Royal College of Physicians

Falls and Fragility Fracture
Audit Programme (FFFAP)

Fracture Liaison Service Database (FLS-DB)

The FFFAP healthcare improvement workbook

Context

Introduction

The Falls and Fragility Fracture Audit Programme (FFFAP) is a national clinical audit run by the Royal College of Physicians (RCP), designed to audit the care that patients with fragility fractures and inpatient falls receive in hospital and to facilitate quality improvement initiatives. The programme is commissioned by the Healthcare Quality Improvement Partnership (HQIP).

We all want to do better for our service and for our patients. However, in this era of ever-increasing financial restraints due to COVID-19 and other competing healthcare conditions, we are often in a position where we must improve our service on a budget using whatever resources are available to us at that moment.

We hope that this workbook will help to teach you techniques that you can use during your work practice to continually improve over time in spite of the challenges we face today.
The techniques are based on the Institute for Healthcare Improvement (IHI) breakthrough collaborative series model, which has achieved dramatic results, including reducing waiting times by 50%, reducing ICU costs by 25%, and reducing hospitalisations for patients with congestive heart failure by 50%; all without substantially increasing resource use.

The key to this is becoming more effective and efficient at service delivery by identifying gaps in our service and brainstorming techniques for improvement.

To help with patient and public involvement at a site/trust/health board level, FFFAP's Patient and Carer Panel has co-created a guide to patient and carer involvement. Having the help of a person who has experienced the service to guide you through from their perspective can be invaluable and transform the way your service engages with those for whom you care.
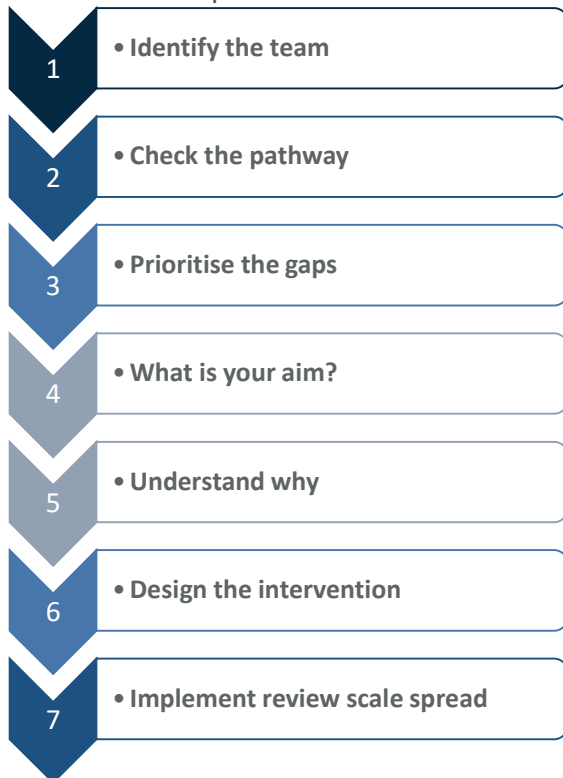
At the centre of any improvement work, should be the data that you are measuring the change through. To check your data, please visit the Fracture Liaison Service Database.

Commented [KJ1]: Insert link to FLSDB benchmarking here

Introduction to quality improvement

Quality improvement (QI) is defined as **the continual actions to improve outcomes for service users and to develop the workforce that supports them using systematic methods**.

This involves **seven steps** as illustrated below:

1	• **Identify the team**
2	• **Check the pathway**
3	• **Prioritise the gaps**
4	• **What is your aim?**
5	• **Understand why**
6	• **Design the intervention**
7	• **Implement review scale spread**

Becoming more effective

QI may seem daunting; however, if we break down the process into easily attainable steps it will lead to an achievable and workable plan.

Please take the time to complete each exercise in the workbook with your team rather than just reading through it. There is something transformative about taking your invaluable thoughts and organising these on paper.

One of the key concepts we want to emphasise is the importance of tracking your work, including what you do and your outcomes. This will help you see if your change is making an impact.

Remember: what gets measured, gets managed.

Step 1: Identify everyone's role and influence in the team and wider stakeholders

Your improvement team and stakeholder engagement

Aim: to identify, map and allocate roles to your core improvement team and be aware of wider team members who you will need to keep informed about the progress of your project.

The reality is everyone has a role in your team, but members have different skills, influence, interest, time, roles and seniority within the organisation. Therefore, some team members are more ideally placed to help you achieve your goals. Having an in-depth knowledge of this is important when you plan your project.

It is important to remember that patients and carers are an integral part of your team as they have a unique perspective on informing you how your FLS runs and where the gaps are. They will help to build the collective intelligence of your group and give you a wider range of solutions from which to choose. They should therefore be a part of brainstorming sessions to help you decide which quality improvement project in your FLS needs to be prioritised.

> Map all the people involved in the care pathway from the provider and patient perspective.
> Think about the processes of care involved in your focus for improvement. What departments/teams are involved?
> Consider who contributes to the service and what they contribute, who benefits from the processes and what specific benefits they receive. Finally, consider who else (internal and external to your organisation) is involved and invested in this project.
> Consider an interprofessional approach.
> Include people with the influence to support any service changes you may propose.
> Include at least two patients/carers in your team. To help with patient and public involvement at a site/trust/health board level, FFFAP's Patient and Carer Panel has co-created a guide to patient and carer involvement.
> The empowerment and influence lists below provide areas to consider when involving people in your team. The stakeholder map provides a tool to think about levels of engagement versus levels of influence, to map team members and stakeholders.

Worksheet – Empowerment and influence

Empowerment and influence

01 Lead

02 Multidisciplinary

03 Range of seniority

04 Patient/carer

05 Time to deliver

06 Able to deliver

Stakeholder map
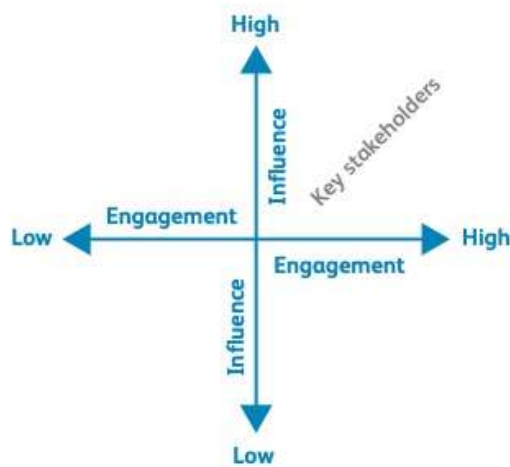
Take the time to fill in this worksheet with the members of your team, with comments on who would be most suitably placed (due to the various factors described above) to help you achieve your project goals.

Role	Name	Core team (y/n)	Comment
Lead			
Patient			

Map the other stakeholders who you have identified in the exercise above into each of the sections below, based on the impact/influence that they will have on your project:

Satisfy

Opinion formers. Keep them satisfied with what is happening and review your analysis of their position regularly.

Manage

Key stakeholders who should be fully engaged through full communication and consultation.

Monitor

Interactions with this group may be paused if time and resources are stretched

Inform

Patients often fall into this category. It may be helpful to take steps to increase their influence by organising them into groups or taking active consultative work (see below).

Co-production with patients and carers

Have a look at the different levels of involvement described in the table below. As a team, discuss which you think you do already? What more would you like to do?

Information	Consultation	Involvement	Co-production
Patients and carers given information about plans and changes via meetings leaflets etc	Views of patients and carers sought via surveys; feedback; focus groups etc	Patients and carers influence governance and policy development	Genuine partnership with agreed principles for working
No requirement to act on feedback from patients and carers	Data gathering from these used to support decisions made by clinical and managerial staff	Individual patient and carer perspectives seen as integral	Agreed shared agenda
Quality measures use clinical guidance and standards only	Quality measures informed by feedback from consultations	Some projects/initiatives led by patients and carers	Partnership approach to quality measures using representative patient and carer experience as a driver
Vision, leadership and setting of agenda all set by staff	Vision and leadership informed by feedback form patients and carers	Organisation is responsive to patient and carer involvement but not as equal partners	Leadership and vision owned by all

Step 2: Measuring your current pathway

Now that we have an idea of who in the team you would focus on, it is now time to see which areas of your service delivery or key performance indicators (KPIs) you need to focus on.

Check your service against the Fracture Liaison Service Database (FLSDB) key performance indicators (KPIs) and complete the table below:

Worksheet – current service performance

KPI	Current performance (%)
KPI 1 – Data completeness FLSs with a good level of data completeness[1]	
KPI 2 – Identification (all fragility fractures) The percentage of patient records submitted compared with the local estimated caseload	
KPI 3 – Identification (spinal fractures) The percentage of patients with a spine fracture as their index fracture site compared with local estimated caseload	
KPI 4 – Time to FLS assessment The percentage of patients who were assessed by the FLS within 90 days of their fracture	
KPI 5 – Time to DXA The percentage of patients who had a DXA ordered or recommended and were scanned within 90 days of fracture	
KPI 6 – Falls assessment The percentage of patients who received a falls assessment or were referred or recommended for a falls assessment	
KPI 7 – Bone therapy recommended The percentage of patients who were recommended anti-osteoporosis medication	
KPI 8 – Strength and balance training The percentage of non-hip fracture patients over 75 who had started strength and balance training within 16 weeks of their fracture	
KPI 9 – Monitoring contact 12–16 weeks post fracture The percentage of patients who were followed up within 16 weeks of their fracture	
KPI 10 – Commenced bone therapy by first follow up The percentage of patients who had commenced (or were continuing) anti-osteoporosis medication within 16 weeks of their fracture	

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[1] Defined as all KPIs greater than 80% complete.

| KPI	Current performance (%)
KPI 11 – Adherence to prescribed anti-osteoporosis medication at 12 months post fracture The percentage of patients who had confirmed adherence to a prescribed anti-osteoporosis medication at 12 months post fracture	

Sometimes your service may want to focus on a particular fracture type and can use the table below instead:

Index fragility fracture site:	Hip	Other inpatients	Trauma outpatients	Clinical spine	Radiological spine
1. Estimated proportion of patients identified by FLS (>80%, 50-79%, <50%, No, DK)					
2. Average time from fracture diagnosis to start FLS assessment (<12wks, >12wks, DK, NA)					
3. Average time from fracture diagnosis to DXA scan (<12wks, >12wks, DK, NA)					
4. Delivery of Falls Assessment according to local guidelines (By FLS, By other, No)					
5. Estimated proportion recommended anti-osteoporosis medication (AOM) (>50%, <50%, DK, NA)					
6. Monitored within 16 weeks from fracture (>80%, 50-79%, <50%, No, DK)					
7. Initiated AOM within 16 weeks from fracture (>80%, 50-79%, <50%, No, DK, NA)					
8. Initiated exercise within 16 weeks from fracture (>80%, 50-79%, <50%, No, DK, NA)					
9. Adherent to AOM at 52 weeks from fracture (>80%, 50-79%, <50%, No, DK)					
10. Database (national, local, none)					
11. Service improvement cycle completed in last 12 months (yes / no)					

Step 3: Prioritise the gaps

Choose one area of improvement that will positively affect your service the most

20% effort → **80%** results
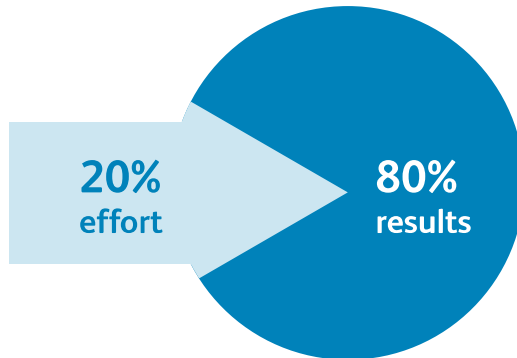
The next step is choosing a project that will give you the most benefit using the least effort. This is sometimes referred to as Pareto's principle.

Here is a link to another resource: IHI Open School resources

Worksheet – potential areas for service improvement

Use this worksheet to grade how beneficial an improvement would be to patients when you compare different domains of care. Don't worry about getting it exactly right – put the first number that comes to your mind.

Care pathway component from KPIs	How much benefit? (low, med, high)	How much effort? (low, med, high)
eg KPI 9 – Monitoring contact 12–16 weeks post fracture	High: Able to identify around 70% of patients who have not started treatment or have stopped so they can be recommended another treatment.	Low: Usually takes a 10–20 minute phone call only.
eg Identification of non-hip inpatients	Medium: Adds around another 25% of patients to FLS pathway who can benefit	High: Each additional patient needs to be assessed that may include DXA, recommended treatment and then monitored at 16 and 52 weeks to make a clear impact on patient outcomes.

Congratulations on reaching the end of this worksheet, you now have a visual representation of which parts of your service would benefit with the least amount of effort. This is unique to your service and is something on which only you have specific knowledge.

If your colleagues have filled in the sheet with you, compare your results after you have completed your worksheet.

1= Low benefit

2= Moderate benefit

3= High benefit

a= Low effort

b= Moderate effort

c= High effort

Step 4: SMART aims

It is important to align your improvement project aim with the values or vision of your organisation. Write this down below:

Organisation vision/values:

Now that you know which KPI that you would like to focus on, the next step would be to structure your goal in the form of a SMART AIM:

S	**Specific**	a precise outcome
M	**Measurable**	a defined element to demonstrate the outcome
A	**Achievable**	realistic given the constraints of time and resources
R	**Relevant**	directly linked to a goal
T	**Timely**	includes when outcomes would be achieved

Take your time in filling out your SMART aims as this will be the vision for your goal. In line with what we have discussed so far, the outcome should be measurable. Use simple language, action words and numbers in your SMART aim. Learn more about SMART aims: www.youtube.com/watch?v=1-SvuFIQjK8

Worksheet – describe your SMART AIM

Define your aim (make sure this is SMART and easy to understand for someone outside your team):

	Example	Priority 1	Priority 2
Specific outcome / KPI	KPI 9 – Monitoring contact 12–16 weeks post fracture		
Defined measurement of outcome	Improve from 50% to 80% of patients monitored by 16 weeks post fracture		
Achievable	This is a realistic goal given departmental constraints		
Relevant	Yes, it will significantly improve patient outcomes		
Timed	To be achieved by 31 December 2023		
Other comments			

How will this be measured?

It is important to think about how you will measure the impact of your proposed service change. The key measure is the outcome measure – a change in patient outcomes. Sometime there is also a process measure that is required to reach the outcome.

Also remember that when there is a focus of energy and resources into a goal, previous gains in other areas may be lost. For example, focusing on one part of the pathway may lead to less time for other parts and some KPIs could get worse. Therefore, it is important to make a note of which KPIs are more likely to be affected and use these as balancing measures to ensure that this does not happen.

Measures that should improve:
> Outcome measures
> Process measures

Measures that should be maintained:
> Balancing measures

Worksheet – describe the measures for your SMART AIM

Please complete the table below with this information to identify the outcome, process and balancing measures to consider:

KPI	Outcome measure to improve	Process measure to improve	Balancing measure to maintain
eg KPI 10 – Commenced bone therapy by first follow up	Started bone therapy by first follow up	Was the patient monitored within 12 to 16 weeks	No compromise to KPI 4 – Time to FLS assessment

You can then describe each measure in more detail:

Measure
What is it that you want to measure?

Type of measure
Outcome, process, balancing, qualitative, which one is it?

Definition

Concept
Why measure it?

Denominator

Sample
Are you collecting on all occurrences?
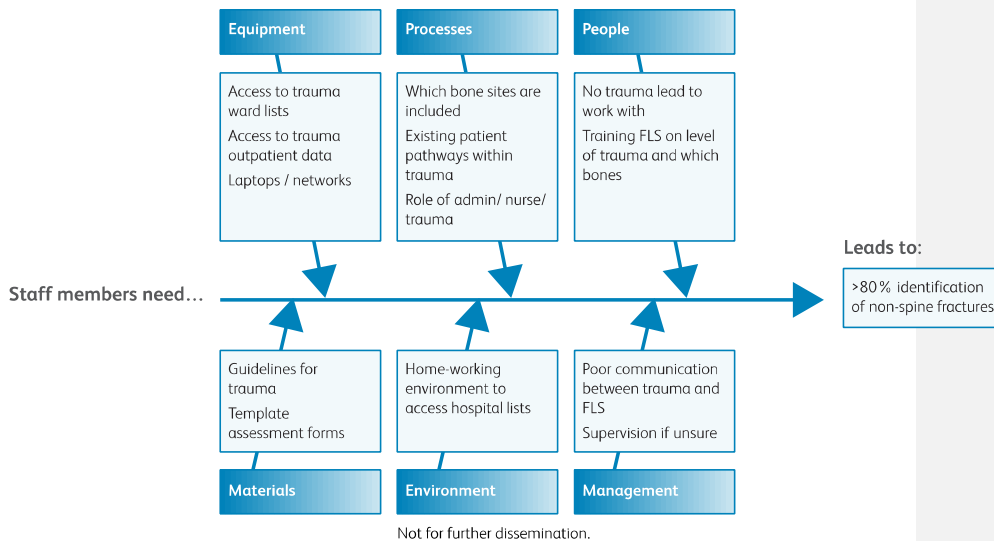
Frequency

Data collection
How will the data be collected?

Person responsible

Step 5: Understanding the causes of the gaps in performance

In order to get an in-depth understanding of why you were getting the previous results, we need to repeatedly ask why until we get to the root cause. Many reasons can lead to the same outcome, so it is important to look for reasons why the service is not getting the desired results.

Below is an example of a fishbone diagram looking for the reasons why patients sometimes have a fall when they are transported within the hospital.

Equipment
Access to trauma ward lists
Access to trauma outpatient data
Laptops / networks

Processes
Which bone sites are included
Existing patient pathways within trauma
Role of admin/ nurse/ trauma

People
No trauma lead to work with
Training FLS on level of trauma and which bones

Staff members need…

Leads to:
>80 % identification of non-spine fractures

Materials
Guidelines for trauma
Template assessment forms

Environment
Home-working environment to access hospital lists

Management
Poor communication between trauma and FLS
Supervision if unsure

Not for further dissemination.

For your SMART aim you can adapt the number of categories. A key category to consider using is 'organisational/management' as this is often critical for achieving sustainable change.

Worksheet – describe the causes for the underperformance of your priority area for change

Use the example above to work out the possible causes of underperformance relating to your chosen KPI in your service:

[add text]	[add text]	[add text]	[add text]
[add text]	[add text]	[add text]	[add text]
[add text]	[add text]	[add text]	[add text]
[add text]	[add text]	[add text]	[add text]

Leads to:

[add text]

[add text]	[add text]	[add text]	[add text]
[add text]	[add text]	[add text]	[add text]
[add text]	[add text]	[add text]	[add text]
[add text]	[add text]	[add text]	[add text]
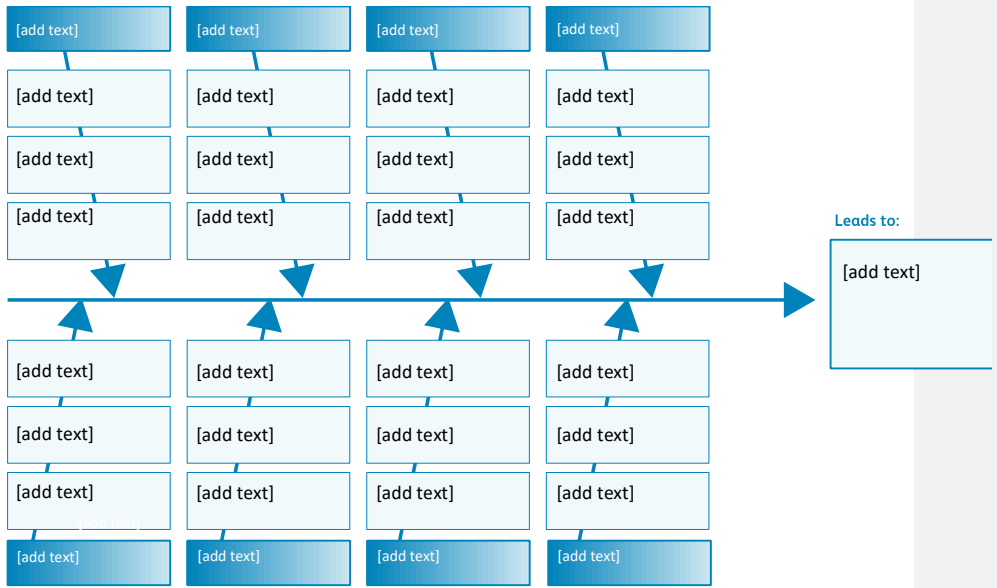
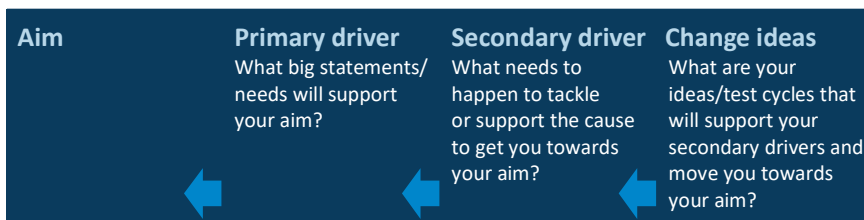## Change idea generation – introducing driver diagrams

Another way of describing why an event may happen is by using driver diagrams to get to the root cause. This simply involves asking why a certain event has happened and questioning the reasons given to get to the cause. You can then use this to develop your change ideas. Learn more about driver diagrams: www.youtube.com/watch?v=A2491BJcyXA

Please find below a worked through example of a driver diagram. On the next page you have a blank template to complete for your quality improvement aim. You can have more than one secondary driver for a primary driver, and one secondary driver can be linked to more than one primary driver.

Aim	Primary driver What big statements/ needs will support your aim?	Secondary driver What needs to happen to tackle or support the cause to get you towards your aim?	Change ideas What are your ideas/test cycles that will support your secondary drivers and move you towards your aim?
Monitoring contact 12-16 weeks post fracture	Assessments not completed by patient	Patients don't value importance of completing monitoring. Too hard for patients to complete monitoring. Monitoring method not tailored to patient preferred method.	Highlight monitoring during initiation visit. Ask patients to review the questions. Offer letter, telephone, SMS and email.
	Assessment not completed by care home staff	Care home staff don't appreciate urgency of starting therapy. Care home staff not trained to complete monitoring.	Produce a 1-page guide. Create flow chart.
	Assessment returned late	Timing of monitoring too late to allow repeat calls. No reminder pathway	Send monitoring 6 weeks early. Create a query to find non-responders after 4 weeks and send a reminder.

Worksheet – describing your drivers and potential change ideas

Use the example above to work out the possible causes and potential change ideas.

Aim	Primary driver What big statements/ needs will support your aim?	Secondary driver What needs to happen to tackle or support the cause to get you towards your aim?	Change ideas What are your ideas/test cycles that will support your secondary drivers and move you towards your aim?

Step 6: Designing the service change

Worksheet – prioritise your service change ideas

The next step is to formally design your service change.

1 First you need to prioritise each potential service change idea by thinking about:
> Is it service change (that can be done within existing resources/staffing) or service development (that requires additional investment/resources/staffing)?
> How easy is it to implement?
> How impactful will it be?
> How desirable is the change?
> What assumptions need to be tested?
> What happens if your change idea fails?

Use the table below to choose the top one or two ideas to take forward.

		Idea 1	Idea 2
Summary	Title of change idea		
Is this service improvement?	A change that can be done within existing staffing/ resources		
Or is this service development?	A change that needs more staffing/ resources?		
How easy to implement?	Easy, medium, hard		
How impactful on patient outcomes?	Small, medium, large		
How desirable is the change by the service?	Not, medium, highly		
What assumptions need to be tested?			
What happens if the change fails?			

2   When you have selected your change idea, there are two more steps to think about in terms of **increasing sustainability:**

> **How can you make your change idea more sustainable**?
> Discuss with the team the different options for making the service change have a greater impact/benefit.
>
> Discuss with the team the different options for making the service change have a lower demand on staff, motivation and costs.

> **Smallest scalable unit?**
> Discuss with your team what is the smallest part of the pathway on which you can first test your service change. This could be a certain type of patient by age, location, team member or day of the week. The idea is to test the service change in the smallest scalable unit; learn from it, modify the service change and then scale it up to the next level, eg other patient groups/locations/days of the week.

Worksheet – describing your service change ideas

3   Describe the service change in detail:

| |
| --- |
| Key driver |
| Change idea / pathway change |
| Opportunities for implementation |
| Challenges for implementation |
| Expected impact |
| Expected desirability |
| Outcome measures and timing |
| Process measures and timing |
| Balancing measures and timing |
| Sustainability |
| Smallest scalable unit |
| Scaling up plant |
| Other assumptions |
| Who needs to know about the planned service change |
| Timing for outcomes measurement |

Step 7: Review and plan

Review your results and plan the next cycle

Finally, you need to evaluate your work to see if you have set out to make the change you had planned. This should be done using the outcome measures in the SMART aims. If you have been successful, this is excellent, you can now plan another QI cycle to build on your success and get even better. You have successfully completed what is called a Plan-Do-Study-Act or PDSA cycle and a series of such cycles will get your FLS to perform effectively, more efficiently and with greater patient satisfaction over time.

Learn more about the PDSA: www.youtube.com/watch?v=szLduqP7u-k
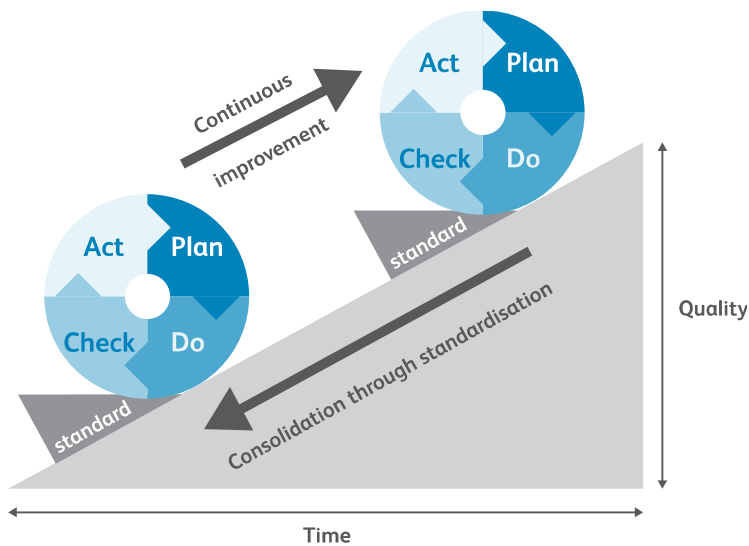
Step 8: Sustain and spread – embedding change

Almost there…

Once you have completed your local service change, start thinking about how to sustain the change locally and then what you can share with other sites and how to do it. With your team, complete the sustain and spread plan below to consider which factors of your improvement project you will need to sustain, and what you could spread to create more improvements elsewhere in your service/organisation. You may want to identify parts of the service change that should stay constant and parts that need to adapt when applied to local hospitals.

	Team	Stakeholders	What?	How?	Who will lead this?
Sustain					
Spread					

Step 9: Evaluating your improvement project

Now is the time to step back and review your team's service change at different levels.

What are your successes?

Who?	Outcomes	Processes	Measures	Stories/relationships
Patient				
Staff				
Organisation				

Also think about:

Understanding and overcoming barriers to change

Reflect on barriers you have come up against in this project and how you have overcome them.

Forces for change	Forces against change

What factors were important in your success?

What would you do differently?

Consider building in a narrative to share how your project has progressed. You may wish to create a storyboard that can be shared within your service or start to write a paper / create a poster for publishing in journals and conferences.

Step 10: Sharing your journey and learning

We would encourage you to use the NAIF template to publicise your findings on the NAIF improvement repository.

Create a poster, journal article or storyboard to share – who is your audience?

SQUIRE 2.0 has some useful guidelines on how to write up your quality improvement work, should you want some additional support:
http://squire-statement.org/index.cfm?fuseaction=Page.ViewPage&PageID=471

Team	
Project	
Aim	
Project team involved/time period	
Why did you want to do this project? (drivers for change)	
Describe your progress so far or the project outcomes that have been achieved. > Successes > Challenges > Lessons learnt > Additional or continuing work	
On reflection, how do you think the project has benefited the care you provide to your patients?	
How has your team worked?	
How did the patient working in the team contribute?	
What about the workbook did you find most useful?	
Next steps?	

Step 11: Feedback

We do hope that you have found using this workbook helpful. We encourage you to give us any feedback so that we may improve it going forward. Please send any comments to flsdb@rcp.ac.uk.

'What gets measured gets managed'

Peter Drucker, author and influential thinker on management

Fracture Liaison Service Database
audit programme (FLS-DB)

Royal College of Physicians
11 St Andrews Place
Regent's Park
London NW1 4LE

Tel: +44 (0)20 3075 1526
Email: flsdb@rcp.ac.uk

@FLS-DB
#FLS-DB

**Royal College
of Physicians**

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