

Quality and Productivity: Proven Case Study

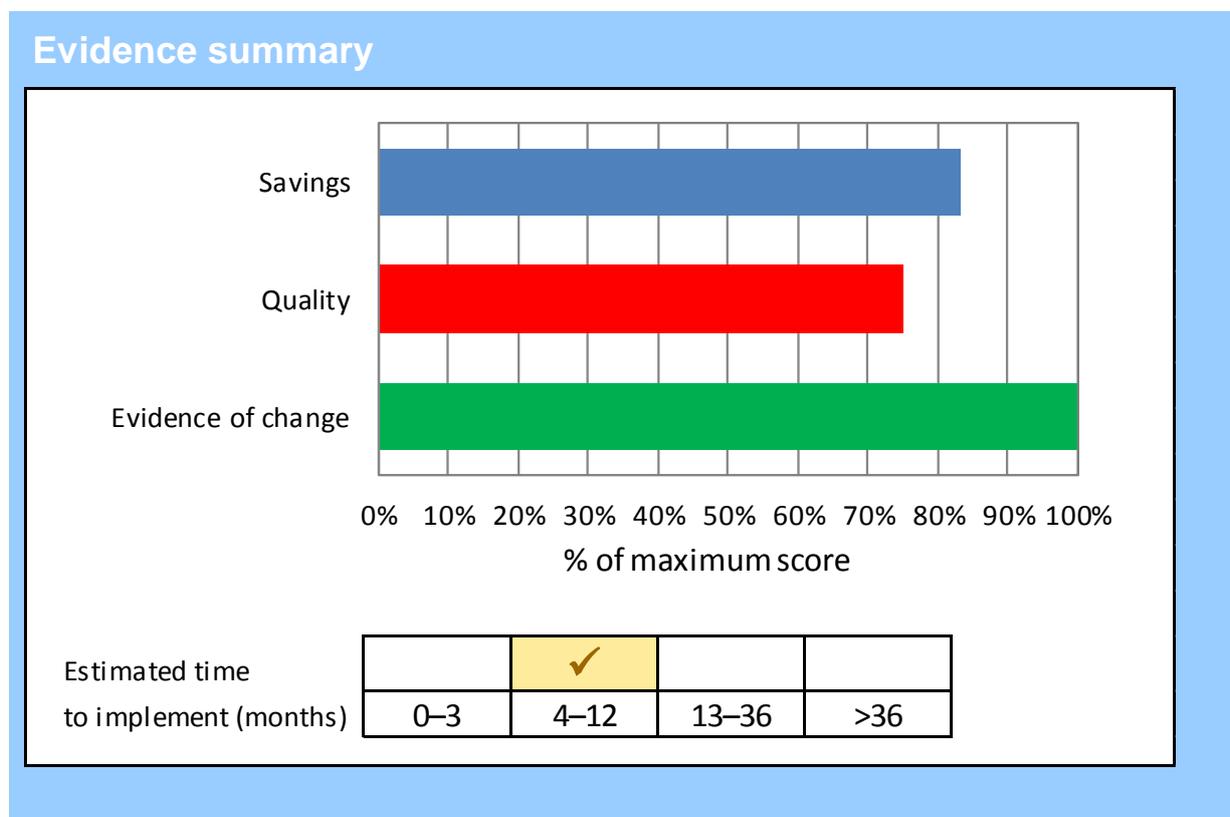
Giving intravenous iron in patients' homes and community hospitals

Provided by: Royal Cornwall Hospitals Trust

Publication type: Quality and productivity example

QIPP Evidence 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 QIPP criteria of savings, quality, evidence and implementability; each criterion is given a score which are then combined to give an overall score. The overall score is used to identify the best examples, which are then shown on NHS Evidence as 'recommended'. This case study is an update to a previously published QIPP.

Our assessment of the degree to which this particular case study meets the criteria is represented in the evidence summary graphic below.



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Updates

Published QIPP case studies are reviewed annually. One year after the case study has been published on the NICE Evidence website, the submitter of the case study is contacted to ask if there is further information pertinent to the case study, and the case study updated as required. Any changes to this case study are outlined in the table below.

Case study section	Update
Introduction	The update confirms the original report that the Royal Cornwall Hospital Trust (RCHT) has used iron sucrose to treat anaemia caused by iron deficiency. This service is now being commissioned to ensure continued financial viability. The RCHT has traditionally met the drug costs itself but no revenue is generated to offset this cost. The aim is to generate income and arrange for costs to be met by the community providers.
Savings	Thirty three percent of patients need either hospital transport or have to recoup costs. This can be perceived as an average of £130,000 annual saving. Patients prefer one visit to be given IV iron rather than multiple visits to complete a course of treatment. Because these products are more expensive a robust commissioning service is needed to support their use.
Quality	No significant changes. The long term aim is to reduce the amount of injections given by moving to a total dose iron product rather than a shorter acting agent.
Evidence	Since the original publication there has been an expansion within pharmaceuticals and total dose IV irons products are now more varied and widely available.
Implementation	A change to the existing policy has been made to allow the first dose of iron sucrose to be given in the community.

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Details of initiative

Purpose	<p>To move the administration of intravenous iron closer to the patient's home (using community hospitals) or, where applicable, into the home environment.</p> <p>Moving care closer to the patient's home would reduce patient journey times and transport costs. Patient comfort and satisfaction would also be increased. More efficient use of specialist nurse time would be gained.</p> <p>Enabling treatment closer to home through use of community services may also promote greater independence from secondary/tertiary care services.</p>
Description (including scope)	<p>The rural geography of Cornwall means that many patients needed to travel for up to 1 hour to receive a dose of intravenous iron. This journey time increased during the summer because of the extra traffic caused by seasonal visitors.</p> <p>Hospital-provided transport, if required, was an additional cost. Therefore an alternative to secondary-care iron administration was explored.</p> <p>The scope of the initiative was to move intravenous iron administration into community hospitals because these were nearer to the patient's home or, where applicable, intravenous iron could be given in the patient's home.</p> <p>Please note that the savings experienced in this case study may vary depending on the geography and amount of transport used by a hospital.</p> <p>Historically RCHT has used iron sucrose to treat anaemia caused by iron deficiency. Since the introduction of the community iron service the cost of the drug has been covered by the Royal Cornwall Hospital Trust (RCHT) at a cost of over £11,000 per year. The RCHT is not generating revenue to offset this cost. To ensure financial viability of this service a commissioning process has been set-up with the aim of generating income and costs being met by the community providers.</p>
Topic	Planned care, long-term conditions and primary care.
Other information	<p>With the introduction of NICE guidance on anaemia management in chronic kidney disease in 2006 recommended target ferritin level was introduced for renal patients. Use of intravenous iron is supported by NICE in the updated guideline (Anaemia management in people with chronic kidney disease). NICE clinical guideline 114 [2011]).</p>

Savings delivered

Amount of savings delivered/anticipated

In 2009, there were 163 patients receiving iron in community hospitals and 17 receiving iron in their own homes in Cornwall. On average, each patient has six injections per course of iron and one course per year. This equates to a total of 1080 $([163 + 17] \times 6)$ saved or reduced hospital visits. As an estimate, 33% of patients will either need hospital transport or be able to recoup costs.

Cost saving: 2009

Cost of hospital visits 1080 at £113 = £122,040.

Average cost of transport is £10 per journey $1080 \times 33\% = 360$ at £20 [two journeys per visit] = £7200, total estimated savings = £128,520.

The population served is approximately 450,000; therefore savings for an average PCT (population 350,000) would be £100,520 per year.

The cost calculation assumes a reduction in the cost of hospital appointments to the PCT, but does not appear to include any increase in costs at the community hospitals. The costs are absorbed into the daily costs of the community hospitals. The cost of consumables and healthcare professional time is met by the PCT. On this assumption the scheme generates savings of £29,000 per 100,000 population.

Cost saving: 2010

In 2010 the number of patients treated with intravenous iron in the community had increased to 217 and the number of patients treated in their own home to 34. Using these numbers, this equates to a total of 1302 saved hospital visits.

Cost of hospital visits 1302 at £113 = £147,126.

Average cost of transport is £10 per journey $1302 \times 33\% = 430$ at £20 [two journeys per visit] = £8600, total estimated savings = £155,726.

The current tariff in secondary care in Cornwall for each patient seen for intravenous iron is £113. It is the secondary care provider that funds the drug costs for community-given iron. A tariff review is currently underway (started December 2011) with a likely outcome that the tariff will increase. This will support the funding of the drug in the community. It was not possible to identify any increase in costs at the community hospitals.

Cost saving: 2013

On average, each patient has six injections of iron sucrose per course of iron with an average of one course per year. This equates to saved hospital visits for the drug to be given. An

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	<p>estimate of 33% of patients will either need hospital transport or have to recoup costs. This can be perceived as an average of £130,000 annual saving. However RCHT meets the cost of the drug given in the community (over £11,000 per year) but does not generate any income from the doses given. To ensure financial viability of this service a commissioning process has been implemented.</p>
Type of saving	The saving would be a combination of cash releasing and increased productivity, but cash is reabsorbed.
Any costs required to achieve the savings	There are no costs of change anticipated.
Programme budget	Other.
Details supporting Gate 1	Cornwall has a large number of community hospitals easily accessible to patients. In other areas it is envisaged that more patients would have treatment at home. Any savings gained may depend on geographical location.

Quality outcomes delivered

Impact on clinical quality	Not anticipated to have any impact on the quality of care delivered to patients. The patients receive the same treatment but in a more favourable setting.
Impact on patient safety	Patient safety is improved. Patients treated at home are at less risk of hospital-acquired infections and travel-related injuries.
Impact on patient and carer experience	<p>Significant improvements are realised in patient and carer experience. For the patient, this includes a reduced journey time for treatments at community hospitals. In addition, all but one of the community hospitals provides free parking.</p> <p>It is anticipated that IV iron will still be given in the community once the service has been commissioned. The long term aim is to reduce the amount of injections given by moving to a total dose iron product rather than a shorter acting agent.</p>
Supporting evidence	<p>Community-given iron was first introduced in Cornwall in 2002. There are now eight community hospitals giving this drug. This service has also been introduced in a large general practice (GP) surgery in 2010. Data have been collated relating to this service from 2007 onwards.</p> <p>In 2007 a total of 135 patients were seen in community hospitals across Cornwall and 10 patients received intravenous iron in their home. These numbers have increased each year. By 2009, 163 patients had been referred to their community hospital and 17</p>

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patients were seen in their own home. The data at August 2010 show that 26 patients receive iron in their own home.

There have been no adverse events reported from community iron infusion since the service started.

Evidence of effectiveness

Evidence base for initiative

The main evidence base used was 'A guide to the administration of intravenous iron for people with anaemia of chronic kidney disease (CKD) in a non acute hospital setting' (see contacts and resources section). Also NICE guidance on anaemia management in chronic kidney disease in 2006 introduced a recommended target ferritin level for renal patients.

The Royal Cornwall Hospitals Trust continues to adhere to NICE guidance. When these guidelines were updated in 2011 the target ferritin level did not change.

Since the last update of the QIPP in April 2012 there has been an expansion within pharmaceuticals and total dose IV iron products which are now more widely available. RCHT realises that patients would prefer one visit to be administered IV iron rather than attend for multiple visits to complete a course of treatment. Because these products are more expensive a robust commissioning service is being implemented to support their use.

Evidence of deliverable from implementation

Other areas that already have an active community iron service include Kent, Merseyside and Nottingham.

Where implemented

NHS England, Royal Cornwall Hospitals Trust.

Degree to which the actual benefits matched assumptions

Same as expected. An improved service was expected if the initiative was followed and this is verified in practice.

If initiative has been replicated how frequently/widely has it been replicated

National guidelines supported by the CKD Forum for the implementation of intravenous iron into a non-acute hospital setting were published in 2009. These guidelines include a framework to enable other healthcare providers to implement this service within their own area.

Supporting evidence

['A guide to the administration of intravenous iron for people with](#)

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for Gate 3

[anaemia of chronic kidney disease \(CKD\) in a non acute hospital setting](#).

[Anaemia management in people with chronic kidney disease](#).

Details of implementation

Implementation details

1. Community (PCT) hospitals were contacted by the anaemia nurse specialist and communications began in relation to these hospitals administering intravenous iron.
2. Staff training and education were either provided by the anaemia nurse specialist in the centre at the community hospital sites or staff attended the renal iron clinic in secondary care for training.
3. Community hospitals independently set up activity codes so that income generated goes direct to the site administering the drug.
4. A pathway was devised so that community staff knew:
 - (a) who would provide the drug prescription
 - (b) how to order the drug supply
 - (c) who the point of contact was
 - (d) the process to follow once the course of treatment was completed.

Please note that any savings gained may depend on geographical location.

A change to the existing policy has been made since the April 2012 update to this QIPP to allow the first dose of iron sucrose to be given to patients in the community rather than visit RCHT. A new policy has been introduced for total dose iron to also be given in the community. Instead patients will attend their community site from the onset of IV iron treatment.

Time taken to implement

Implementation can be achieved in the medium term: 4 months to 1 year. One member of staff from each area was trained and this person cascaded the training to other colleagues. The timescale for staff training was 4–8 hours per person. The benefits realised for patients were immediate.

Ease of implementation

Affects multiple organisations within the NHS, such as working across a health economy. Affects community hospitals, PCT and in some cases a GP surgery in addition

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	to staff visiting patients at home.
Level of support and commitment	Likely to achieve good buy-in from key influencers. Once staff are trained to do this and the infrastructure is put in place, this would gain the agreement of all stakeholders.
Barriers to implementation	Financial barriers related to intravenous iron drug costs for the community environment. This was overcome by the drug being ordered on a named patient basis so that the drug cost is invoiced to the renal budget. This also provides an audit trail.
Risks	The risk for community-given intravenous iron is that the patient could have an adverse reaction to the drug. This risk was managed by educating staff so that they would know the actions to take if this situation occurred. When intravenous iron is given in the patient's home, the attending staff carry an anaphylaxis kit.
Supporting evidence for Gate 4	In 2010 intravenous iron therapy was introduced into a GP surgery. The patient requiring iron did not have CKD but needed treatment for an underlying gynaecological condition. The surgery were aware of CKD patients being treated with iron, and a GP contacted the anaemia nurse specialist in secondary care and asked for support to introduce an intravenous iron service in the surgery. Training and education were provided as per the existing case study. There are no plans at present to expand the community intravenous iron service in more GP surgeries.

Further evidence

Dependencies	The main dependency identified is patient monitoring once the individual has been referred into the community. This has been overcome by stipulating the necessary blood samples needed on the patient prescription. The patient's blood results are reviewed by the anaemia nurse specialist. Community staff return the original/copy of the prescription to secondary care so that these treatments can be documented on the appropriate systems.
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Contacts and resources

Contacts and resources	<p>If you require any further information please email: contactus@evidence.nhs.uk and we will forward your enquiry and contact details to the provider of this case study. Please quote QIPP reference 10/0080 in your email.</p> <p>British Renal Society (date not provided) 'A guide to the administration of intravenous iron for people with anaemia of chronic kidney disease (CKD) in a non acute hospital setting'.</p>
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ANSA & CKD Forum.

National Institute of Health and Clinical Excellence (2011)
[Anaemia management in people with chronic kidney disease](#).
NICE clinical guideline 114. London: National Institute of Health
and Clinical Excellence.

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