

## Crisis response falls team: reducing admissions and repeat falls

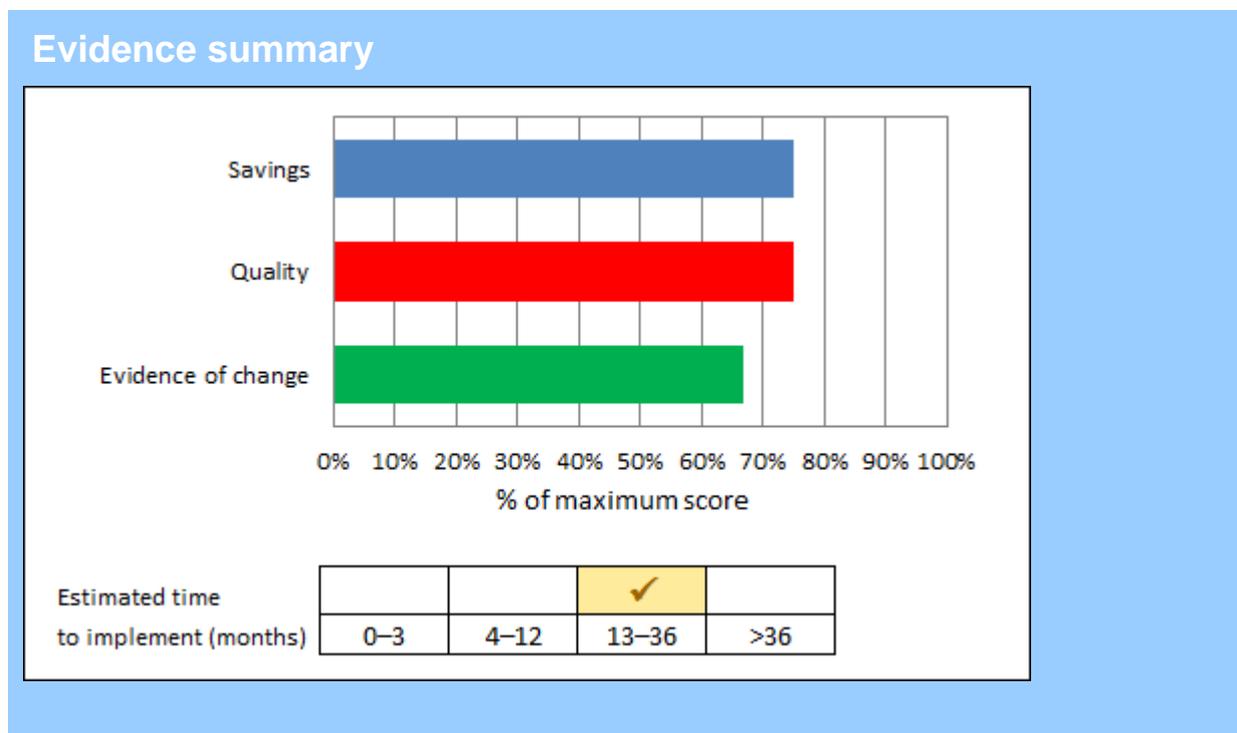
Provided by: East Midlands Ambulance Service NHS Trust

Publication type: Quality and productivity example

### Sharing good practice: What are 'Proven Quality and Productivity' case studies?

The NICE Quality and Productivity collection provides users with practical case studies that address the quality and productivity challenge in health and social care. All examples submitted are evaluated by NICE. This evaluation is based on the degree to which the initiative meets the NICE Quality and Productivity criteria: savings, quality, evidence and implementability. The assessment of the degree to which this particular case study meets the criteria is represented in the summary graphic below.

Proven Quality and Productivity examples are case studies that show evidence of implementation and can demonstrate efficiency savings and improvements in quality.



Date published: August 2014  
Last reviewed: September 2016  
Last updated: September 2016

## Changes since the previous version

Published Quality and Productivity case studies are reviewed annually. One year after the case study has been published in the Local Practice Collection, the submitter of the case study is contacted to ask if there is further information relevant to the case study, and the case study updated as required. The case study has been amended to meet NICE style and any additional changes to this case study are outlined in the table below.

Case study section	Update
Introduction	No change
Savings	No change
Quality	No change
Evidence	No change
Implementation	No change

## Details of initiative

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**Purpose**

To reduce unnecessary admissions and repeat falls.

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**Description  
(including scope)**

Falls-related calls make up about 20% of all calls received by the East Midlands Ambulance Service (EMAS); approximately 90,000 calls per year. Reducing demand on hospitals and the potential negative outcomes associated with hospital admission for patients and psychological impacts are important priorities.

EMAS covers several counties with a combined population of 4.8 million. The solution developed in the Northamptonshire area (population 700,000) is the Crisis Response Falls Team (CRFT). The CRFT comprises specialist ambulance crews and a social care support team.

The ambulance crews include 7 staff made up of paramedics and emergency care assistants who are trained in enhanced diagnosis and lifting techniques related to falls. The ambulance control's computer system uses an algorithm to dispatch a CRFT ambulance to people who have fallen. The crews use 2 bariatric ambulances and specialist lifting equipment to ensure people of

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# Quality and Productivity

any size who fall can be helped.

Enhanced diagnosis and faster access to lifting equipment helps to reduce conveyance to hospital and subsequent admissions. The service prior to the inception of the CRFT was a standard ambulance response, often requiring either a manual lift of a person who has fallen, or a further response with appropriate equipment. In both cases, a person who had fallen may have been left in situ for a significant period of time, causing secondary injuries, exacerbating primary injuries and potentially reducing quality of life or life expectancy.

The CRFT social care support team is provided by Northamptonshire County Council, under a contract with a social care provider. The social care team works with people who have fallen, who are referred by the CRFT ambulance crews, other clinicians or the local authority. The social care team is able to assess people in their own home and identify risk factors for repeat falls, remove trip hazards and install aids to help reduce the risk of repeat falls. They also attend A&E to assess patients and facilitate discharge, undertaking a home visit and supporting patients afterwards, thereby avoiding unnecessary admissions. Patients may be referred to consultant geriatricians for further assessment and support if required.

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## Topic

Right care, emergency care

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## Other information

Falls are the leading cause of mortality resulting from injury in people aged over 75 in the UK (NHS Confederation 2012). Delayed responses can exacerbate these injuries and present secondary negative impacts for a patient. Even those that do not suffer an injury from the initial fall can still die if they are not able to call for help.

The number of people aged 60 or over in the UK is expected to reach 20 million by 2031 (NHS Confederation 2012), and the proportion of people living past 85 is also likely to increase significantly. This means falls will make up an even greater proportion of calls made to the ambulance service, placing a greater strain on frontline resources and staff. In addition to this, obesity levels in the UK are increasing. Obese or bariatric patients may require mechanical lifting equipment to help them when they fall as manual handling techniques place staff at risk of injury. This can result in treatment delays and adds further pressure to the ambulance service. Bariatric ambulances are used as they can accommodate any size of patient, in contrast to normal ambulances.

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## Savings delivered

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### Amount of savings

This initiative saves money by reducing the proportion of falls

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# Quality and Productivity

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## delivered

related calls that result in hospital admission. From over 1300 referrals accepted by the CRFT in Northamptonshire in 2012, just over 1000 admissions were avoided. These were as a result of faster access to specialist lifting equipment, enhanced diagnosis to avoid conveyance to A&E and the support offered by the CRFT to facilitate discharge from A&E.

Based on the 2012 cost data, each referral accepted by the CRFT cost £778 and each admission avoided saved £1556. The net saving from 1,050 admissions avoided from 1,311 referrals was therefore approximately £640,000; equivalent to £91,000 per 100,000 population.

The cost of the CRFT response takes into account the additional staff required, training and the cost of the contract with the social care provider to provide support to those who fall. The additional equipment is a non-recurrent capital cost, accounted for under 'Any costs required to achieve the savings' below.

Avoiding unnecessary conveyance to hospital helps to avoid unnecessary admissions. The conveyance rate for people who fall attended by the CRFT is around 40% compared to 65% for those attended by a normal ambulance. This is due to the improved diagnosis and management of falls-related injuries provided by the specialist service.

This initiative is also likely to reduce the number of repeat falls due to improved assessment and management of risk factors, although it is not possible to confirm this with the available data. Whilst this saving cannot be accurately quantified and has not been included, the number of falls-related calls in Northamptonshire has stabilised at around 10,500 per year in contrast to previous annual rises, which were believed to be due to demographic changes.

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## Type of saving

Cash and productivity savings from fewer hospital admissions and A&E attendances.

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## Any costs required to achieve the savings

Change requires non-recurrent costs equivalent to less than 6 months' savings. These costs include training CRFT ambulance crews in enhanced diagnosis and treatment of people who fall and the procurement of 2 bariatric-capable ambulances, plus lifting equipment.

EMAS in Northamptonshire was able to procure 2 ambulances second-hand for approximately £7000 each, with additional equipment costs of around £2000 per vehicle. This is a significant saving over the purchase of brand new vehicles. If new vehicles were required the cost would still be less than 1 year's savings however. Running costs of the vehicles have been taken into account in the cost of the CRFT response and reflected in the net savings.

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Employing a dedicated falls team was considered more economical than providing specialist falls training and equipment to all ambulance crews in Northamptonshire.

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**Programme budget** Trauma and injuries, social care needs

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**Supporting evidence** In Northamptonshire, CRFT intervention either avoided a hospital admission directly by avoiding conveyance to A&E, or facilitated a discharge directly from A&E (therefore avoiding a hospital admission) in 1,206 cases. After further assessment, 156 of these patients were subsequently admitted to hospital, giving an estimated 1,050 avoided admissions.

The cost of falls to the NHS is estimated at £2 billion per year in bed days, with hip fractures alone adding a further £2.3 billion per year (NHS Confederation 2012).

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## Quality outcomes delivered

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**Impact on quality of care or population health**

There is a significant improvement in care quality as assessing, lifting and treating people who have fallen can be achieved faster and safer due to the improved training and equipment of the specialist CRFT ambulance crews. All patients who fall will benefit from the greater knowledge and capabilities of the CRFT compared to a standard ambulance response, but particularly those who would otherwise have to wait for a bariatric vehicle.

Care quality is also improved as risk factors for repeat falls are identified and managed appropriately by the CRFT after the first fall. This includes managing physical risks such as trip hazards, installing aids, or referral to a consultant geriatrician for management of conditions that may exacerbate the risks or consequences of falls. The CRFT social care team supports approximately 1,000 people per year in Northamptonshire.

The social care support team is also able to assist the discharge of patients from A&E and avoid hospitalisation as they can quickly attend to assess patients in A&E and undertake a home visit. These patients are therefore at a lower risk of healthcare acquired infection and other hazards resulting from hospitalisation.

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**Impact on patients, people who use services and/or population safety**

The CRFT is able to safely lift and move patients who have fallen, who might otherwise be left in place until more specialised equipment is available. This helps to reduce exacerbation of primary injuries and prevent secondary injuries and distress resulting from being immobile on the floor. Patients who can be treated at the scene or in the community with the assistance of the social care team are at a lower risk of healthcare acquired infection.

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<b>Impact on patients, people who use services, carers, public and/or population experience</b>	<p>One significant impact of a fall is a fear of falling again. The identification of risk factors, advice and support given and the knowledge that specialist help is available, all help to reduce this fear and improve quality of life.</p> <p>An evaluation by the University of Northampton (Campbell 2013) found that patient feedback was positive. Key points given by patients included: building confidence, helping to maintain independent living and to stay at home, providing appropriate support and advice, and access to on-going care. The social support offered by the service was seen as a particular benefit to patients.</p>
<b>Supporting evidence</b>	Campbell et al 2013 and call-out data gathered by EMAS.

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## Evidence of effectiveness

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<b>Evidence base for case study</b>	<p>This initiative is based on local experience or opinion, although some research suggests that conveyance rates to hospital for falls can be significantly reduced through improved assessment tools (Halter et al 2005).</p> <p>Demographic changes such as the aging population and higher rates of obesity are likely to increase the number and severity of falls related injuries.</p>
<b>Evidence of deliverables from implementation</b>	<p>The initiative commenced in November 2011 in Northamptonshire and an independent evaluation (Campbell 2013) assessed its performance for 12 months.</p> <p>During this time CRFT intervention reduced hospital admissions either by avoiding conveyance to A&amp;E or by facilitating discharge directly from A&amp;E, in 1,206 cases. 156 of these patients were later admitted to hospital, giving an estimated 1,050 avoided admissions in the county (Campbell et al 2013).</p> <p>During the evaluation period the social care team received a total of 1,546 referrals. 85% of these referrals were accepted by the service. Over 40% of social care referrals originated from the CRFT falls ambulances. Almost 50% of these were made for the purpose of avoiding hospital admissions and 43% sought to aid discharge from A&amp;E departments.</p> <p>Prior to implementation a steady rise in falls-related calls was observed, which was believed to be due to demographic changes such as the aging population. A year after implementation the number of falls-related calls has stabilised at around 10,500 per year in Northamptonshire. It is not possible to prove a causal link using the data available, but the initiative is believed to have contributed to this stabilisation by reducing the risk of repeat falls among those referred to the CRFT.</p>

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<b>Where implemented</b>	EMAS NHS Trust, Northamptonshire area.
<b>Degree to which the actual benefits matched assumptions</b>	The initiative has met expectations.
<b>If initiative has been replicated how frequently/widely has it been replicated</b>	<p>This initiative has seen replication in the East Midlands region in Nottinghamshire and in the Erewash Clinical Commissioning Group of Derbyshire. The Nottinghamshire and Derbyshire models are slightly different to that of the Northamptonshire model as the social care and ambulance staff attend in the same vehicle, but the vehicle is not able to transport patients to hospital.</p> <p>Another similar scheme has commenced in Hardwick, Derbyshire where an occupational therapist is working with an EMAS clinician.</p>
<b>Supporting evidence</b>	Campbell et al 2013.

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## Details of implementation

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<b>Implementation details</b>	<p>The CRFT was created to meet a demand for better falls services and to integrate with support services provided by Northamptonshire County Council private providers.</p> <p>Discussions over the make-up of the CRFT were initiated between several stakeholder organisations in order to ensure a multidisciplinary team that spanned health and social care. Participants included EMAS, Northamptonshire County Council, Northamptonshire Healthcare Foundation NHS Trust, Olympus Healthcare and Shaw Healthcare, reflecting the mix of organisations involved in health and social care delivery in the area.</p> <p>It was decided that there would be an EMAS lead provision of 2 second-hand bariatric-capable vehicles, in order to support a greater range of people than normal ambulances can. Each vehicle is crewed by a qualified paramedic and an emergency care assistant, and carries a range of lifting equipment.</p> <p>Teams were trained through the University of Northampton in enhanced patient diagnosis. This education involved paramedics and social care staff training together, providing each sector with a unique insight into each-others' roles. The main aims of the education were to improve quality of care and the patient experience, and to reduce unnecessary conveyance to hospital.</p> <p>The creation of the ambulance teams was relatively straightforward. The nature of the deployment by the ambulance service and the systems that are used means that falls are easily</p>
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# Quality and Productivity

identifiable and the deployment of the specialist team is equally easy to manage.

To support the CRFT ambulance crews, it was agreed that Olympus Health Services would provide a social care team to assess and support people who have fallen. The team receives referrals from ambulance crews and either visits the person in their home or follows the ambulance team to hospital, depending on whether the person has been conveyed to hospital.

The social care team assesses people who have fallen and provides advice and support to avoid admission or facilitate discharge where possible. The team has involvement for up to 72 hours post-referral, during which they visit people in their homes to assess risk factors, remove trip hazards and install aids to help prevent repeat falls. Further support is added through access to consultant geriatricians and intermediate care community nursing staff as appropriate. To date the social care team has supported over 1,000 people in Northamptonshire.

The CRFT went live in November 2011 and had an immediate impact, improving the quality of care for people who fall and helping to avoid admissions and repeat falls.

Due to its success the initiative is planned to be expanded both in terms of availability and scope.

<b>Time taken to implement</b>	The initiative can be implemented in between 1 and 3 years, including all planning, procurement, recruitment and training.
<b>Ease of implementation</b>	This initiative involves multiple organisations working across the health and social care boundary. The work between ambulance workers and social care has been a significant achievement. The general feeling prior to implementation was that health care and care teams can find it hard to work together, however the experience here has been very positive.
<b>Level of support and commitment</b>	<p>Wider organisational support for the initiative has been easy to achieve. The evidence supporting the efforts is strong and has been universally accepted by stakeholders.</p> <p>The working relationship between EMAS and the local authority has exceeded expectations. The drive for this team from Northamptonshire County Council and the support from EMAS meant that common goals and benefits were identified, for the public and for both organisations. This was the real key to driving the success.</p>
<b>Barriers to implementation</b>	The working relationship between health and social care is a potential barrier, but the recognition of common benefits can drive a successful partnership.
<b>Risks</b>	The operational risks to patients and staff of providing a modified

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health and social care service can be managed by proper training. In this case, training in enhanced patient diagnosis was important as the initiative involves changes to whether a person is taken to hospital.

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**Supporting evidence** Campbell et al 2013

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## Further evidence

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**Dependencies** This initiative depends on a good working relationship between all stakeholders, with a willingness to reassign resources as needed.

In terms of equipment the initiative requires bariatric capable ambulances.

A social care team provider must be willing to participate in the scheme.

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## Contacts and resources

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**Contacts and resources** If you require any further information please email: [qualityandproductivity@nice.org.uk](mailto:qualityandproductivity@nice.org.uk) and we will forward your enquiry and contact details to the provider of this case study. Please quote reference 13/0010r in your email.

Campbell J, Pyer M, Ward A, Jones J (2013) Crisis Response: Evaluation Report; Centre for Health and Wellbeing Research, University of Northampton: Northampton

[NHS Confederation \(2013\) Briefing: Falls prevention; new approaches to integrated falls prevention services](#)

[Halter M, Close J, Snooks H, Porsz S, Cheung W \(2005\) Fit to be left: can ambulance staff use an assessment tool to decide if an older person who has fallen can be safely left at home?](#)

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