Evaluating the eRedBag

Evaluation guidance

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| February 2021 |

Contents

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[1. Introduction 1](#_Toc60773859)

[2. Theory of Change for the eRedBag 2](#_Toc60773860)

[3. Process evaluation of the eRedBag 8](#_Toc60773861)

[4. Impact evaluation 10](#_Toc60773862)

[5. Economic evaluation 14](#_Toc60773863)

# Introduction

* 1. This short guide is intended to help a CCG or other body evaluate their implementation of the eRedBag.
	2. The purpose of evaluation is to assess whether the eRedBag was implemented as planned, what effects it had, for whom and why. The evaluation should generate understanding of the impacts and cost-effectiveness of the eRedBag, and learning about what could be improved.
	3. This guide suggests how to undertake the three key elements of evaluation:
* Process evaluation: whether an intervention is being implemented as intended; whether the design is working; and what is working more or less well and why
* Impact evaluation: what results have occurred, the scale of those results and the extent to which they can be attributed to the intervention
* Economic/value for money evaluation: comparison of the costs and benefits of the intervention.
	1. The approach proposed in the guide is intended to be proportionate and meet the needs of local stakeholders.

# Theory of Change for the eRedBag

* 1. Many if not most evaluations make use of a ‘theory of change’. A theory of change is a description of how an intervention is intended to work from the problem being addressed, to the inputs and the activities, to the subsequent outputs, outcomes and impacts. The theory of change indicates how change is expected to occur and highlights any assumptions about how change is generated. It also usually identifies any relevant features of the context in which the intervention is operating.
	2. The theory of change ensures transparency about what *should* happen. An evaluation then tests what *has* happened and compares it against expectations. Any differences between what was expected to happen and what has happened are explored to understand whether something different is happening to generate change (or prevent it) or whether the context is having an unanticipated effect.
	3. An outline theory of change for the eRedBag is shown below. It should be updated to reflect particular local circumstances. In the process of updating, you may want to consider:
* The digital readiness of your care homes – this will significantly influence the amount of resource required as care homes that are largely paper-based will need more support to prepare for using the eRedBag than digitally mature care homes
* What data you already have access to regarding care home residents – this will affect what you will be able to measure and how you can evidence success. You may need to change or introduce new data collection processes
* The number of residents conveyed to hospital/attending ED/admitted to hospital (emergency) over a given period from the care homes you are working with and the wider care home population – which will give you a sense of the impact the eRedBag could make
* The amount of time care home and/or hospital staff typically spend making telephone calls and filling in forms in respect of a conveyance/attendance/admission – which will give you a sense of the efficiencies the eRedBag could generate.

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| Context and rationale |
| When frail, vulnerable care home residents attend ED or have an unplanned hospital admission, they may be: too ill to describe their condition; unable to share their story in a reliable way; unable to advocate for themselves due to communication and/or cognitive impairments. If hospital staff or ambulance staff lack knowledge about the patient, this may affect treatment and length of stay. When the resident returns to the care home, staff there may receive little or no communication about changes in management and medication required. Transfer of information via paper documents that accompany the care home resident to hospital is useful but there are risks: documents may go missing; hospital staff may miss paper documents; out of date documents may accidentally be used; hospital staff may be unable to read handwriting. A digital route for sharing information between care homes and hospitals, the eRedBag Pathway, was piloted by South West London CCG in 2019. The project showed that care homes could send documentation electronically to the local hospital to be uploaded to the Electronic Patient Record. A follow up project scaled up the eRedBag pathway to more care homes and new social care software providers. eRedBag information could now be uploaded onto the local shared care records for access by all acute trusts and general practices in SWL and other organisations providing direct care. A link via the National Record Locator also allows ambulance staff to access the information. Discharge summary documents could also be emailed directly to care homes via a shared mailbox.The NHS Long Term Plan contains a commitment to roll out the Enhanced Health in Care Homes Framework by 2024. One element of the EHCH Framework is secure sharing of information between care homes and NHS staff via access to NHSmail and other digital communication. |
| ObjectiveImprove experience and outcomes for care home residents when they require urgent or emergency care by facilitating digital sharing of key information via the eRedBag.  |

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| Inputs*Funding*: money provided to implement the eRedBag*Project management and support: a Programme and/or Project Manager and Project Support Officer* *Technical support and development: technical leadership from participating software provider(s) and technical support from hospital staff* *HSCN connection (secure network and connection to NHS Digital in care homes): payment to HSCN providers by software provider(s)**Clinical leadership: from the CCG, hospital trust, local ambulance service* *Care home engagement: from care home managers and staff**Information Governance advice: support from within the CCG/CSU**Communications support: from participating organisations**Service user support: to provide advice and feedback* | Activities*Implementation of the pathway* Implementation of HSCN connection (where required)Establishment of direct connection from care homes to local hospital(s)Set-up of NHSmail for patient discharge back to care homeConnection of eRedBag to National Record Locator Engagement with residents and family members/carers about how the eRedBag pathway works*Stakeholder engagement*Work by care software providers to meet technical standard re. connection to NHS systems Support to care homes to achieve Standards Met in the Data Security and Protection ToolkitEngagement with technical teams at hospitals and software providersActivities to engage with users to support introduction of eRedBag and gain feedback*Project management* Oversight of delivery, communications, engagement approach and strategy, business contingency and mitigation strategiesDevelopment of plans for monitoring, evaluation and benefits realisation. |

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| OutputseRedBag pathway implemented in target number of care homes NHSmail set up for target number of care homesTarget number of care software providers meet technical standard re. connection to NHS systems Target number of care homes achieve Standards Met in the Data Security and Protection ToolkitFeedback from users on eRedBag Monitoring, evaluation and benefits realisation plans. | Outcomes*For care homes and hospitals*More digitally mature care homes that offer improved care to residents (through better tracking of care and data-recording)Improved digital systems provide an opportunity for more effective infection controleRedBag in use by target number of care homes Time saved on filling in forms and making telephone calls for care home and hospital staff Improved communication across organisations resulting in reliable, up-to-date, consistent quality information about patients/residentsReduced risk of data breaches*For patients / care home residents*Fewer ambulance conveyances Fewer ED attendances Fewer hospital admissions (NELs)Reduced length of stay Reduced readmissions (NEL)More efficient assessments at ED attendances and on admissionReduced need to repeat unnecessary testsNeeds met in a timely wayReassurance for residents’ family/carers | Impacts*For the health and care system*Better sharing of information across the health and social care systemIncreased prevention of escalating health and social care needsImproved patient experience, quality of care and safeguarding (and experience of family/carers)More time available by hospital staff to spend on patients with greater need due to fewer ambulance conveyances, ED attendances, NEL admissions, readmissions and shorter LOS.Improved job satisfaction for care home and hospital staffTarget savings (and ROI) achieved |

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| Assumptions and drivers of change |
| *Strategy*Information failures cause poorer quality care, delay care and discharges, and an uncoordinated journey between health and social careThere are common technologies and processes that can be used across the health and social care sectorsCQC values effective monitoring of care home residents and effective communication e.g. sharing advanced care plans across services  | *Delivery*There is sufficient interest in and capacity to engage with the eRedBag from care home and hospital staff Residential and nursing home staff have sufficient digital skillsIt is possible to schedule enough time with care homes for DSPT supportBoth digitally mature and immature care homes are able to implement the eRedBag pathwayCare software providers are able to reach the correct IG level in a timely wayThere is continued support and involvement from stakeholders  | *Benefits*Use of the eRedBag results in higher quality care and patient experienceThe amount of funding is sufficient to make a difference to intended outcomes/impactsProgramme timescales are sufficient to realise outcomes and impactsWithout the eRedBag, care homes may not have achieved the benefits brought by the eRedBag at all or to the same scale or as quickly |

# Process evaluation of the eRedBag

* 1. Process evaluation focuses on learning from delivery of the intervention, particularly what worked well or less well, and why, plus what could be improved.
	2. There are three main activities that could provide information on delivery of the eRedBag: monitoring; qualitative reports; and interviews.

## Monitoring

* 1. Monitoring data should be collected to provide a basic understanding of whether the eRedBag has been implemented as planned. The data collected is also likely to inform assessment of whether the eRedBag has improved outcomes: this is covered in Section 4.
	2. Table 3‑1 indicates the type of information that would be helpful to collect. The metrics should correspond to the steps in the logic model. You should think about where you can obtain the information from, how often it will be available, and who will collect (and clean/organise) the data.

Table 3‑1: example of monitoring data to be collected for evaluation of eRedBag

| Metric | Source | Frequency of collection | Responsibility for collection |
| --- | --- | --- | --- |
| Funding to set up eRedBag |  |  |  |
| Ongoing costs of eRedBag |  |  |  |
| Care homes using the eRedBag as a % of care homes in area and % of care home beds in area |  |  |  |
| Date when each care homes goes live/starts using the eRedBag |  |  |  |
| Number of times eRedBag used when resident conveyed to hospital  |  |  |  |
| Number of times eRedBag used when resident attends ED |  |  |  |
| Number of times eRedBag used when resident admitted to hospital (non-elective)  |  |  |  |
| Length of stay for residents admitted with an eRedBag |  |  |  |

Source: SQW

### Qualitative reports and interviews

* 1. The monitoring data will not give you all the information you need to fully understand if the eRedBag has been implemented properly, if it is working, and what is working well/not so well. You will need some qualitative reporting from those involved in the delivery of the eRedBag to supplement the metrics.
	2. The qualitative information will need to come from those involved in implementing the eRedBag such as staff from care homes and staff within the relevant hospital. It may also include staff from a software provider, other staff within the CCG, and perhaps staff from the local authority.
	3. Below is a suggested set of questions that you could email to those involved in implementation. You could ask for a short reply to these questions on a monthly, bi-monthly or quarterly basis, depending on what seems appropriate to your local circumstances.

Table 3‑2: Evaluation questions for those helping to implement the eRedBag

|  | Question | Answer (please answer with reference to the last reporting period) |
| --- | --- | --- |
| 1 | Please describe your involvement with the eRedBag. |  |
| 2 | Please explain what has been delivered to date (to your knowledge).  |  |
| 3 | What challenges have been experienced and how have these been overcome? Consider availability of funds, skills, expertise, time, engagement/support, external factors etc. |  |
| 4 | Can you describe any factors that have supported/enabled implementation? |  |
| 5 | If the eRedBag is live, what effects is it having on care home residents, care home staff, hospital staff, and others? |  |
| 6 | What could be improved in terms of the eRedBag?  |  |
| 7 | Any learning not already covered above? |  |

Source: SQW

* 1. The questions could also be used in short interviews with relevant staff/stakeholders to explore the implementation process more deeply.

# Impact evaluation

* 1. Impact evaluation focuses squarely on the difference made by an intervention. It looks at the results achieved and, importantly, makes an assessment of how much of the results can be attributed to the intervention.
	2. There are three main types of impact evaluation: experimental, quasi-experimental and theory-based approaches.
	3. Experimental evaluations compare outcomes for two randomly selected groups, one of which is subject to the intervention and one of which is not. As the two groups are randomly selected, they are assumed to be the same except for the experience of the intervention. Thus any differences in outcomes are presumed to be due to the intervention. Quasi-experimental evaluations aim to mimic this approach but instead of random selection a comparison group is ‘found’ in datasets through statistical analysis.
	4. In practice, these approaches are unlikely to be applicable to a small-scale impact evaluation of the eRedBag. It is unlikely you be able to randomly select which care homes to roll out the eRedBag too and which to leave out for a certain period. Equally, it is unlikely you could randomly select two groups of care home residents, one for inclusion in the intervention and one for exclusion. It would also be extremely difficult to find a sufficiently similar comparator group of care homes for which you could access the necessary data to make a comparison.
	5. Theory-based impact evaluations draw conclusions about an intervention’s impact through rigorous testing of whether the causal chains thought to bring about change are supported by sufficiently strong evidence and whether alternative explanations can be ruled out. Theory-based evaluation is concerned with both the extent of the change and why change occurs; it tries to get inside the black-box of what happens between inputs and outcomes, and how that is affected by wider contexts.
	6. A theory-based impact evaluation is more appropriate when there is limited scope for developing a robust comparison group, which is very likely to be true in respect of the introduction of the eRedBag. Therefore, this guide recommends a theory-based impact evaluation.
	7. Theory-based evaluations are based on a well-defined Theory of Change, which includes theories about alternative explanations for the outcomes. Section 2 already presented the theory of change for the eRedBag.
	8. Once a theory is established, the theory is tested through multiple evidence sources. This section presents two main methods for collecting evidence to test against the theory of change for the introduction of the eRedBag in your area.

## Analysis of outcome data

* 1. Section 3 suggested a set of metrics that should be monitored for the process evaluation. Some of these data can also be used in the impact evaluation. Although it is probably not possible to do a full experimental/quasi-experimental evaluation, it is still helpful to compare outcomes data for care homes using the eRedBag against other groups, potentially including:
* The year(s) prior to implementation of the eRedBag for the same care homes
* Other care homes in the area not using the eRedBag.
	1. The reasons these are not ideal comparators are that a) key contextual features of the year of implementation might differ to previous years (for example, Covid-19 did not have an effect on hospitalisations until March 2020) and b) other care homes might have relevant differences with care homes adopting the eRedBag (for example more critically ill residents who are more likely to attend ED or have a non-elective hospital admission).
	2. Possible metrics to consider for comparison could be:
* Number of ambulance conveyances to hospital
* Number of ED attendances
* Number of non-elective admissions
* Length of stay for residents after a non-elective admission.
	1. These data should be compared for care homes since they went live with the eRedBag against a comparable period prior to going live or to the wider care home population.

## Resident, family and staff experience

* 1. The other key outcome metrics in the theory of change include improved experience for residents, their families/carers, and improved job satisfaction for staff. You may be collecting data on these metrics already but it is probable that standardised reporting will not show the impact of the eRedBag given that it is a relatively small intervention. This guide therefore provides some suggestions on how to collect these data.
	2. It can be challenging to collect these experience data because:
* Care home and hospital staff are typically very busy
* Residents may be unaware of the eRedBag intervention or have vulnerabilities that mean it is difficult for them to understand and/or respond to questions
* Their families may be unaware of the intervention or be difficult to access in person/over email or telephone.
	1. You are probably best-placed to know how to gather information from staff in your care homes/hospital, and from residents and families. However, in our experience, visiting a care home using the eRedBag at a time when residents may be having visitors (for example at a coffee morning), offers the opportunity to have conversations with residents, their families and the staff, that will yield rich, informative responses about the experience of the eRedBag. Below are some questions you may consider using.

Table 4‑1: Evaluation questions for care home residents, their families and staff

|  | Question | Answer  |
| --- | --- | --- |
|  | ***For residents and families of care homes using the eRedBag*** |
| 1 | Have you gone to hospital recently to attend ED or be admitted unexpectedly? |  |
| 2 | How was your experience? For example, did you have to repeat your story a number of times to different medical staff? |  |
| 3 | Was this experience different to previous times you might have gone to hospital (NB. specifically reference the time before the eRedBag was in use at the care home)? If so, how? |  |
| 4 | Are you aware of the eRedBag being used during your recent hospital attendance/admission? |  |
| 5 | What is most important in helping you have a good experience of a hospital visit/admission? |  |
|  | ***For staff of care homes using the eRedBag*** |
| 1 | Have you recently used the eRedBag when a resident has attended ED or had a non-elective admission to hospital? |  |
| 2 | Could you describe any benefits of the eRedBag, for yourself or the resident? |  |
| 3 | Could you describe any problems/issues arising from the eRedBag, for yourself or the resident? |  |
| 4 | Could you suggest any improvements in relation to the eRedBag? |  |
| 5 | What are the most important factors in ensuring a resident has a good experience of a hospital visit/admission? |  |

Source: SQW

* 1. It may be possible to gather information from hospital staff about the experience of the eRedBag via telephone/video call. Below are some questions you may consider using.

Table 4‑2: Evaluation questions for hospital staff

|  | Question | Answer  |
| --- | --- | --- |
| 1 | Has the eRedBag been used when a resident has attended ED or had a non-elective admission to hospital recently? |  |
| 2 | Could you describe any benefits of the eRedBag, for yourself or the resident? |  |
| 3 | Could you describe any problems/issues arising from the eRedBag, for yourself or the resident? |  |
| 4 | Could you suggest any improvements in relation to the eRedBag? |  |
| 5 | What are the most important factors in ensuring a resident has a good experience of a hospital visit/admission? |  |

Source: SQW

## Synthesis of data

* 1. Having collected and analysed the outcome data, both quantitative and qualitative, it is worth considering all the evidence in the round to answer the following questions:
* Did the eRedBag achieve the expected outcomes? If so, to what extent?
* To what extent did the eRedBag cause these outcomes, instead of other possible factors? What would have happened in the absence of the eRedBag?
* How does the eRedBag generate these outcomes?
* What contextual factors are important to generating outcomes?
* Have particular groups been affected in different ways? How, and why?
* What advice would you give to other areas considering introduction of the eRedBag?

# Economic evaluation

* 1. It is likely that you had to justify the cost of introducing the eRedBag before spending any money through a business case or appraisal. An economic evaluation should review that expenditure, as well as any unplanned/unidentified costs, against the impacts achieved to understand whether the eRedBag was ‘value for money’ or a justifiable spend. In essence it weighs up the cost of the eRedBag against the benefits and, in theory, allows for comparison against other costed interventions.
	2. There are two main challenges for many economic evaluations:
* putting a financial value to non-financial benefits e.g. how do you value the improved experience of a care home resident when they go into hospital?
* identifying cashable rather than nominal savings e.g. time saved by care home staff can be given a financial value but the extra time will be absorbed by other duties rather than meaning the care home or local authority can save that amount of money.
	1. However, there are ways to put a financial value on non-financial benefits and you can find examples by doing an internet search. One widely used approach is the Greater Manchester Combined Authority unit cost database.[[1]](#footnote-1) Likewise, just because savings are nominal rather than cashable, does not imply they are valueless. Being able to translate benefits into a financial value is important as it is one way of making interventions comparable with each other, for example by indicating the notional Return on Investment figure or a cost per participant/other relevant unit.
	2. The key questions that need to be answered by the economic evaluation are:
* What are the benefits (i.e. outcomes, impacts)?
* What are the costs?
* Do the benefits outweigh the costs?
* What is the ratio of costs to benefits?
* How does the ratio of costs to benefits compare to that of alternative interventions?
	1. There is a separate Cost Benefit Analysis (CBA) Excel spreadsheet that shows how you can do a simple comparison of the costs and benefits of implementing the eRedBag in your area to generate a Return on Investment (ROI) figure.

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1. <https://greatermanchester-ca.gov.uk/what-we-do/research/research-cost-benefit-analysis/> [↑](#footnote-ref-1)