**Implementing the REDUCE study findings in your hospital**

**A Model Business Case**

**This resource** has been created by the Royal Osteoporosis Society to support implementation of the findings from the REDUCE study.

Each trust, health board or health and social care board will have its own business case template and you will be required to use this. This **model business case** is designed to take some of the hard work out of completing your local template, by giving you text that you can copy and paste, as well as advice on how to write a convincing business case.

A **REDUCE Cost Benefit Calculator** (Excel workbook) has also been created for you to use. This gives you tables showing the costs and benefits of implementing the evidence-based improvements in your hospital, which you will be able to paste directly into the template.

This written resource and the other tools in the toolkit have been designed to save you the time and trouble of researching, drafting and editing a document or workbook from scratch. References have been included where relevant.

We trust that you will find this tool/template useful. You are free to use, change, edit or adapt this resource according to your requirements. If you have any queries or would like to make suggestions on how to improve the tool/template, please contact us at the Royal Osteoporosis Society.

**Disclaimer**

This model business case is provided free by the Royal Osteoporosis Society as part of the REDUCE hip fracture toolkit and was supported by UCB. This resource does not represent the views of the Royal Osteoporosis Society or any of its partner organisations. While every effort has been made to ensure that the information contained within this document is accurate and in full compliance with UK law and with best practice, at the time of writing, there is no guarantee as to the accuracy or reliability of the information contained herein and use of this resource is entirely at the user’s risk. No liability whatsoever is accepted by the Royal Osteoporosis Society.

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# Section 1: Using this Resource

## Instructions for use

The resource is fully editable. Formatting has been kept to a minimum to allow flexible use when editing or copying material to use in local documents.

## How this Model Business Case guide is organised

In Section 2 we have set out a brief business case for each of the evidence-based improvements that feature in the **REDUCE Cost Benefit Calculator**. Each one includes model text for inclusion in your business case. Feel free to copy, paste and edit as you see fit. The text in each case has been written by researchers from the REDUCE team supplemented by information written by an experienced NHS manager.

Section 3 includes advice and tips on completing your local business case template.

## Using the REDUCE cost benefit calculator

The **REDUCE Cost Benefit Calculator** is a separate Excel workbook that contains information for each hospital about the costs and benefits of implementing each of the service improvements. The Calculator generates tables on costs and benefits that can be pasted directly into another document such as a local business case template.

Both the Model Business Case (this document) and the **REDUCE Cost Benefit Calculator** include information on 13 different service improvements. It is unlikely that you will want to implement all 13. So select the text and tables relevant to the improvements that you want to make.

## A typical business case

Local business cases vary in organisation, structure and format. They will usually be in the form of a template, usually a MS Word document but occasionally in slide or spreadsheet format. The headings will usually be fixed with blank space left for you to add in your text and tables. Different headings may be used but most business cases include the following:

|  |  |
| --- | --- |
| **Section** | **Sub-section** |
| **Summary** | Executive summary |
| **Rationale** | Description of the improvement(s) to be made |
| Objectives |
| Strategic case for change |
| **Financial case** | Expected financial benefit |
| Expected financial cost |
| Options appraisal |
| **Outcomes** | Clinical/ service benefits |
| Patient benefits |
| Staff benefits |
| Approach to measuring the outcomes |
| **Implementation** | Risk management |
| Project management |
| Timeline |
| **Recommendations** | Decision items |
| **Appendices** | Suggestions to include |

## 

## The evidence-based service improvements

The REDUCE study offers evidence for 13 separate, evidence-based service improvements. You do not need to implement all of them, and it is up to you to select, copy and paste the ones that you want to include in your business case.

|  |  |  |
| --- | --- | --- |
| **Pre-op** | **1)** | Proportion of patients given a nerve block pre-op. (greater than 70% vs 70% or less) |
| **2)** | Proportion of patients admitted to orthopaedic ward within 4 hours of presentation to the ED (greater than 23% vs 23% or less) |
| **3)** | Dedicated hip fracture ward to which patients can be admitted direct from ED (Yes vs no/not stated) |
| **Peri-op** | **4)** | Proportion of eligible patients receiving a total hip replacement (greater than 40% vs 40% or less) |
| **5)** | Proportion of patients assessed by an orthogeriatrician within 72 hours of admission (100% vs less than 100%) |
| **Post-op** | **6)** | Proportion of patients receiving a bone health assessment during admission (100% vs less than 100%) |
| **7)** | Proportion of patients receiving an inpatient delirium assessment (100% vs less than 100%) |
| **8)** | Proportion of patients not delirious post-op (greater than 64% vs 64% or less) |
| **9)** | Patients in hospital receive physiotherapy on Saturday and/or Sunday (Yes vs no weekend physio) |
| **10)** | Proportion of patients promptly mobilised (greater than 70% vs 70% or less) |
| **11)** | A Fracture Liaison Service is in place (Yes vs no/not stated) |
| **Governance** | **12)** | Consultant orthogeriatrician attends clinical governance meeting (Yes vs no/not stated) |
| **13)** | NHFD data regularly disseminated to hip fracture ward staff (Yes vs no/not stated) |

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# Section 2: Model Business Case for each improvement

This section contains a simple business case for each of the 13 evidence-based service improvements that can be implemented in your hospital.

Each one includes useful text relating to the improvement which you can copy and paste into your local business case template.

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## 1. Proportion of patients given a nerve block pre-op. (Greater than 70% vs 70% or less)

|  |  |
| --- | --- |
| **Description** | Local anaesthetic nerve blocks (typically femoral or fascia iliaca) are an excellent way to relieve the pain of a broken hip and avoid the excessive use of opioid painkillers and the side effects these can cause. On admission, a nerve block should be considered and provided promptly, within 4 hours of presentation, for example in the emergency department. |
| **Rationale** | The NHFD Clinical Audit recommends (KPI 0) the use of nerve block on admission to relieve pain and avoid the excessive use of opioid painkillers and their associated side-effects (1). The REDUCE Study (2) found that hospitals providing more pre-operative nerve blocks to their hip fracture patients had on average shorter lengths of stay in hospital (3), increased odds of their patients being back home by 120 days post hip fracture (4), and their patients spent fewer days in hospital over one year (5). |
| **Benefits** | Effective pain relief, reduced opiate use, reduced delirium risk, reduced length of inpatient stay, improved patient experience. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | See Anaesthesia run chart from the National Hip Fracture Database indicating % Given nerve block pre theatre:  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Anaesthesia?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Anaesthesia?open) |
| **References** | 1. Royal College of Physicians. Improving understanding: the National Hip Fracture Database report on 2021. London: RCP, 2022. 2022  2. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  3. Patel R, Judge A, Johansen A, et al. Multiple hospital organisational factors are associated with adverse patient outcomes post-hip fracture in England and Wales: the REDUCE record-linkage cohort study. Age and Ageing 2022;51(8) doi: 10.1093/ageing/afac183  4. R Patel, A Judge, A Johansen, et al. Patients’ recovery of mobility and return to original residence after hip fracture are associated with multiple modifiable components of hospital service organisation: the REDUCE record-linkage cohort study in England and Wales. Manuscript in Review. 2023  5. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 2. Proportion of patients admitted to orthopaedic ward within 4 hours of presentation to the ED (greater than 23% vs 23% or less)

|  |  |
| --- | --- |
| **Description** | The emergency department is not an appropriate environment for frail people with hip fracture. Prompt admission to an MDT’s care on an orthopaedic/orthogeriatric ward is important to their comfort. Patients should be admitted to an appropriate orthopaedic or orthogeriatric ward within 4 hours of presenting with hip fracture.  From the REDUCE study, to begin to see hospital-level benefit, the minimum target for this is 23% of patients reaching an appropriate orthopaedic or orthogeriatric ward within 4 hours. However, the NHFD KPI 0 applies to 100% of patients. |
| **Rationale** | The NHFD Clinical Audit recommends (KPI 0) that patients with a hip fracture are admitted to an appropriate orthopaedic or orthogeriatric ward within 4 hours of presentation with a hip fracture. The emergency department (ED) is not an appropriate environment for frail people with hip fracture. Prompt admission to a multi-disciplinary team’s care on an orthopaedic/orthogeriatric ward is important to their comfort (1). The REDUCE Study (2) found that hospitals admitting more of their hip fracture patients to an orthopaedic ward within 4 hours of presentation to the ED had lower hospital inpatient costs for hip fracture patients over 120-days and one year post hip fracture (3). |
| **Benefits** | Prompt access to hip fracture expertise, outlier avoidance, improved patient comfort, improved patient experience. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | See KPI 0 – Admission, from the National Hip Fracture Database  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/KPI0-Admission?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/KPI0-Admission?open) |
| **References** | 1. Royal College of Physicians. Improving understanding: the National Hip Fracture Database report on 2021. London: RCP, 2022. 2022  2. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  3. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 3. Dedicated hip fracture ward to which patients can be admitted direct from ED (Yes vs no/not stated)

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| **Description** | Dedicated hip fracture units are wards that focus on the provision of effective multidisciplinary team care to patients with hip fracture; orthogeriatric, orthopaedic and specialist nursing are key components. |
| **Rationale** | Following a hip fracture, mortality is lowest when patients are managed on an orthogeriatrician-led hip fracture unit (1). The REDUCE Study (2) found that hospitals with a dedicated hip fracture ward to which patients can be admitted directly from the ED had increased odds of their patients being back home by 120 days post hip fracture (3), and that patients spent fewer days in hospital over the year following hip fracture (4). |
| **Benefits** | Improved communication and efficient coordination of multi-disciplinary care, promotes team building for staff, prompt access to specialist hip fracture care for patients. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | Dedicated hip fracture ward in place with appropriate signage, staff specifically trained in hip fracture care working on the ward. |
| **References** | 1. Moyet J, Deschasse G, Marquant B, et al. Which is the optimal orthogeriatric care model to prevent mortality of elderly subjects post hip fractures? A systematic review and meta-analysis based on current clinical practice. Int Orthop 2019;43(6):1449-54. doi: 10.1007/s00264-018-3928-5  2. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  3. R Patel, A Judge, A Johansen, et al. Patients’ recovery of mobility and return to original residence after hip fracture are associated with multiple modifiable components of hospital service organisation: the REDUCE record-linkage cohort study in England and Wales. Manuscript in Review. 2023  4. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 4.Proportion of eligible patients receiving a total hip replacement (greater than 40% vs 40% or less)

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| --- | --- |
| **Description** | The National Institute for Health and Care Excellence guideline NICE CG124 and quality standard NICE QS16 place great emphasis on the type of operation and implant that should be offered for different fractures, reflecting the potential cost effectiveness of the different types of implant shown in a range of trials. Cemented total hip replacement rather than hemiarthroplasty should be offered to patients with a displaced intracapsular hip fracture who normally walk independently out of doors with no more than the use of a stick, who are not cognitively impaired and are medically fit for anaesthesia and the procedure.  From the REDUCE study, to begin to see hospital-level benefit, the minimum target for this is 40% of patients receiving a total hip replacement if they are eligible. |
| **Rationale** | The NHFD Clinical Audit recommends (KPI 3) that patients with a hip fracture are offered an operation recommended by NICE (1). NICE CG124 recommends that eligible patients be offered total hip replacement (THR) after a displaced intracapsular hip fracture (2). The REDUCE Study (3) found that hospitals providing THR to more eligible hip fracture patients had on average shorter lengths of stay in hospital (4), increased odds of their patients being back home by 120 days post hip fracture (5), and their patients spent fewer days in hospital over one year (6). |
| **Benefits** | The patients gets the operation recommended by NICE. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | See Surgery run chart from the National Hip Fracture Database indicating % Total hip replacement where eligible:  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Surgery?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Surgery?open)  See KPI 3 – NICE compliant surgery, from the National Hip Fracture Database  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/KPI3-NICEcompliance?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/KPI3-NICEcompliance?open) |
| **References** | 1. Royal College of Physicians. Facing new challenges — the NHFD report on 2020 (January–December 2020): London, 2021.  2. National Institute for Health and Care Excellence (NICE). Hip fracture: management: Clinical guideline [CG124]. Manchester, NICE, 2017.  3. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  4. Patel R, Judge A, Johansen A, et al. Multiple hospital organisational factors are associated with adverse patient outcomes post-hip fracture in England and Wales: the REDUCE record-linkage cohort study. Age and Ageing 2022;51(8) doi: 10.1093/ageing/afac183  5. R Patel, A Judge, A Johansen, et al. Patients’ recovery of mobility and return to original residence after hip fracture are associated with multiple modifiable components of hospital service organisation: the REDUCE record-linkage cohort study in England and Wales. Manuscript in Review. 2023  6. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 5. Proportion of patients assessed by an orthogeriatrician within 72 hours of admission (100% vs less than 100%)

|  |  |
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| **Description** | There is compelling evidence that comprehensive geriatric assessment (CGA) improves outcome: early orthogeriatrician review helps avoid delay in surgery, minimise the proportion of patients managed without surgery, improves perioperative care and expedites rehabilitation and discharge planning. Orthogeriatric assessment is central to the recommendations of both the NICE clinical guideline on the management of hip fracture care in adults (CG124) and quality standard QS16 (1,2). A target of ‘assessment by a senior orthogeriatrician within 72 hours’ means that all patients can and should be seen within this timeframe, even if they present at the weekend to a unit with a Monday to Friday orthogeriatric service. |
| **Rationale** | The NHFD Clinical Audit recommends (KPI 1) that patients with a hip fracture are promptly assessed by a senior orthogeriatrician within 72 hours of admission (3); this requirement forms part of the BPT for hip fracture care (4). The REDUCE Study (5) found that hospitals ensuring all hip fracture patients are assessed by an orthogeriatrician within 72 hours of admission had on average shorter lengths of stay in hospital (6), increased odds of their patients regaining baseline mobility by 120 days post hip fracture (7), lower rates of re-fracture in the year post hip fracture (8), a lower mortality rate in the year post hip fracture and lower hospital inpatient costs for hip fracture patients over 120-days and one year post hip fracture (9). Increased orthogeriatrician time pr patient has been directly associated with improved patient survival at 30-days post hip fracture (10). |
| **Benefits** | Reduced length of stay, improved mobility recovery, reduced re-fracture risk, reduced mortality, improved advance care planning, improved patient experience. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | See KPI 1 – Prompt orthogeriatrician review, from the National Hip Fracture Database  <https://www.nhfd.co.uk/20/nhfdcharts.nsf/vwCharts/KPIs?open&kpi=1> |
| **References** | 1. National Institute for Health and Care Excellence (NICE). Hip fracture: management: Clinical guideline [CG124]. Manchester, NICE, 2017. 2. National Institute for Health and Care Excellence (NICE). Hip fracture in adults: Quality standard [QS16]: Manchester: NICE, 2017. 3. Royal College of Physicians. National Hip Fracture Database (NHFD) Annual Report 2018: RCP London, 2018.  4. Consultation on 2021/22 National Tariff Payment System. Annex DtC: Guidance on best practice tariffs. <https://improvement.nhs.uk/documents/484/Annex_DtD_Best_practice_tariffs.pdf>. March 2021  5. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  6. Patel R, Judge A, Johansen A, et al. Multiple hospital organisational factors are associated with adverse patient outcomes post-hip fracture in England and Wales: the REDUCE record-linkage cohort study. Age and Ageing 2022;51(8) doi: 10.1093/ageing/afac183  7. R Patel, A Judge, A Johansen, et al. Patients’ recovery of mobility and return to original residence after hip fracture are associated with multiple modifiable components of hospital service organisation: the REDUCE record-linkage cohort study in England and Wales. Manuscript in Review. 2023  8. Patel R, Judge A, Javaid MK, et al. Hospital organisational factors associated with prescription of bone protection medication during admission and refracture in the year following a hip fracture in England and Wales: findings from the REDUCE record-linkage cohort study (manuscript pre-submission).  9. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023.  10. Neuburger J, Currie C, Wakeman R, et al. Increased orthogeriatrician involvement in hip fracture care and its impact on mortality in England. Age and Ageing 2017;46(2):187–192. |

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## 6. Proportion of patients receiving a bone health assessment during admission (100% vs less than 100%)

|  |  |
| --- | --- |
| **Description** | The treatment people receive for one fragility fracture is not complete until something has been done to prevent the next fracture. Refracture is common with 25% of patients with a hip fracture going on to fracture again within 5 years (1), with half of these re-fractures occurring within the first 18 months (2), so prompt anti-osteoporosis treatment is crucial. Guidance on the secondary prevention of fragility fracture requires that all patients at high risk of re-fracture are offered anti-osteoporosis medication, usually an anti-resorptive e.g. intravenous zoledronate (as well as appropriate calcium and/or vitamin D supplementation) (3). |
| **Rationale** | Since inception, the NHFD and BPT have monitored and incentivised the provision of effective bone health assessment, and the provision and follow-up of medication to treat osteoporosis (4). The REDUCE Study (5) found that hospitals ensuring all hip fracture patients receive a bone health assessment during their admission had lower hospital inpatient costs for hip fracture patients over 120-days and one year post hip fracture (6). |
| **Benefits** | Reduced risk of costly re-fractures |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | See Best practice run chart from the National Hip Fracture Database indicating % Bone health Assessment:  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Bestpractice?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Bestpractice?open)  See KPI 7 – Medication, from the National Hip Fracture Database [www.nhfd.co.uk/20/nhfdcharts.nsf/vwcharts/KPI7-Medication?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/nhfdcharts.nsf/vwcharts/KPI7-Medication?open) |
| **References** | 1. Balasubramanian A, Zhang J, Chen L, et al. Risk of subsequent fracture after prior fracture among older women. *Osteoporos Int* 2019; **30**(1): 79-92.  2. Adachi JD, Brown JP, Schemitsch E, et al. Fragility fracture identifies patients at imminent risk for subsequent fracture: real-world retrospective database study in Ontario, Canada. *BMC Musculoskelet Disord* 2021; **22**(1): 224.  3. The National Osteoprosis Guideline Group guidance 2021. <https://www.nogg.org.uk/full-guideline/summary-main-recommendations>  4. Royal College of Physicians. Facing new challenges — the NHFD report on 2020 (January–December 2020): London, 2021.  5. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  6. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 7. Proportion of patients receiving an inpatient delirium assessment (100% vs less than 100%)

|  |  |
| --- | --- |
| **Description** | Delirium is the most common complication of any surgery and anaesthesia in older people and affects a quarter of people with hip fracture (1). The NHFD recommends the use of the 4AT (2) as a quick and simple examination of the four components of delirium. This makes routine screening possible and improves understanding of a complication that often dominates patients’ hospital stays, delays recovery, and can cause huge distress to them and to their families. People with a 4AT score ≥4 are over twice as likely to fail to get up by the day after surgery and three times more likely to have a prolonged length of stay, need to move to another residence or die as an inpatient (3). |
| **Rationale** | The NHFD Clinical Audit recommends (KPI 5) that patients with a hip fracture are assessed for delirium, using the 4AT, within 72 hours post-surgery (4); inpatient delirium assessment forms part of the BPT for hip fracture care (5). The REDUCE Study (6) found that hospitals assessing delirium in all hip fracture patients in the first 72 hours post-operatively were more likely to be able to discharge patients to their own home (7), and had lower hospital inpatient costs for hip fracture patients over 120days and one year post hip fracture (8). |
| **Benefits** | Informed care to avoid and/or minimise delirium, improved mobility, reduced length of stay, reduced mortality, improved patient experience. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | See Best practice run chart from the National Hip Fracture Database indicating % Delirium Assessment:  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Bestpractice?open](http://www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Bestpractice?open)  See KPI 5 – Not delirious post-op, from the National Hip Fracture Database  [www.nhfd.co.uk/20/NHFDCharts.nsf/Charts/KPIs?open&kpi=5](http://www.nhfd.co.uk/20/NHFDCharts.nsf/Charts/KPIs?open&kpi=5) |
| **References** | 1. National Hip Fracture Database annual report 2018  2. Bellelli et al. Validation of the 4AT, a new instrument for rapid delirium screening: a study in 234 hospitalised older people. Age Ageing 2014;43(4):496-502.  3. Lisk et al. Associations of 4AT with mobility, length of stay and mortality in hospital and discharge destination among patients admitted with hip fractures. Age Ageing 2020; 49: i3:411-417  4. Royal College of Physicians. Facing new challenges — the NHFD report on 2020 (January–December 2020): London, 2021.  5. Consultation on 2021/22 National Tariff Payment System. Annex DtC: Guidance on best practice tariffs. <https://improvement.nhs.uk/documents/484/Annex_DtD_Best_practice_tariffs.pdf>.  March 2021  6. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  7. R Patel, A Judge, A Johansen, et al. Patients’ recovery of mobility and return to original residence after hip fracture are associated with multiple modifiable components of hospital service organisation: the REDUCE record-linkage cohort study in England and Wales. Manuscript in Review. 2023  8. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 8. Prop Proportion of patients not delirious post-op (greater than 64% vs 64% or less)

|  |  |
| --- | --- |
| **Description** | Delirium is the most common complication of any surgery and anaesthesia in older people and affects a quarter of people with hip fracture (1).  From the REDUCE study, to begin to see hospital-level benefit, the minimum target for this is 64% of patients with a hip fracture should not be delirious when assessed using the 4AT (2). |
| **Rationale** | People with a 4AT score ≥4 are over twice as likely to fail to get up by the day after surgery and three times more likely to have a prolonged length of stay, need to move to another residence or die as an inpatient (3). The REDUCE Study (4) found that hospitals where fewer than 65% of hip fracture patients were delirious when assessed post operatively had lower hospital inpatient costs for hip fracture patients over 120-days and one year post hip fracture (5), and their patients spent fewer days in hospital over the year following hip fracture (6). |
| **Benefits** | Informed care to avoid and/or minimise delirium, improved mobility, reduced length of stay, reduced mortality, improved patient experience. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | See Best practice run chart from the National Hip Fracture Database indicating % Delirium Assessment:  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Bestpractice?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Bestpractice?open)  See KPI 5 – Not delirious post-op, from the National Hip Fracture Database  [www.nhfd.co.uk/20/NHFDCharts.nsf/Charts/KPIs?open&kpi=5](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/Charts/KPIs?open&kpi=5) |
| **References** | 1. National Hip Fracture Database annual report 2018  2. Bellelli et al. Validation of the 4AT, a new instrument for rapid delirium screening: a study in 234 hospitalised older people. Age Ageing 2014;43(4):496-502.  3. Lisk et al. Associations of 4AT with mobility, length of stay and mortality in hospital and discharge destination among patients admitted with hip fractures. Age Ageing 2020; 49: i3:411-417  4. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  5. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023.  6. Patel R, Judge A, Johansen A, et al. Multiple hospital organisational factors are associated with adverse patient outcomes post-hip fracture in England and Wales: the REDUCE record-linkage cohort study. Age and Ageing 2022;51(8) doi: 10.1093/ageing/afac183 |

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## 9. Patients in hospital receive physiotherapy on Saturday and/or Sunday (Yes vs no weekend physio)

|  |  |
| --- | --- |
| **Description** | Prolonged bed rest compromises the dignity of older people. It also increases their risk of delirium, thromboembolism, hospital-acquired infection, and pressure damage; leads to loss of muscle strength; and compromises their rehabilitation and recovery.  The Chartered Society for Physiotherapy (CSP) standards for hip fracture care recommend that all patients are mobilised on the day of, or day following, hip fracture surgery (which includes weekends) and that all patients receive daily physiotherapy that should total at least two hours in the first 7 days post-surgery (which will include a weekend) (1). |
| **Rationale** | The REDUCE Study (2) found that hospitals where hip fracture patients received physiotherapy on Saturdays and/or Sundays had lower rates of re-fracture in the year post hip fracture (3), lower hospital inpatient costs for hip fracture patients over 120-days and one year post hip fracture (4), and their patients spent fewer days in hospital over the year following hip fracture (5). |
| **Benefits** | Physiotherapy reduces risk of delirium, thromboembolism, hospital-acquired infection, pressure sores, and physical deconditioning. Reduces length of stay, hospital costs, re-fracture risk and improves patient experience. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | Provision of physiotherapy on Saturdays and Sundays will require specific local audit to generate outcome measures. Extra fields can be added to the local NHFD audit tool.  Physiotherapy staffing levels should also be audited.  See KPI 4 – prompt mobilisation, from the National Hip Fracture Database  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/KPI4-Mobilisation?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/KPI4-Mobilisation?open)  See Patient safety run chart from the National Hip Fracture Database indicating % Pressure ulcers:  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Patientsafety?open](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/Patientsafety?open) |
| **References** | 1. Hip fracture rehabilitation in physiotherapy practice. <https://wwwcsporguk/publications/hip-fracture-rehabilitation-physiotherapy-practice>  2. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  3. Patel R, Judge A, Johansen A, et al. Multiple hospital organisational factors are associated with adverse patient outcomes post-hip fracture in England and Wales: the REDUCE record-linkage cohort study. Age and Ageing 2022;51(8) doi: 10.1093/ageing/afac183  4. Patel R, Judge A, Javaid MK, et al. Hospital organisational factors associated with prescription of bone protection medication during admission and refracture in the year following a hip fracture in England and Wales: findings from the REDUCE record-linkage cohort study (manuscript pre-submission).  5. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 10. Proportion of patients promptly mobilised (greater than 70% vs 70% or less)

|  |  |
| --- | --- |
| **Description** | Rehabilitation is crucial for hip fracture recovery. Patients should get out of bed on the day of or the day after surgery.  From the REDUCE study, to begin to see hospital-level benefit, the minimum target for this is 70% of patients with a hip fracture should be mobilised on the day of, or day after surgery. The greatest benefit on hospital length of stay was seen in hospitals where more than 90% of patients were promptly mobilised (1). |
| **Rationale** | Following hip fracture, prolonged bed rest increases the risk of delirium, thromboembolism, hospital-acquired infection and pressure damage, it leads to loss of muscle strength and compromises rehabilitation potential, and it reduces the dignity of older people and those with frailty. The NHFD Clinical Audit recommends (KPI 4) that patients are promptly mobilised either the day of, or the day after, hip fracture surgery (2).  The REDUCE Study (3) found that hospitals where more than 70% of hip fracture patients were mobilised either the day of, or the day after, surgery had on average shorter lengths of stay in hospital (1), lower hospital inpatient costs for hip fracture patients over 120-days and one year post hip fracture 4, and their patients spent fewer days in hospital over the year following hip fracture (4). |
| **Benefits** | Physiotherapy reduces risk of delirium, thromboembolism, hospital-acquired infection, pressure sores, and physical deconditioning. Reduces length of stay, hospital costs, re-fracture risk and improves patient experience. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | See KPI 4 – prompt mobilisation, from the National Hip Fracture Database  [www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/KPI4-Mobilisation?open](http://www.nhfd.co.uk/20/NHFDCharts.nsf/vwcharts/KPI4-Mobilisation?open) |
| **References** | 1. Patel R, Judge A, Johansen A, et al. Multiple hospital organisational factors are associated with adverse patient outcomes post-hip fracture in England and Wales: the REDUCE record-linkage cohort study. Age and Ageing 2022;51(8) doi: 10.1093/ageing/afac183  2. Royal College of Physicians. Facing new challenges — the NHFD report on 2020 (January–December 2020): London, 2021.  3. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  4. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 11. A Fracture Liaison Service is in place (Yes vs no/not stated)

|  |  |
| --- | --- |
| **Description** | Multidisciplinary, coordinator-based Fracture Liaison Services (FLS) are recommended by the National Osteoporosis Guideline Group (NOGG) to systematically identify men and women with fragility fractures, facilitating timely assessment of fracture and falls risk, and where appropriate, tests to exclude secondary causes of osteoporosis, radiological investigation including BMD testing, and initiation of pharmacological and non-pharmacological interventions to reduce risk of falls and fractures (1). |
| **Rationale** | The Department of Health and NHS RightCare both state that FLS should be provided for all patients sustaining a fragility fracture (2,3), which aligns with the International Osteoporosis Foundation’s global Capture the Fracture® programme (4) and the Royal Osteoporosis Society (ROS) FLS Clinical Standards (5).  The REDUCE Study (6) found that hospitals with an established FLS were more likely to be able to discharge patients back to their own home (7), and their patients spent fewer days in hospital and were less likely to die, in the year following hip fracture (8). These findings likely reflect the presence of an FLS reflecting the improved organisation and effectiveness of hospital delivered fragility fracture care. Recent work has confirmed a survival benefit from FLSs in those with a major fracture (9). |
| **Benefits** | Reduced risk of costly re-fracture, improved effectiveness of fragility fracture care and reduced mortality. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | FLS listed on FLS-Database with records submitted and cases identified:  [www.fffap.org.uk/FLS/charts.nsf/Benchmarks?ReadForm](https://nosonline.sharepoint.com/sites/Core/Files/Clinical%20&%20Operations/Clinical/3%20-%20Research/Reduce/Toolkit%20development/Design%20files/for%20approval%20in%20approval/www.fffap.org.uk/FLS/charts.nsf/Benchmarks?ReadForm) |
| **References** | 1. Gregson CL, Armstrong DJ, Bowden J, et al. UK clinical guideline for the prevention and treatment of osteoporosis. Arch Osteoporos 2022;17(1):58. doi: 10.1007/s11657-022-01061-5  2. Department of Health. Fracture prevention services - an economic evaluation, 2009.  3. NHS RightCare. Falls and Fragility Fractures Pathway. <https://www.england.nhs.uk/rightcare/products/pathways/falls-and-fragility-fractures-pathway/>  2017  4. Javaid MK, Kyer C, Mitchell PJ, et al. Effective secondary fracture prevention: implementation of a global benchmarking of clinical quality using the IOF Capture the Fracture(R) Best Practice Framework tool. Osteoporos Int 2015;26(11):2573-8. doi: 10.1007/s00198-015-3192-0  5. Royal Osteoporosis Society. Effective Secondary Prevention of Fragility Fractures: Clinical Standards for Fracture Liaison Services <https://theros.org.uk/media/1eubz33w/ros-clinical-standards-for-fracture-liaison-services-august-2019.pdf>, 2019.  6. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  7. R Patel, A Judge, A Johansen, et al. Patients’ recovery of mobility and return to original residence after hip fracture are associated with multiple modifiable components of hospital service organisation: the REDUCE record-linkage cohort study in England and Wales. Manuscript in Review. 2023  8. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023.  9. Vranken L, de Bruin IJ, Driessen AH, et al. Decreased Mortality and Subsequent Fracture Risk in Patients With a Major and Hip Fracture After the Introduction of a Fracture Liaison Service: A 3‐Year Follow‐Up Survey. *JBMR* 2022;37(10):2025-32. |

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## 12. Consultant orthogeriatrician attends clinical governance meeting (Yes vs no/not stated)

|  |  |
| --- | --- |
| **Description** | Clinical governance (CG) assures the effectiveness and safety of a clinical service and CG meetings are the forum for reviewing quality outcomes, planning, and driving service improvement. The membership, agenda and frequency of meetings influences patient outcomes. |
| **Rationale** | The NHFD Clinical Audit recommends that CG meetings of surgical, orthogeriatric, anaesthetic, nursing, therapy and management leads should take place on at least a monthly basis (1), at a consistent scheduled week/day/time. The REDUCE Study (2) found that hospitals where a consultant orthogeriatrician routinely attends hip fracture service clinical governance meetings, the hip fracture patients had on average shorter lengths of stay in hospital (3), lower hospital inpatient costs for hip fracture patients over 120-days and one year post hip fracture (4), and their patients spent fewer days in hospital over the year following hip fracture (4). |
| **Benefits** | Improved communication and organisation of the Hip Fracture service. Reduced patient length of stay, reduced inpatient health costs. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | Locally agreed standing agenda for monthly CG meetings.  Evidence of regular minuted monthly CG meetings, circulated to members of the hip fracture MDT, confirming presence of orthogeriatrician.  Evidence of patient feedback review.  Improved patient complaint management and avoidance.  See the REDUCE Clinical Governance Tool for further details. |
| **References** | 1. Royal College of Physicians. Improving understanding: the National Hip Fracture Database report on 2021. London: RCP, 2022. 2022  2. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  3. Patel R, Judge A, Johansen A, et al. Multiple hospital organisational factors are associated with adverse patient outcomes post-hip fracture in England and Wales: the REDUCE record-linkage cohort study. Age and Ageing 2022;51(8) doi: 10.1093/ageing/afac183  4. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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## 13. NHFD data regularly disseminated to hip fracture ward staff (Yes vs no/not stated)

|  |  |
| --- | --- |
| **Description** | Delivering hip fracture care requires effective multi-disciplinary teamwork, necessitating effective communication and coordination across a range of specialties and professional roles within the hip fracture ward team. Patient care is improved if members of the hip fracture team understand, through regular feedback, the care pathway in which they are working, how the service is performing, areas to focus on for improvement and the overall vision for the service. |
| **Rationale** | The NHFD Clinical Audit recommends that hip fracture teams should use quarterly clinical governance meetings to review the quality and outcome of the care they provide. These meetings provide an opportunity for team members and trainees from all disciplines to make use of the NHFD website as a driver for quality improvement (QI); the new NHFD Quarterly Governance Tool is designed to help them do this (1). The REDUCE Study (2) found that hospitals that regularly feedback clinical audit results from the NHFD to the staff working within the hip fracture ward were more likely to be able to discharge patients back to their own home (3) after a hip fracture, had increased odds of their patients regaining baseline mobility by 120 days post hip fracture (3), and their patients spent fewer days in hospital over the year following hip fracture (4). |
| **Benefits** | Improved patient mobility recovery and discharge planning, reduced length of inpatient stay, improved patient experience, more effective quality improvement working, and a better informed and empowered workforce. |
| **Financial case** | See the **REDUCE Cost Benefit Calculator** for tables showing the value of benefits in your hospital and tools to estimate the costs of the improvement. |
| **Performance indicators** | Evidence that NHFD data reviews are being summarised and shared with staff, e.g. by email, in staff handovers, through ward staff training.  Staff feedback at staff reviews indicating staff feel better informed.  Staff satisfaction surveys indicting greater empowerment through information and understanding.  For further details see the REDUCE ‘how to’ guide for effective multi-disciplinary team working in hip fracture care. |
| **References** | 1. Royal College of Physicians. Improving understanding: the National Hip Fracture Database report on 2021. London: RCP, 2022. 2022  2. Patel R, Drew S, Johansen A, et al. REducing unwarranted variation in the Delivery of high qUality hip fraCture services in England and Wales (REDUCE): protocol for a mixed-methods study. BMJ Open 2021;11(5):e049763. doi: 10.1136/bmjopen-2021-049763  3. R Patel, A Judge, A Johansen, et al. Patients’ recovery of mobility and return to original residence after hip fracture are associated with multiple modifiable components of hospital service organisation: the REDUCE record-linkage cohort study in England and Wales. Manuscript in Review. 2023  4. P Baji, R Patel, A Judge, A Johansen, et al. Multiple organisational factors predict hospital costs and patient mortality in the year following hip fracture in England and Wales: the REDUCE record-linkage cohort study. Manuscript in review 2023. |

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# Section 3: Things to remember

## General advice on completing your local template

* Make sure that you have the correct template from your Trust. There may be more than one e.g. a different one for buying equipment than the one for service improvements
* Be clear, direct and brief in your language. You should be able to describe any improvement in a couple of sentences
* Remember that the people who will read your business case are busy and may not have time to read a lot of detail
* Use plain English. Not all are NHS professionals (e.g. non-executives, patient representatives, local government representatives)
* Use the **REDUCE Cost Benefit Calculator** to generate the tables you will need
* If you have detailed and/ or lengthy additional information that you want to include, such as the results of audit or relevant documents you should add these as appendices
* Many templates seem to encourage repetition. Try to minimise this, one useful way is to cross-reference from one section to another
* Ask your business manager to help you complete the template.

## Section by section advice when working through your local template

### Executive summary

* Although it appears first in most templates, the Executive Summary should be the last thing you write
* It is a summary and should not contain any information that does not appear elsewhere in the business case. You can compile a good first draft by copying key text from each of the sections in your completed template
* Keep it brief, ideally on one page, two at the most
* Put the most important and persuasive text at the top of the summary, starting with the benefits to the hospital trust or health board

### Strategic case for change

* Link the requirement for implementing improvements to any relevant strategy or plan in your local trust / health board or in the wider health economy e.g. optimising bed use, facilitating effective discharge, prevention of fragility fractures.
* Look at your local strategies and planning documents and state explicitly how your improvement will contribute to the ambitions and targets locally
* Refer to documents that are up to date and state clearly which priorities to which your improvement is intended to contribute. Leave out those that are not relevant. Try not to waffle!

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### Benefits - suggested structure:

* **Patient benefits** – these can be in the form of improved clinical outcomes or improved experience for patients moving through the pathway. Describe these in plain English as well as any clinical indicators
* **Financial benefits** – these are shown in the cost / benefit tables for each improvement (see below)
* **System benefits** – these might be quantifiable in terms of bed days, theatre utilisation or similar. Don’t be afraid to include benefits that might not be quantifiable such as improved work-flow
* **Staff benefits** – successful improvements may have benefits for staff (e.g. reducing delays, stress, greater motivation etc). They might also provide opportunities for personal/career development. Describe these in brief.

### Finance

* This section brings together the financial information in a simple calculation known as a cost/benefit analysis, which is: Estimated value of benefits - minus costs of improvement = Net benefits
* Use the **REDUCE Cost Benefit Calculator** to estimate the benefits and create the tables that you need.
* If you have detailed costings or quotations for equipment include these as an appendix.
* Some trusts / health boards require you to set out an ‘options appraisal’. Only do this if it is required. One option is usually called ‘Do nothing’. This allows you to set out the costs (financial, bed days, staff time, etc) of the current situation if nothing is changed. Other options provide costs of different ‘stages’ of change.
* Advice from your business manager and/or finance team will be **essential** for this section.

### Implementation

* Try to be realistic in the time it will take to implement each of the tasks that you need to achieve the improvement. For example, recruitment of new staff typically takes 3 to 6 months. Allow time for induction, training, etc.
* **Project lead** - Managers will want to have confidence that the change will be implemented. Named project leads will reassure them that it is being ‘owned’.
* **Project team** - If you are setting up, or have set up, a project team to implement the change, write a sentence or two about this team – leadership, meetings, etc
* **Project plan** - If you have a detailed project or implementation plan including all of the tasks, dates, responsible persons etc, you can often include this as an appendix and refer to this.
* In your project plan it is helpful to avoid calendar dates (e.g., 1-Apr-23) as these have to all be updated if there is a delay. Instead show your dates in reference to the date of an approval decision i.e. +4 weeks, +12 weeks

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### Risk management

* Almost all templates require you to look at the risks of implementing your change
* These normally require you to describe the risk in a few words and then to state what actions you will take to reduce the risk (i.e., risk mitigation)
* They often ask you about risks that might stop you achieving the change (implementation risks) and any risks once you have implemented.
* Some examples are shown below to give an idea of what might be expected. These will vary for each service improvement. Examples are shown below relating to the improvement **11. A Fracture Liaison Service is in place**

**Example: *Risks to successful mobilisation of the FLS***

|  |  |
| --- | --- |
| **Risk** | **Mitigation** |
| Suitably qualified staff are not available through recruitment | *Consider secondment opportunities*  *Research best options for advertisement*  *Consider fracture practitioner training for existing nurses to improve flexibility* |
| Current facilities not suitable | *Review alternative service locations* |
| DXA capacity may not be adequate to cope with additional demand | *Consideration of weekend working*  *Consider change to referral criteria*  *Consider increased monitoring interval* |

**Example: *Risks following commencement of the service***

|  |  |
| --- | --- |
| **Risk** | **Mitigation** |
| Patient numbers do not reach the expected levels | *Additional communications activities e.g.*   * *Secure ‘slot’ at practice learning event* * *Arrange meeting with senior fracture clinical nurse and consultant* |
| Patient numbers exceed the expected levels | *Review model estimates*  *Consider change to referral criteria*  *Consider making request for additional staff* |
| Reduction in expected fracture numbers does not materialise | *Check data collection is complete*  *Review statistical measures* |

### Making recommendations

* Be clear what you are asking for is in plain English, for example: *‘Approve the proposed improvement and allocate required funding and resources as described in this business case’.*

### 

### Appendices

* Some suggestions for information that you might wish to include as appendices are shown below:
  + Project or implementation plan showing the implementation period and service commencement period (usually 3 months after commencement)
  + Evidence to support your case such as outputs from the REDUCE study
  + Detailed costings, especially if your local template only lets you include summary figures
  + Screen shots from the NHFD website demonstrating Trust achievement against national standards

End of document