patients admitted to hospital is strong in the international literature.

“The model has been so successful in giving elderly patients the care they need closer to home that it makes sense for other larger towns to have them too” – Maggie Webb

Scale of implementation: The Abingdon unit is the first EMU in the UK. Since commencing in November 2010, it has had over 5500 patient visits.

Funding of £18m has recently been announced to enable the model to be extended throughout Oxfordshire, with EMUs to be set up in Witney Community Hospital, Horton Hospital, Banbury, and in the John Radcliffe Hospital, Oxford, by late 2014.

Developers of the model at the Department of Primary Care, University of Oxford, call this new way of working “interface medicine”, which they identify as challenging traditional medical training and care. An Interfaces Medicines Fellowship is being created at Oxford, and talks are in progress to develop this nationally with Health Education England.

BENEFITS OF THE EMU MODEL

- Decentralisation of acute medical care – taking pressure off general hospital services, reducing attendances at A&E and reducing acute admissions to medical wards.
- Patient-centred care: a less threatening, calmer environment for patients and their families compared to the hospital A&E; the EMU offers faster, more convenient access to acute care, with the emphasis on keeping people at home where they are comfortable and independent.
- Better quality emergency care - frail elderly patients with multiple health and social care needs are now provided with specialist, focused, acute care that caters to their individual needs.
- Potentially reduces pressure on residential care facilities by keeping elderly independent and in their homes for longer.

“the EMU is more than just a casualty for older frail patients – it’s more intensive because we aim to provide care for the episode at the time or for a number of days” – Dr Daniel Lasserson, GP.

IMPLEMENTATION TIPS

- The EMU design and implementation of the service is the product of the Department of Primary Care Health Sciences at Oxford University, the Oxford Health NHS Foundation Trust, the Oxford University Hospitals NHS Trust and the Oxfordshire County Council.
- Start small - the pilot EMU started in November 2010, by working with 5 local GPs who referred patients to it, and was initially open weekdays only 8am-8pm. In the 2012-2013 year it extended to weekend hours, and now works with 15 GPs from all across South Oxfordshire.
- Successful implementation of the Abingdon EMU was achieved through collaboration and integration between academic and clinical providers, across health and social care disciplines, in the hospital and community (a service line approach). Early engagement of clinical providers was key – with GPs in South Oxfordshire being involved in the development of the service from the beginning.

- Cost savings were achieved by accommodating the EMU in the existing community hospital facility, rather than constructing a new building or extension.
- Research where to locate an EMU according to greatest likelihood of impact on hospital services. Abingdon was chosen for the first EMU based on analysis of GP referrals to Oxford's John Radcliffe hospital, which showed that most referrals of elderly patients came from the Abingdon area.

OTHER SIMILAR EXAMPLES

Leicester, UK: In early 2011, a 12 bed “Emergency Frailty Unit” (EFU) was established within the ED of the Leicester Royal Infirmary, focusing on older patients who were likely to be discharged home within 24hrs, by embedding a comprehensive geriatric assessment pathway within the ED [4]. The business case for the EFU was predicated on reducing the proportion of elderly patients presenting to ED who go on to be admitted for on-going hospital care (the ED ‘conversion rate’). Geriatricians provided complete medical cover for the service from 8am-6pm, 7 days a week. Secondary/primary/community care pathways were developed and strengthened; for example, the EFU assessment was able to be used as the admission assessment and management plan in community rehabilitation facilities.

A historical cohort evaluation of the impact of the EFU over its first 2 years, showed a significant reduction in the number of older people aged >85yrs requiring hospital admission (ED conversion rate falling from 69.6% to 61.2%). This was despite an 18% increase in the number of >85 yr old patients attending the ED during the intervention period (rising from 638 per month in 2010 to 753 per month in 2012). The 90 day readmission rate following discharge from the ED also fell from 26.0% to 19.9%. However, the mean length of inpatient stay was increased (from 8.9days to 11.1 days); possibly explained by only the sickest of elderly patients being admitted to hospital. ED conversion rates fell across all age groups and are thought to be related to the time freed up for emergency physicians to care more comprehensively for younger patients.

Sheffield Teaching Hospitals NHS Trust, UK: In May 2012, a “Frailty Unit” was established in place of one of the three Medical Assessment Units at the Northern General Hospital, Sheffield (patients from ED may stay on the MAU up to 72 hours before either being discharged or transferred to a specialty ward). The focus of the Frailty Unit is on reducing unnecessary overnight stays for frail older people who are able to return home with support. All the necessary specialist medical, nursing and therapist staff are co-located within the unit, enabling improved care planning and coordination. Families of patients report that the Frailty Unit is calmer and more patient-focused than a normal MAU. The development of the Frailty Unit is one of several changes made by the Sheffield geriatric medicine service since March 2012, to improve the flow of older people through the acute care pathway. It is therefore difficult to assess the impact of the Frailty Unit in isolation. However, overall these changes have produced positive results - with a 37% decrease in patients discharged on the same day or day after admission, no increase in re-admission rate, reduced bed occupancy allowing two hospital wards to be closed (68 beds), and a fall in mortality, suggesting a relationship between improving patient flow and improving patient safety [5].

RELEVANCE FOR WAITEMATA DHB

Although specialized emergency units for the elderly population are a relatively new development, with little data on longterm clinical and cost outcomes, the model warrants consideration as part of wider re-examination by the DHB into how it can best deliver services to an aging Waitemata population, where the frail elderly with multiple problems account for the longest hospital stays, highest readmission rates and highest rates of in-patient complications.

The Oxfordshire EMUs have been strategically located within existing NHS facilities to serve patient convenience and geographic need. Similarly, EMU(s) at Waitemata could be located based on analysis of hospital admission data, and

established alongside/nearby the NSH/Waitakere EDs or rehab wards, or in other localities eg, the Hibiscus Coast, should particular ‘pockets’ of frail elderly be identified in suburbs not easily accessible to those hospitals.

Goal alignment: Improving primary-secondary care service integration, supporting older people to live independently at home during an episode of acute illness; patient-centred care – delivering better, sooner, more convenient care to the growing frail elderly Waitemata population; follow on effect of shorter stays in ED and reduced pressure on acute inpatient medical beds (across all age groups).

Department suitability: Geriatrics, general practice, emergency medicine

Implementation costs: To establish a facility (locate in existing WDHB premises if possible); staff cost of a dedicated EMU team with on-site diagnostic technology.

Data measures: assess effect on ED presentations and acute medical admissions, length of stay, re-admission rates, rate of discharge to residential care for patients previously living at home, patient and provider satisfaction, cost measures

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