

SAM·QI for the Acute Medical Unit

Quality Improvement Workbook

A comprehensive practical guide for Acute Medical teams

A multidisciplinary manual built around the five-step AMU Improvement Journey, with practical instruction, worked acute medicine examples, change-management essentials, measurement guidance and reusable templates.

5-step journey
Model for Improvement
Practical tools
Worked examples

Designed to help teams...

- understand the problem before choosing solutions
- make a credible theory of change visible
- engage and influence stakeholders
- test safely using PDSA and data over time
- embed, sustain and spread improvement

5

colour-coded steps

20+

core tools

MDT

team-centred

AMU

worked examples

WORKBOOK MAP

How to use this workbook

Read straight through if you are new to QI. If you have a live project, go to the step you are in and use the relevant tools.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

Start here

What QI is; Model for Improvement; the five-step journey; project classification; governance; finding support; improvement methodology landscape.

The five steps

Each step contains practical tools presented in the same structure: what it is, when to use it, how to use it, AMU example, common traps, what next, and a template.

Step	Core tools
1 Understand the problem	5W2H; Gemba; patient/staff insight; process mapping; fishbone; Five Whys; Pareto; human factors.
2 Define the problem and aim	Problem statement; scope; SMART aim; charter; stakeholder identification; elevator pitch.
3 Choose change ideas	Driver diagrams; co-design; stakeholder analysis and influencing; communications; RACI; prioritisation; FMEA.
4 Test and measure improvement	Measures; operational definitions; PDSA; run charts; SPC; qualitative learning.
5 Sustain, spread and share	Implementation; change management; sustainability/control plan; spread; SQUIRE; storytelling.

A workbook, not a compliance exercise

Use the minimum structure needed to make learning reliable. The aim is better care, not completing every tool.

START HERE

Improvement science made practical for Acute Medicine

The five-step journey translates established improvement methodology into a usable sequence for frontline acute medical teams.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

SAM QI WORKBOOK | A practical guide to improving care on the AMU

FOUNDATIONS 5

The AMU Improvement Journey in five steps

Applying improvement science to acute medical care

This five-step journey translates established improvement methodology into a practical, achievable pathway for acute medical teams. We primarily use the Model for Improvement as our core methodology, supported by tools from improvement science, human factors, implementation approaches and statistical process control. You do not need every tool for every project – choose the right tools at the right time.



Remember

- Start small. Test safely.
- Measure over time.
- Learn honestly.
- Involve your MDT, patients and carers.
- Make the right thing easier to do.

OUR CORE METHODOLOGY

Model for Improvement

Three questions to guide improvement, tested through PDSA cycles



What are we trying to accomplish?

Aim and outcomes



How will we know that a change is an improvement?

Measures and data



What changes can we make that will result in improvement?

Change ideas and testing



1 UNDERSTAND THE PROBLEM



What is really happening on the AMU?

Understand the current system, where the problem occurs, who is affected and what the impact is.

KEY TOOLS

- Process map
- Gemba walk
- Baseline data review
- 5 Whys
- Fishbone diagram
- Pareto chart
- Patient and staff feedback



OUTPUT
A shared understanding of the problem and its underlying causes.

2 DEFINE THE PROBLEM STATEMENT AND AIM



What exactly are we trying to improve?

Turn the problem into a clear, measurable aim with a defined scope and time frame.

KEY TOOLS

- Problem statement
- SMART aim
- Scope (inclusion/exclusion)
- Project charter / pitch
- Benefits statement
- Stakeholder identification



OUTPUT
A clear, measurable aim and a plan to test improvement.

3 CHOOSE CHANGE IDEAS



What changes are most likely to help?

Understand the system and prioritise change ideas that are feasible, acceptable and high impact.

KEY TOOLS

- Driver diagram
- Stakeholder map
- Impact / deliverability scoring
- RACI matrix
- Power-interest grid
- FMEA (risk assessment)
- Equality impact prompt
- Co-design with patients and staff



OUTPUT
A prioritised set of change ideas and a plan for how to test them.

4 TEST AND MEASURE IMPROVEMENT



Are the changes working?

Test changes on a small scale, measure their impact and learn what works, adapting as you go.

KEY TOOLS

- PDSA cycles
- Measurement plan
- Outcome, process and balancing measures
- Run chart / SPC chart
- Data collection plan
- Learning log
- Human factors review (what helps or hinders)



OUTPUT
Evidence of improvement, adaptation and learning from testing.

5 SUSTAIN, SPREAD AND SHARE



Will the improvement last and help others?

Make the change part of everyday work, monitor over time and share your learning.

KEY TOOLS

- Sustainability / control plan
- Standard work / SOP
- Re-audit and monitoring plan
- Implementation and culture tools
- SQUIRE write-up
- Abstract and poster
- QIP library submission
- Spread / adoption plan



OUTPUT
A durable improvement that is embedded in practice and shared to help others.

Other improvement approaches you may use

Lean
(for flow and waste)

Six Sigma / DMAIC
(for reducing variation)

Human factors
(for system and team design)

Clinical Microsystems
(for frontline teams)

Implementation science
(for behaviour change)

SQUIRE 2.0
(for reporting)



Examples of AMU QIPs

- Sepsis: antibiotics within 1 hour
- Time to senior review
- Frailty assessment and CFS documentation
- Medicines reconciliation within 24 hours

- SDEC referral and discharge pathway
- Discharge summary completion
- Delayed discharges
- Handover between ED, AMU and wards
- Board round actions and follow-up

★ **IMPORTANT:** Good improvement is about patients and people, not projects and paperwork. Use established methodology, choose the right tools, and involve your MDT, patients and carers.



Scan to view the full QI toolkit, templates and worked examples in this workbook.

The five-step AMU Improvement Journey is the organising spine of this workbook.

Core methodology: Model for Improvement

Three questions - aim, measures and changes - plus iterative PDSA cycles for testing and adaptation. The questions are not a rigid sequence; learning in one area can change the others.

Wider context: NHS IMPACT

NHS IMPACT emphasises shared purpose, people and culture, leadership behaviours, improvement capability/capacity and improvement embedded into management systems. It does not mandate one improvement methodology.

Methodology

A structured way to think about and manage improvement.

Method

A repeated set of actions such as PDSA or DMAIC.

Tool

A technique such as process mapping, fishbone or stakeholder analysis.

START HERE

QI, audit, service evaluation and research

These activities can overlap in practice, but they have different purposes and governance routes.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

Activity	Primary purpose	Typical approach	Governance note
Clinical audit	Compare current care against an explicit standard.	Measure compliance, act, then reassess as appropriate.	Use your organisation's clinical audit / governance route.
Quality improvement	Change a system and learn whether care improves.	Iterative testing, measurement over time and adaptation.	Use the local QI/governance route; additional approvals may still apply.
Service evaluation	Assess how an existing service is performing.	Describe performance, experience or outcomes without necessarily introducing change.	Follow local registration and information-governance requirements.
Research	Generate generalisable new knowledge.	Protocol-driven methods appropriate to the research question.	Use the HRA decision tools and local R&D advice; research status does not automatically mean NHS REC review is required.

Do not self-classify by label alone

A project called "QI" may still require additional governance, information-governance or research advice. Use the HRA "Is my study research?" and REC decision tools where relevant, and follow your organisation's local processes.

Finding support

Local team

Clinical sponsor, QI team, data/analytics, pharmacy, digital, patient experience, governance and IG.

Peer network

Other AMUs and regional networks can help you avoid reinventing work and compare context.

National resources

SAM, AQuA QSIR, RCP Improvement, IHI and NHS IMPACT provide methods, tools and examples.

S1

DEEP DIVE

Choosing the right tool for the question

QI maturity is not measured by how many diagrams you use.

Start with the question

Choose a tool because it answers something the team genuinely needs to know. Process mapping is useful for workflow; fishbone for broad causal hypotheses; Five Whys for a simple causal chain; a driver diagram for the theory of change; SPC for variation over time.

Avoid “tool collecting”

A project with six diagrams but no meaningful testing or measurement is not stronger than a project that uses two tools well.

If you need to...	Useful tool
Describe a vague problem	5W2H
See how the pathway really works	Process map / observation
Generate plausible causes	Fishbone
Explore one simple causal chain	Five Whys
See which causes dominate	Pareto
Make the improvement theory visible	Driver diagram
Understand influence / readiness	Stakeholder analysis
Learn whether a change helps	PDSA + time-series measurement

Practical rule

If a tool does not change what the team understands, decides or tests, it may not be worth doing.

S2

DEEP DIVE

Working with patients, carers and the MDT

People closest to the work and the experience hold different pieces of the system.

Patients / carers

Experience of waiting, clarity, dignity, transitions and what matters most.

Nurses / ACPs

Workflow, deterioration, task ownership, hand-offs and workarounds.

Doctors

Decision-making, diagnostic uncertainty, clinical risk and cross-specialty interfaces.

Pharmacy

Medicines process, safety, supply, prescribing and reconciliation.

AHPs / discharge teams

Function, discharge dependencies, community interfaces and flow.

Admin / porters / digital / data

Hidden operational steps, transport, information flow, EPR and measurement.

Co-production principle

Do not ask patients or frontline staff merely to endorse a solution designed elsewhere. Involve them early enough to alter the problem definition, the change design and the interpretation of results.

Whose voice is missing?

STEP 1

Understand the problem

What is really happening on the AMU?

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

What you are trying to achieve

Build a shared, evidence-informed understanding of the problem: what is happening, where, to whom, how often, what the impact is and what system conditions may be contributing.

Core tools in this step

- 5W2H
- patient/staff insight
- Gemba / observation
- process mapping
- fishbone
- Five Whys
- Pareto
- human factors / systems thinking

Do not treat the steps as a waterfall

Use the step as your current focus, but move backwards when learning changes your understanding of the problem, aim, theory or measures.

By the end of this step

Describe the problem clearly; Show the current-state pathway.

Evidence you should have

Identify plausible causes to investigate.

Ready to move on when...

The team can explain what it has learned and why the next step is justified.

How the tools in this step connect

5W2H -> sharpen the question

Observe / Gemba -> see work-as-done

Process map -> expose waits and hand-offs

Fishbone / 5 Whys / Pareto -> explore causes

1A

PROBLEM FRAMING

5W2H problem framing

Turn a vague concern into a fuller description before you start analysing causes.

What is it?

5W2H uses seven prompts - **Who, What, When, Where, Why, How and How much** - to make sure the team has described the problem from several angles rather than jumping straight to a solution.

When to use it

Use it at the very beginning of an improvement project when the problem is known but poorly defined, or when different team members are describing different versions of the same issue.

- 1 **What** Describe exactly what is happening. Avoid naming your preferred intervention.
- 2 **Who** Who experiences the problem, who does the work and who is affected downstream?
- 3 **Where** Identify the setting and the part of the pathway where the problem appears.
- 4 **When** Look for timing, shift, day-of-week, seasonal or workload patterns.
- 5 **Why** Why does the problem matter to patients, staff, flow, safety or outcomes?
- 6 **How** Describe how the problem manifests in real work.
- 7 **How much** Quantify frequency, scale, delay, defects or harm where possible.

AMU example

What	Patients remain on AMU long after the clinical decision to discharge.
Who	Discharge-ready patients; nurses, doctors, pharmacy, discharge coordinators and transport.
Where	AMU discharge pathway, especially after the morning senior review.
When	Delays cluster from midday into late afternoon and are worse at weekends.
Why	Longer waits, poorer experience, reduced AMU capacity and delayed flow for incoming patients.
How	Medicines, documentation, transport and follow-up tasks are often completed sequentially.
How much	Initial sample suggests a median 180-minute decision-to-departure interval.

Common trap: treating “Why?” in 5W2H as a root-cause analysis. Here it means “why does this problem matter?”; causal analysis comes later with process mapping, fishbone, data and observation.

Apply 5W2H to your project

Use the prompts below to turn a vague concern into a clearly described problem before moving into causal analysis.

Try it: your 5W2H

Summarise the seven answers in one or two sentences. That becomes the starting point for your Step 1 analysis.

Go deeper: [AHRQ Digital Healthcare Research - 5W2H](#); [AQuA QSIR problem-analysis tools](#).

1B

OBSERVATION

Go and see: observation, Gemba and lived experience

Understand work as it is actually done, not only as policy says it should happen.

Why it matters

Many pathway problems are invisible in meeting rooms. Observation shows interruptions, workarounds, waiting, duplication, queues, missing information and the sequence in which tasks really happen.

Whose perspective?

Include patients and carers, nurses, doctors, ACPs, pharmacy, therapists, administrative staff, porters and others who touch the process. Each sees different failure modes.

- 1 **Define the question** Know what you are trying to understand; do not simply “shadow the ward”.
- 2 **Observe respectfully** Explain your purpose, avoid disrupting care and protect confidentiality.
- 3 **Follow the work** Track a patient journey, task or hand-off end to end.
- 4 **Record facts first** Separate what you saw from your interpretation of why it happened.
- 5 **Ask “what makes the right thing hard?”** Invite staff to explain workarounds and constraints without blame.
- 6 **Add patient/carers insight** What did the pathway feel like and where was it confusing or frustrating?

Observation notes

Time / point	What happened	Wait / rework / hand-off	What we need to understand

Common trap: observation as covert performance management. Improvement observation should make the system visible, not judge individual staff.

Go deeper: NHS England co-production and QI resource guide; AQuA QSIR process-mapping and patient-story tools.

1C

CORE TOOL

Process mapping

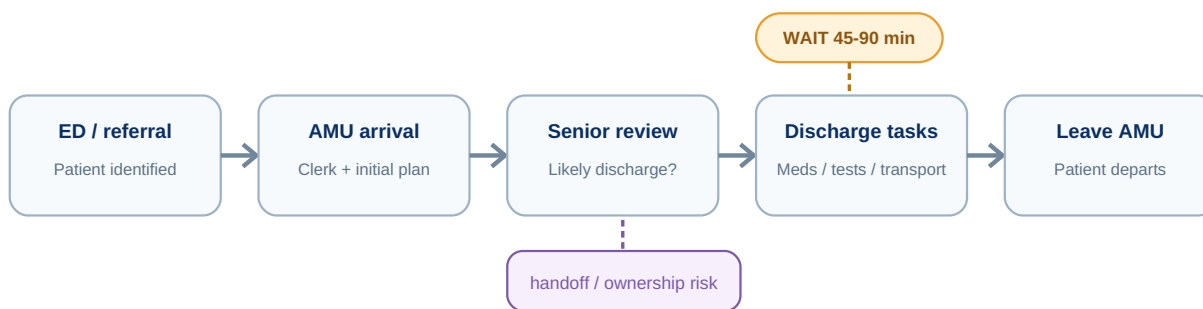
Create a shared visual picture of the current pathway before changing it.

What is it?

A process map represents the current sequence of work: starts and ends, activities, decisions, waits, loops and hand-offs. Its value is the conversation it creates about work-as-done.

When to use it

Use it early, especially when the pathway crosses professional or organisational boundaries, previous fixes have failed, or the team disagrees about what normally happens.



Simplified AMU discharge pathway. The map is deliberately annotated with a wait and an ownership risk - the analysis matters more than the drawing.

- 1 **Set the boundaries** Agree the start and end points from the patient perspective.
- 2 **Invite the whole pathway** Bring together people who do each part of the work, including patients/carers where possible.
- 3 **Map high level first** Start with 5-10 broad steps, then add detail only where it helps.
- 4 **Add decisions, waits and loops** Show where the pathway branches, stalls or repeats.
- 5 **Mark hand-offs** Every arrow crossing a team boundary deserves attention.
- 6 **Validate in practice** Compare the workshop map with observation and real cases.

AQuA QSIR describes process mapping as a way to expose duplication, waste, unhelpful variation and unnecessary steps, and recommends involving people across the pathway before making service changes.

1C

ANALYSIS

How to interrogate a process map

A process map is useful only if the team asks the right questions of it.

Ask about flow

- Where does work queue?
- Which step has the longest delay?
- Where are tasks done sequentially that could be parallel?
- Where do patients or information move backwards?

Ask about reliability

- Where does the process depend on memory?
- Where does ownership change?
- Where does the policy differ from practice?
- Where do staff use workarounds?

Ask about value

- Which steps add value for the patient?
- Which are necessary but non-value-adding?
- Which are pure waste or duplication?
- Which steps could be removed, combined or simplified?

Ask about experience

- Where is the patient waiting without information?
- Where do staff experience avoidable friction?
- Where is there cognitive overload or repeated data entry?
- Where do equality or accessibility issues arise?

Turn observations into testable hypotheses

Do not label a step “the root cause” because it looks inefficient. Use the map to decide what to investigate next with data, observation, fishbone analysis or direct testing.

Process-map analysis worksheet

Map point	What we notice	Evidence needed	Possible opportunity
-----------	----------------	-----------------	----------------------

Go deeper: AQuA QSIR Conventional Process Mapping; RCP Improvement QI guide.

1D

CAUSE ANALYSIS

Fishbone / cause-and-effect analysis

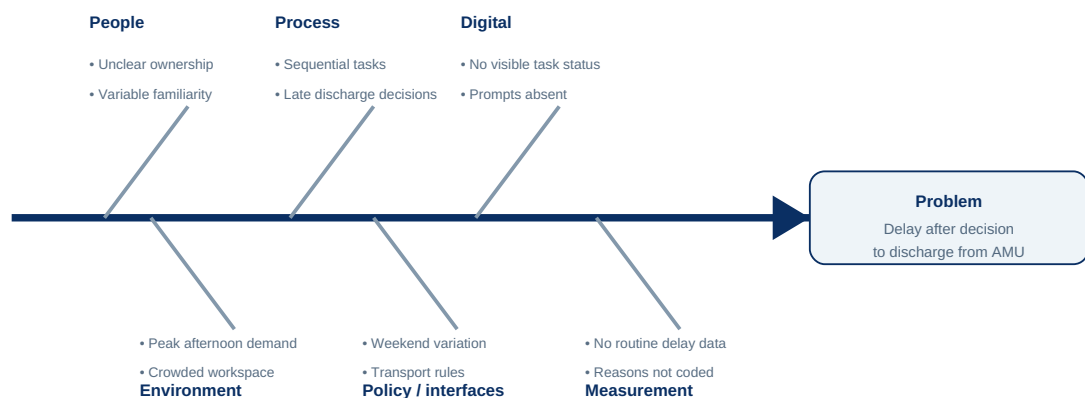
Generate a broad set of plausible contributory factors before designing solutions.

What is it?

A fishbone diagram structures the team's collective hypotheses about why a problem may be occurring. It is sometimes called an Ishikawa or cause-and-effect diagram.

What it is not

It does **not** prove causality. It creates hypotheses that should be investigated with data, observation, interviews, process mapping or other evidence.



Worked AMU example: plausible contributors to delay after a clinical decision to discharge.

- 1 Define the problem precisely** Put the effect at the “head” of the fish; use data if possible.
- 2 Choose relevant categories** Examples include people, process, digital, equipment, environment, policy/ interfaces and measurement.
- 3 Generate factors with the people involved** Avoid completing the fishbone alone.
- 4 Drill into sub-factors** Ask what sits beneath each contributor.
- 5 Look for patterns and interactions** Several branches may combine to produce the observed outcome.
- 6 Investigate before acting** Use evidence to decide which factors actually deserve intervention.

Common traps: using generic categories mechanically; turning opinions into “root causes”; blaming staff; choosing an intervention directly from the loudest branch without validating it.

Go deeper: AQuA QSIR Cause and Effect (Fishbone); RCP Improvement QI guide.

1D

TRY IT

Fishbone worksheet

Use the categories that fit your problem; there is no requirement to use the same headings every time.

Your problem / effect

Category	Plausible contributing factors	What evidence would test this?
People		
Process / workflow		
Digital / information		
Environment / equipment		
Policy / interfaces		
Measurement / feedback		

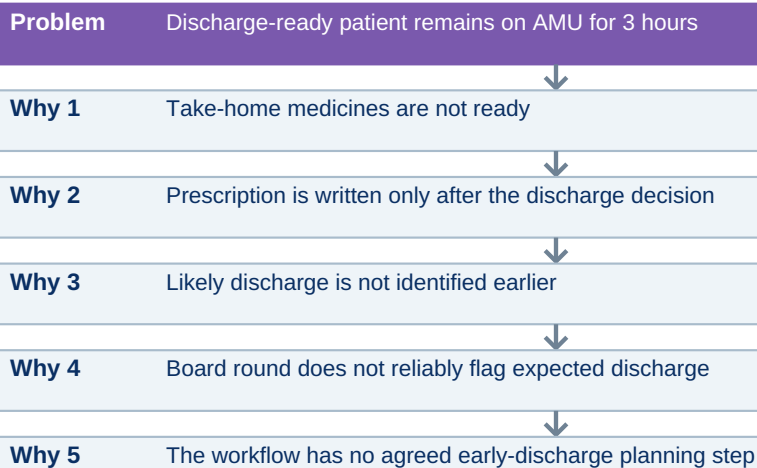
What next? Choose one or two important branches to investigate. A process map may show where the factor occurs; a Pareto chart may show which reason dominates; Five Whys can drill into one simple causal chain; patient/staff interviews can reveal why the work behaves as it does.

1E

SIMPLE CAUSAL EXPLORATION

Five Whys

Drill into one simple causal chain - but do not mistake it for a complete systems analysis.



A Five Whys chain can surface a basic underlying process issue. It should be validated, not accepted uncritically.

Use it when

The problem is relatively simple and you want to explore one causal pathway more deeply, often after process mapping or fishbone analysis.

Do not use it as

The principal method for a complex systems-based patient-safety investigation. “Five” is a rule of thumb - stop when further “why” questions stop adding useful information.

- 1 **Write the problem** Make sure the team is answering the same question.
- 2 **Ask why it happens** Write the answer rather than relying on memory.
- 3 **Ask why again** Use the previous answer as the next question.
- 4 **Challenge assumptions** What evidence supports this answer? Could there be another branch?
- 5 **Stop when useful** You may need fewer or more than five questions.
- 6 **Validate the conclusion** Confirm the suspected cause with data or observation before designing the change.

AQuA QSIR explicitly describes Five Whys as a basic technique for reviewing a simple problem and cautions against using it as the key causal technique for complex systems-based patient-safety investigation.

1F

DATA PRIORITISATION

Pareto analysis

See whether a small number of causes account for a large share of the observed problem.

What is it?

A Pareto chart orders categories from most to least frequent and often adds a cumulative percentage line. It helps teams focus investigation and change efforts where the largest share of the problem occurs.

AMU example

If 60% of discharge delays are linked to medicines and transport, that tells you more than a generic “discharge is slow” statement. It does not mean the remaining causes are unimportant.

Recorded reason for delay	Cases	%	Cumulative %
Take-home medicines	34	34%	34%
Transport	27	27%	61%
Discharge documentation	16	16%	77%
Follow-up / specialty plan	12	12%	89%
Other	11	11%	100%

Check the denominator

A Pareto chart is only as good as the categories and data collection behind it. Ensure reasons are defined consistently and allow for multiple contributing factors where appropriate.

Try it

List the categories you will count, how they will be defined, and the period over which you will collect them.

Go deeper: AQuA QSIR Pareto Analysis.

1G

SYSTEMS LENS

Human factors and systems thinking

Look beyond knowledge and motivation to the design of the work itself.

People
Capability, workload, fatigue, competing tasks, cognition.

Tasks
Complexity, sequencing, interruptions, dependence on memory.

Tools & technology
EPR design, equipment, prompts, visibility and usability.

Environment
Noise, layout, access to resources, crowding and interruptions.

Team & organisation
Roles, hand-offs, norms, escalation, staffing and policies.

Patient context
Language, cognition, frailty, accessibility, carer support and preferences.

If a process depends on everyone remembering to do the right thing in a busy AMU, the system has been designed to fail.

Human factors prompt

System element	What makes the desired action easy?	What makes it hard?
People / workload		
Task design		
Digital / equipment		
Environment		
Team / organisation		

Go deeper: RCP Human Factors webinar series; NHS England patient-safety and systems resources.



DEEP DIVE

Current-state and future-state process maps

Map the reality first; design the future only after you understand what is driving the current state.

Current-state map

Shows work as it happens now, including waits, loops, workarounds, duplication and variation. It is diagnostic.

Future-state map

Shows the intended redesigned flow after learning from Step 1 and Step 3. It is a hypothesis about how work could operate, not a promise that it will.

Ask of current state	Ask of future state
Where does the patient wait?	Which waits can be removed or reduced?
Where does ownership change?	How will ownership remain visible?
Which tasks are sequential?	Which could safely run in parallel?
Where is information duplicated?	Where can one reliable source replace repeated entry?
Where are workarounds?	How can the system make the preferred action easier?

Common trap: drawing the future-state map in the first meeting and then treating it as the solution. Test the redesigned pathway through PDSA before implementation.

Notes / local adaptation

11

DEEP DIVE

Mapping the last 10 patients

Use real recent cases to test whether the “usual pathway” is actually usual.

When staff describe a pathway from memory, they often describe the intended process. Reviewing a small consecutive sample of real patient journeys can reveal hidden variation, repeated delays and different routes through the same service.

Case	Key pathway	Main delay / failure	Context
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Use it to challenge assumptions

If the 10 cases follow four different pathways, a single “standard process” may exist only on paper. That variation may itself be the improvement problem.

Go deeper: AQuA QSIR Mapping the Last 10 Patients / tracer-study approaches.

1J

DEEP DIVE

When the problem is flow: demand, capacity and queues

A flow problem may not be solved by asking staff to work faster.

Demand

Who needs the service, when, in what volume, with what level of complexity and variability?

Capacity

What work can the system safely deliver, when, with which staff, rooms, diagnostics, pharmacy and downstream services?

Queue

A visible symptom of mismatch or variability.

Bottleneck

The step constraining flow at that time.

Failure demand

Extra work created because the process failed first time.

Acute medicine caution

Do not interpret flow as “move patients faster at any cost”. Quality, clinical risk, dignity and appropriate place of care remain part of the system objective.

Go deeper: AQuA QSIR Demand and Capacity and Flow tools; IHI hospital-wide patient-flow resources.

Notes / local adaptation

1K

DEEP DIVE

Triangulate before you conclude

Strong problem understanding rarely comes from one data source.

Source	What it can tell you	What it may miss
Routine data	Scale, variation, timing, patterns	Why the process behaves that way
Observation	Work-as-done, interruptions, workarounds	Rare events; experiences not visible to observer
Patient / carer feedback	Experience, clarity, dignity, priorities	Whole-system operational detail
Staff interviews / huddles	Constraints, tacit knowledge, practical barriers	Recall bias; normalisation of workarounds
Incidents / complaints	Failure modes and harm themes	Denominator and frequency

The most credible explanation is the one that survives contact with several different kinds of evidence.

Notes / local adaptation

STEP 1 CHECKPOINT

Synthesis: what do we now believe is really happening?

The goal of Step 1 is not to produce multiple diagrams; it is to leave the team with a better shared explanation of the current system.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

Question	Evidence / answer
What is the problem, for whom, where and how often?	
What did patients, carers and staff tell us?	
What does the process map reveal?	
Which causal hypotheses are most plausible?	
What evidence supports or challenges them?	
What remains uncertain?	

Ready for Step 2?

Move on when the team can explain the problem without naming the intervention and can show the evidence that underpins its current understanding.

STEP 2

Define the problem and aim

What exactly are we trying to improve?

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

What you are trying to achieve

Convert the Step 1 learning into a precise problem statement, manageable scope, measurable aim and clear project story.

Core tools in this step

- problem statement
- scope
- SMART aim
- project charter
- stakeholder identification
- elevator pitch
- local registration

Do not treat the steps as a waterfall

Use the step as your current focus, but move backwards when learning changes your understanding of the problem, aim, theory or measures.

By the end of this step

Write a precise problem statement;
Set a measurable aim and scope.

Evidence you should have

Create a clear project story and pitch.

Ready to move on when...

The team can explain what it has learned and why the next step is justified.

How the tools in this step connect

Problem statement ->
define the gap

Aim -> specify how much
and by when

Charter -> make scope and
ownership explicit

Stakeholders / pitch ->
mobilise support

2A

DEFINITION

Problem statement and scope

Separate the current gap from the solution you may eventually test.

A useful problem statement

Describes the current state, who is affected, where it happens and why it matters. It may mention suspected system contributors, but it should not lock the team into one intervention.

Scope protects the project

Specify the population, setting, time period, process boundaries and what is explicitly outside scope. Scope can expand later if learning supports it.

Weak: "We need a new discharge checklist."

Stronger: "Patients clinically ready to leave the AMU frequently remain for several hours because discharge tasks begin late and ownership varies, reducing patient experience and AMU capacity."

Problem statement builder

Currently, [population/process] experiences [problem] in [setting], leading to [impact]. Our Step 1 work suggests the problem may be influenced by [system factors].

In scope

Out of scope for now

RCP Improvement emphasises defining a manageable project scope and identifying the part of the system most relevant to the problem.

2B

MODEL FOR IMPROVEMENT

Write a measurable aim

Answer “What are we trying to accomplish?” with enough precision to guide decisions.

Specific

Who, what process and where?

Measurable

What number or outcome will move?

Ambitious but credible

Enough to matter; achievable within the system.

Relevant

Connected to what matters to patients and the service.

Time-bound

By when will you assess the intended improvement?

Balanced

What must not get worse while the main measure improves?

Reduce the median time from clinical decision to discharge to leaving the AMU from 180 to 90 minutes by 31 March 2027, without increasing 7-day unplanned reattendance.

Aim statement

To [increase / reduce / improve] [measure] from [baseline] to [target] for [population / setting] by [date], while monitoring [balancing measure].

Common trap: adding the intervention into the aim (“to introduce a checklist”). The aim should describe the outcome you want, not the tool you currently prefer.



PROJECT DISCIPLINE

Project charter / brief

Create one page that holds the project together.

Charter element	What to include
Problem	One concise statement based on Step 1 evidence.
Aim	Measurable target, population, setting and timeframe.
Scope	Boundaries and exclusions.
Team	Project lead, sponsor, key MDT roles, patient/carer input.
Theory	Early drivers / rationale for change.
Measures	Early outcome, process and balancing measures.
Governance	Local registration, IG, medicines/digital/other approvals as applicable.
Timeline	Initial testing period and review points.

One-page charter

Go deeper: AQuA QSIR Project Charter / Brief / Mandate.

2D

PEOPLE & CHANGE

Identify your stakeholders

Create the broad list now; prioritise and influence them in Step 3.

Start wider than the obvious team

Think about people who do the work, experience the care, control resources, hold specialist knowledge, can approve the change, may be affected downstream, or can champion or block implementation.

AMU prompt

Patients/carers, nursing, doctors, ACPs, pharmacy, AHPs, ED, specialty teams, diagnostics, discharge teams, porters, administration, digital, data/analytics, governance, primary/community care and senior leadership.

Stakeholder list

Person / group	How are they affected?	What do we need from them?

What next? Do not yet assume all stakeholders need the same level of engagement. Step 3 will map power/ influence, impact, readiness and the appropriate influencing approach.

Go deeper: AQuA QSIR Stakeholder Analysis.

2E

COMMUNICATION

The 30-60 second improvement pitch

Explain the project quickly enough to secure attention, involvement or support.

1 • The problem

What is happening now?

2 • Why it matters

Impact on patients, staff, safety, flow or outcomes.

3 • The aim

What are you trying to achieve, by how much and by when?

4 • The approach

How will you understand, test and measure change?

5 • The ask

What do you need from this person?

Tailor it

A patient, pharmacist, clinical director and executive sponsor care about different aspects.

Example:

“On our AMU, patients who are clinically ready for discharge often wait several hours before leaving. Our early mapping suggests medicines, documentation and transport are frequently completed sequentially. We aim to reduce median decision-to-departure time from 180 to 90 minutes by March 2027 without increasing 7-day reattendance. We will test small pathway changes using PDSA and data over time. We would like pharmacy representation and access to time-stamped discharge data.”

Your pitch

2F

DEEP DIVE

Benefits statement and value case

Explain why the improvement matters beyond the project team.

Patient value
Safety, outcomes, experience, dignity, timeliness and equity.

Staff value
Less rework, clearer roles, better workflow, reduced frustration.

Operational value
Flow, reliability, capacity, reduced duplication and avoidable demand.

Resource value
Time, cost, medicines, diagnostics, estate or digital resource.

Strategic value
Alignment with service priorities without forcing artificial framework links.

Learning value
Capability built in the team and transferable knowledge.

Our value case in three sentences

2G

DEEP DIVE

Sponsor, project lead and team roles

A project needs enough authority to remove barriers and enough frontline ownership to redesign real work.

Role	Main contribution	What not to do
Clinical / operational sponsor	Remove barriers, align priorities, help with cross-boundary escalation.	Own every operational detail.
Project lead	Coordinate learning, meetings, tests and follow-up.	Become the only person who can keep the process alive.
Frontline team	Understand work-as-done, co-design changes, run tests.	Be treated as passive recipients of change.
Patient / carer partner	Keep the project focused on experience and what matters.	Be invited only to validate the final product.
QI / data support	Method coaching, measurement, analysis and visualisation.	Take ownership away from the clinical team.

Notes / local adaptation

2H

DEEP DIVE

Is this project the right size?

Scope small enough to learn; big enough to matter.

Too small

- only changes one person's behaviour
- no meaningful patient/system outcome
- solution already predetermined
- little room for testing or learning

Too big

- multiple unrelated aims
- whole-hospital transformation led by one rotating trainee
- depends on several major programmes before any test is possible
- no clear boundary for measurement

Better framing

Start with a tractable microsystem or pathway segment, learn quickly, then deliberately expand the scope if the mechanism appears sound and the governance/resources support it.

Notes / local adaptation

STEP 2 CHECKPOINT

Can another person tell exactly what you are trying to improve?

Before choosing interventions, make sure the project has a clear problem statement, scope, aim and story.

- 1 UNDERSTAND
- 2 DEFINE & AIM
- 3 CHOOSE CHANGES
- 4 TEST & MEASURE
- 5 SUSTAIN & SHARE

Check	Yes / needs work
Problem statement describes the current state without prescribing the solution.	
Scope is realistic for the team and timeframe.	
Aim contains population, measure, baseline, target and date.	
Project is registered through the right local route.	
Stakeholder list includes patients/carers and cross-boundary teams.	
Team can deliver a clear 30-60 second pitch.	

STEP 3

Choose change ideas

What changes are most likely to help?

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

What you are trying to achieve

Turn the Step 1 understanding into an explicit theory of change, select interventions deliberately, and plan how to engage the people whose behaviour, resources or decisions matter.

Core tools in this step

- driver diagram
- co-design
- stakeholder power/ interest
- readiness / influencing
- communications matrix
- RACI
- impact / deliverability
- FMEA

Do not treat the steps as a waterfall

Use the step as your current focus, but move backwards when learning changes your understanding of the problem, aim, theory or measures.

By the end of this step

Make the theory of change visible;
Prioritise changes deliberately.

Evidence you should have

Plan how to engage and influence people.

Ready to move on when...

The team can explain what it has learned and why the next step is justified.

How the tools in this step connect

Driver diagram -> connect aim to changes

Co-design -> improve relevance and acceptability

Stakeholder / RACI -> plan influence and roles

Prioritisation / FMEA -> choose safely

3A

CORE TOOL

Driver diagrams

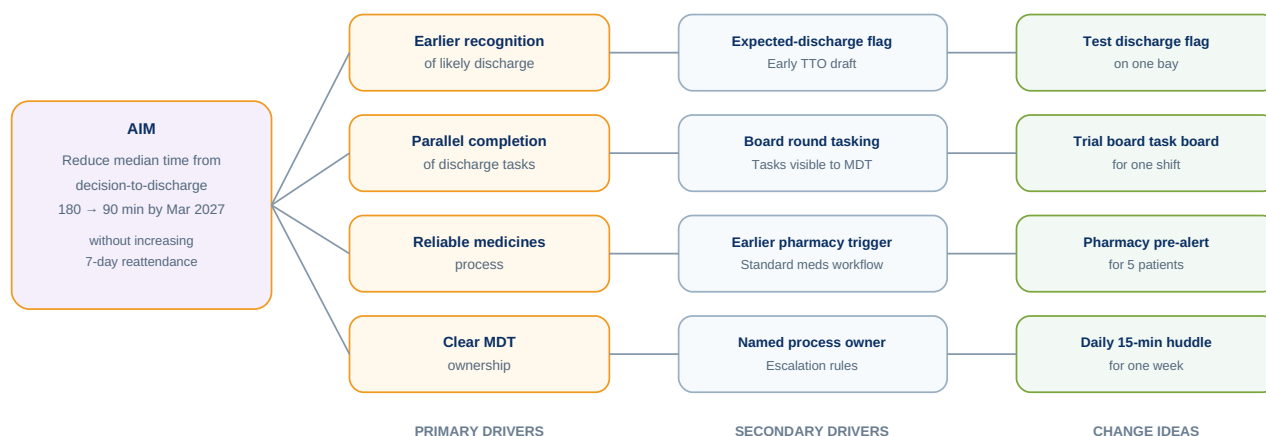
Make the team's theory of how improvement will happen visible and testable.

What is it?

A driver diagram links the measurable aim to the system conditions that need to change (drivers) and to specific change ideas. It is a theory, not proof.

When to use it

Create it during early planning, then revisit it throughout the project. As you learn from data and PDSA cycles, update the drivers and change ideas.



Worked AMU driver diagram: aim → primary drivers → secondary drivers → testable change ideas.

AQuA QSIR describes driver diagrams as structured charts that translate a measurable goal into factors that must be influenced and the projects/actions intended to act on them.

3A

HOW TO

How to build a driver diagram

Start with the aim, not with the intervention.

- 1 **Write the measurable aim** Place the Step 2 aim on the left.
- 2 **Ask what must be true** Identify 2-5 primary drivers - the major system conditions needed to achieve the aim.
- 3 **Go deeper where useful** Add secondary drivers that explain the more specific processes, behaviours or conditions.
- 4 **Generate change ideas** Create concrete interventions that could influence one or more drivers.
- 5 **Check the logic** Can the team explain why each change idea should influence the aim through the drivers?
- 6 **Keep it live** Update the diagram as PDSA learning changes the theory.

Common traps: using activities (“do training”) as primary drivers; having so many drivers that the diagram becomes a project plan; assuming the arrows prove causation; never revisiting the theory after testing starts.

Driver diagram builder

Aim	Primary drivers	Secondary drivers	Change ideas

Go deeper: AQuA QSIR Driver Diagrams; RCP improvement workbooks include worked driver-diagram examples and blank templates.

3B

CO-PRODUCTION

Co-design change ideas

Design changes with the people who do and experience the work.

Why it matters

Changes designed without frontline or patient input often fail because they do not fit real work, overlook practical barriers or solve the wrong problem.

Practical approaches

- small multidisciplinary design huddles
- patient/carer review of proposed information or pathway
- rapid prototyping of forms, prompts or task boards
- walk-through of a proposed future-state process

Co-design question

"If we wanted the right thing to be the easiest thing to do on the busiest AMU shift, what would have to change?"

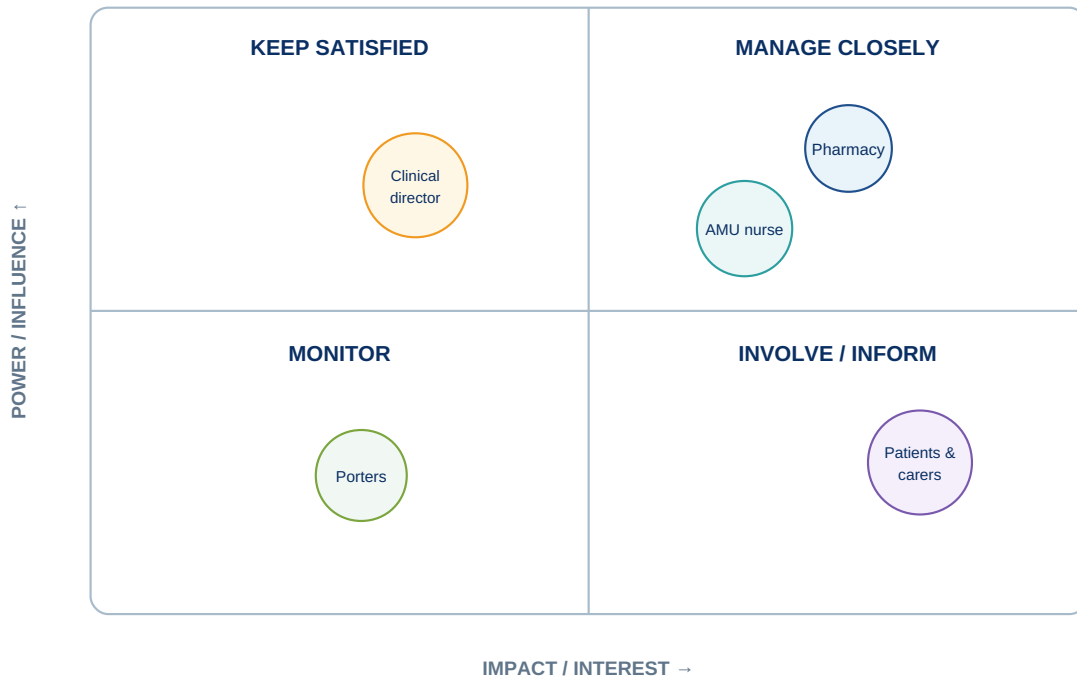
Go deeper: NHS England Co-production and Quality Improvement resource guide; AQuA QSIR stakeholder/patient involvement tools.

3C

CHANGE MANAGEMENT

Stakeholder power, influence and impact

Decide how much attention each stakeholder needs - and how to increase the influence of people whose voices are easy to miss.



Illustrative power/influence x impact/interest map. Positions are context-specific and should be reviewed during the project.

- 1 Start with the Step 2 list** Add anyone you missed as the project becomes clearer.
- 2 Assess power/influence** Who can approve, enable, resource, block or shape the change?
- 3 Assess impact/interest** Who is most affected by the problem or the proposed change?
- 4 Choose the engagement level** Manage closely, keep satisfied, involve/inform, or monitor appropriately.
- 5 Correct for structural power** Patients and frontline staff may have high impact but less formal power - actively increase their influence.
- 6 Review regularly** Stakeholder positions and influence change as the project evolves.

AQuA QSIR recommends early stakeholder analysis and mapping according to power/influence and how affected stakeholders are. It explicitly notes that patient influence may need to be actively increased.



CHANGE MANAGEMENT

Influencing stakeholders

Move from “who matters?” to “what do they need, what matters to them, and how will we engage?”.

Stakeholder	Current position	What matters to them?	Desired position	Who influences them?	Our approach
Pharmacy lead	Neutral	Safety, workload, formulary / operational constraints	Supportive	Chief pharmacist, SDEC pharmacist	Co-design the early medicines trigger; show demand profile.
AMU nurses	Supportive but stretched	Visible ownership, fewer late discharges, workload	Champion	Senior sisters, shift leads	Test with one bay; ask what makes the process easier.
Patients / carers	Variable awareness	Clarity, waiting, dignity, safe follow-up	Active contributors	Patient experience team	Invite review of pathway and discharge communication.

Interests

Financial, professional, emotional, operational, patient-safety or reputational.

Information

What evidence will they need to make sense of the proposed change?

Channels

Who should speak to them, and in what format or forum?

AQuA QSIR Stakeholder Analysis recommends assessing readiness for change, motivations, information needs, preferred communication and who influences key stakeholders.

Notes / local adaptation

Plan communication as part of implementation, not as an afterthought.

Common trap: communication that is only broadcast. Effective engagement includes listening, adapting and showing people how their input changed the project.

Notes / local adaptation



ROLES

Responsibility charting / RACI

Clarify who does the work and who owns the decision.

R • Responsible
Does the work.

A • Accountable
Owns the result / final decision. Ideally one clear owner.

C • Consulted
Provides input before action or decision.

I • Informed
Needs to know what happened.

Task	AMU consultant	Nurse lead	Pharmacist	QI analyst
Agree discharge process test	A	R	C	I
Medicines workflow	C	C	A/R	I
Run-chart production	I	C	C	A/R

Use sparingly
RACI is most useful when cross-boundary work has unclear ownership. Do not create a complex chart for a simple project.

Go deeper: [AQuA_QSIR_Responsibility_Charting](#).

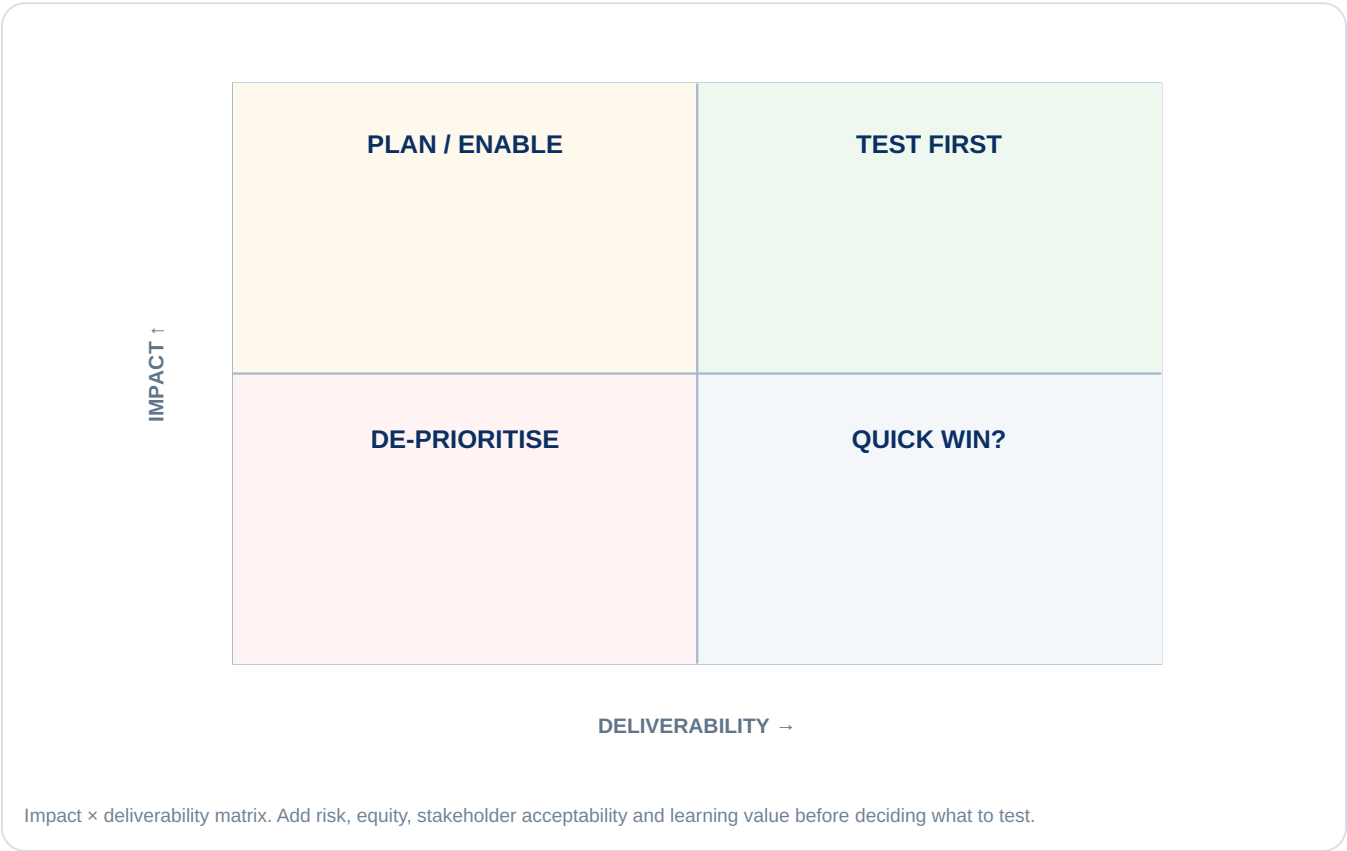
Notes / local adaptation

3G

PRIORITISATION

Prioritise change ideas

Use impact and deliverability as a conversation aid - not as a mathematical truth.



Change idea	Expected impact	Deliverability	Risk / equity	Learning value	First test
Expected-discharge flag	High	High	Low	High	One bay, one shift
New EPR module	High	Low initially	Digital dependency	Medium	Prototype on paper first

Common trap: choosing only the easiest idea. Early tests should be feasible enough to learn quickly, but the final improvement may still require more difficult system changes.

3H

RISK

FMEA: think prospectively about failure

Before introducing a new process, ask how it could fail and what the consequences would be.

Process step	Failure mode	Effect	Why might it happen?	Mitigation / test
Flag expected discharge	Wrong patient flagged	Inappropriate tasking	Criteria unclear	Define criteria; test inter-rater agreement
Early medicines request	Medicine plan changes later	Waste / error risk	Clinical plan not stable	Limit to defined cohort; pharmacist review
Transport booking	Booked before patient ready	Cancellation / wasted capacity	Dependencies not visible	Use readiness criteria

Risk assessment should influence test scale.
Higher-risk or less-reversible changes need more preparation, clearer safeguards and often smaller first tests.

Go deeper: AQuA QSIR risk-management tools; local patient-safety / clinical-governance expertise.

Notes / local adaptation

31

QI LITERACY

Other improvement approaches worth recognising

Use the Model for Improvement as the core framework, but choose additional approaches when the problem needs them.

Dominant problem	Approach worth considering	What it contributes
Flow, delay, duplication, waste	Lean	Value, flow, waste reduction, visualising and redesigning work.
Defects / unwanted process variation	Six Sigma / DMAIC	Structured problem definition, measurement, analysis, improvement and control.
Safety-critical work-as-done / usability	Human factors / systems thinking	Design of tasks, tools, environment, teams and organisational conditions.
Defined frontline clinical unit	Clinical Microsystems	Team-based local improvement around the place where care is delivered.
Evidence known but adoption unreliable	Implementation / behaviour-change approaches	Understanding capability, opportunity, motivation, context and implementation strategies.

NHS IMPACT explicitly encourages use of established improvement methodologies rather than mandating a single one.

Notes / local adaptation

3J

DEEP DIVE

Readiness for change

Stakeholder power tells you who can influence the project; readiness tells you how they currently feel about it.

Stakeholder	Opposed	Neutral	Supportive	Champion	Movement needed
AMU nurses			•		Support → champion
Pharmacy		•			Neutral → supportive
Clinical director			•		Maintain support
Patients/carers		•			Increase active involvement

Ask what would move them

More evidence? A safer test? Reduced workload? Involvement in design? Senior endorsement? Clearer patient benefit? Different stakeholders need different influence strategies.

AQuA QSIR stakeholder analysis recommends a readiness-for-change matrix after power/impact mapping.

Notes / local adaptation

3K

DEEP DIVE

Clinical engagement and working with resistance

Resistance is information about the system, not simply a personality problem.

Listen first

What concern is the resistance protecting - safety, workload, autonomy, role identity, resource or prior bad experience?

Test the concern

Can a smaller test generate evidence without forcing commitment?

Co-design

Invite critics to improve the proposed process.

Be explicit about trade-offs

Acknowledge what the new process asks people to stop, start or do differently.

Use credible messengers

Peers often influence practice more than a project email.

Do not confuse disagreement with obstruction

Challenge may reveal a genuine flaw in the change theory.

Go deeper: [AQuA QSIR Clinical Engagement and Resistance - Enabling Collaboration by Working With It.](#)

Notes / local adaptation

3L

DEEP DIVE

Brainstorming, affinity grouping and change concepts

Generate widely before narrowing to the first tests.

- 1 **Separate generation from judgement.** Give the team permission to suggest ideas before debating feasibility.
- 2 **Use several sources.** Evidence, patient insight, other services, frontline frustrations, Lean waste, human factors and deliberate creativity.
- 3 **Cluster related ideas.** Affinity grouping can reveal underlying themes.
- 4 **Connect ideas to the driver diagram.** A change idea should influence a driver, not merely sound plausible.
- 5 **Prioritise, then test.** The matrix helps choose where to learn first.

Idea bank

Go deeper: AQuA QSIR Brainstorming and Affinity Diagram tools.

3M

DEEP DIVE

A simple behaviour-change lens

When people know what to do but it still does not happen, look beyond education.

Capability
Do people have the knowledge, skills and cognitive bandwidth to perform the behaviour?

Opportunity
Does the physical and social environment make the behaviour possible and normal?

Motivation
Does the behaviour feel worthwhile, expected and compatible with professional priorities?

Example
If discharge documentation is late, another teaching session may not help if the EPR workflow hides the task, interruptions are constant and responsibility is ambiguous.

RCP Human Factors resources describe applying behavioural-science frameworks such as COM-B alongside systems thinking.

Notes / local adaptation

3N

DEEP DIVE

Equity and health-inequalities check

An improvement can raise the average while making care worse for a subgroup.

Access
Could language, disability, digital exclusion or transport change who benefits?

Experience
Does the new pathway depend on literacy, cognition, confidence or carer support?

Outcome
Could the effect differ by frailty, deprivation, ethnicity, sex, age or other relevant characteristics?

Measurement
Do your data allow you to see important differences?

Co-design
Whose voice is missing from the design?

Mitigation
What adaptation would prevent the change disadvantaging a group?

Equity prompt

STEP 3 CHECKPOINT

Can you explain why these changes should influence the aim?

Before starting PDSA cycles, make the theory, stakeholders, risks and first-test choices explicit.

- 1 UNDERSTAND
- 2 DEFINE & AIM
- 3 CHOOSE CHANGES
- 4 TEST & MEASURE
- 5 SUSTAIN & SHARE

Check	Ready?
Driver diagram links aim → drivers → testable change ideas.	
Change ideas include patient/frontline co-design rather than only project-team opinion.	
Key stakeholders have been mapped by influence and impact.	
Influencing / communication plan exists for critical stakeholders.	
Roles and ownership are clear where cross-boundary work needs it.	
Important risks and equity effects have been considered.	

STEP 4

Test and measure improvement

Are the changes working?

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

What you are trying to achieve

Use a small useful family of measures and iterative PDSA tests to learn whether the change improves the system, under what conditions, and what should happen next.

Core tools in this step

- outcome/process/ balancing measures
- operational definitions
- sampling / data plan
- PDSA
- run charts
- SPC
- qualitative feedback
- learning log

Do not treat the steps as a waterfall

Use the step as your current focus, but move backwards when learning changes your understanding of the problem, aim, theory or measures.

By the end of this step

Define a useful family of measures;
Run iterative tests with predictions.

Evidence you should have

Use time-series data and experience to learn.

Ready to move on when...

The team can explain what it has learned and why the next step is justified.

How the tools in this step connect

Measures -> know what improvement means

PDSA -> test on a small scale

Run chart / SPC -> distinguish signal from noise

Qualitative learning -> understand why

4A

MEASUREMENT

A family of measures

Balance outcome, process and unintended effects.

Outcome
What ultimately matters to patients or the system?

Process
Are the key steps expected to produce the outcome happening reliably?

Balancing
What might worsen or move elsewhere as the main process improves?

Type	AMU discharge example	Why useful
Outcome	Median decision-to-departure time	Directly reflects the improvement aim.
Process	% likely discharges flagged by 10:00	Shows whether the new process is being used.
Process	% take-home medicines requested before final discharge decision where appropriate	Tests the proposed mechanism.
Balancing	7-day unplanned reattendance; cancelled early medicines requests	Detects plausible unintended effects.

Keep it small
A handful of useful measures is better than an impressive dashboard that the team cannot maintain or interpret.

Go deeper: AQuA QSIR Measurement for Improvement; IHI Model for Improvement - Establishing Measures.

Notes / local adaptation

4B

DATA QUALITY

Operational definitions and data plan

Make sure two people would measure the same thing in the same way.

Measure	Operational definition	Source	Frequency	Owner
Decision-to-departure time	Minutes from documented senior decision that patient is medically ready to leave AMU to recorded departure time.	EPR timestamps	Weekly sample / automated feed if reliable	Analyst
Expected-discharge flag	Flag present before 10:00 for patients who meet locally agreed criteria.	EPR / board	Daily during tests	Nurse lead

Data-quality questions

- Can two people apply the definition consistently?
- What missing data are likely?
- Could documentation change without care changing?
- Has the denominator changed?

Sampling

Improvement measurement often needs “just enough” data, collected frequently enough to learn at the pace of testing. Sampling methods should still be explicit and stable enough to interpret the time series.

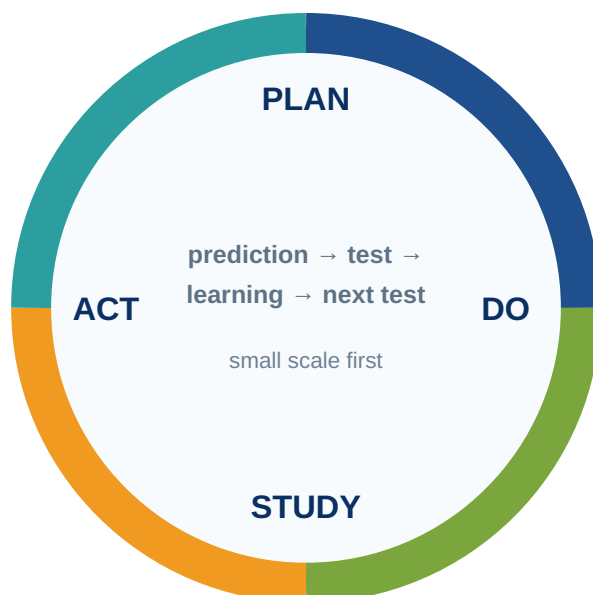
Measurement plan

4C

CORE METHOD

PDSA cycles

Treat every change as a structured experiment, not a miniature implementation plan.



PDSA works best when the prediction is explicit and the next cycle responds to what was learned.

PLAN

What exactly will be tested, on what scale, with whom, where and when? What do we predict will happen and why? What will we measure or observe?

DO

Run the test and document what actually happened, including deviations, unexpected events and practical barriers.

STUDY

Compare results with the prediction. Review the data and qualitative feedback. What have we learned about the change and the system?

ACT

Adapt, adopt for a broader test, or abandon. Define the next test rather than simply declaring success.

AQuA QSIR and IHI both emphasise small-scale testing and learning before full implementation.

4C

TESTING STRATEGY

Designing a useful PDSA sequence

Increase scale and diversity of conditions only as confidence grows.

Cycle	Prediction	Scale	Learning question	Next step
1	The expected-discharge flag will be understood by the nurse and doctor on one bay.	1 bay, 1 shift, 3 patients	Is the definition usable?	Adapt wording.
2	The flag will trigger earlier medicines planning.	2 bays, 1 day	Does it change task timing?	Add pharmacist notification.
3	The workflow remains usable during high workload.	All AMU, busy weekday	What breaks under pressure?	Refine escalation.
4	The process works across weekend staffing.	Weekend test	Does context change performance?	Prepare implementation.

Common traps: one huge “PDSA”; no prediction; collecting data long after the cycle; changing several things at once without knowing what was learned; calling a permanent rollout a test.

PDSA learning log

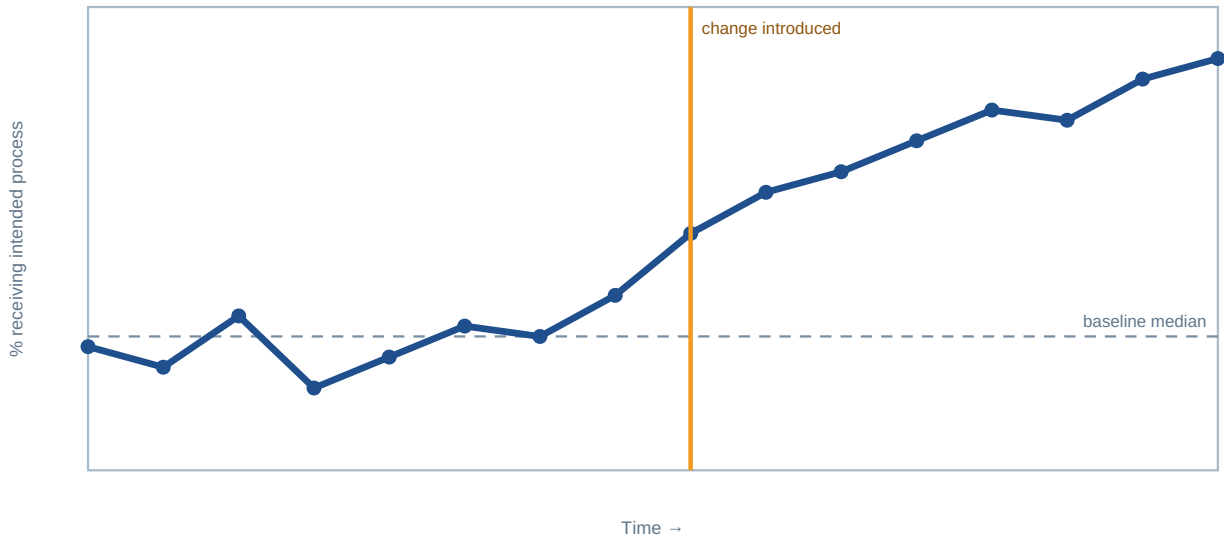
Plan + prediction	Do	Study	Act / next test

4D

TIME SERIES

Run charts

Plot data over time so the team can see whether the process is changing.



Illustrative run chart with a baseline median and an annotated change point.

Why use one?

A pooled “before 52%, after 72%” comparison hides variation and timing. A run chart shows the sequence of data and helps the team relate patterns to interventions and context.

Annotate it

Mark PDSA cycles, staffing changes, digital downtime, policy changes and other events that may explain the pattern.

Shift

Several consecutive points all on one side of the median, using the rule set you have chosen.

Trend

A sustained sequence of points moving in one direction.

Astronomical point

A point visibly different enough to prompt investigation.

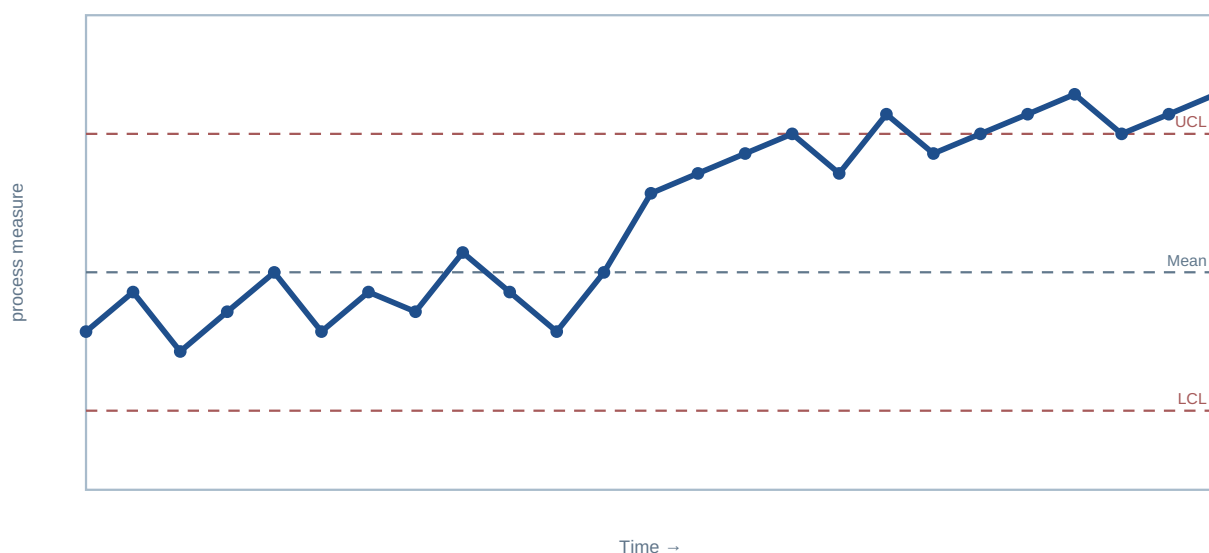
Go deeper: IHI Run Chart Tool; AQuA QSIR Run Charts.

4E

VARIATION

Statistical Process Control (SPC)

Distinguish common-cause from special-cause variation when the data and project justify more formal time-series analysis.



Illustrative SPC chart. The type of chart and interpretation rules must match the data and denominator.

Common-cause variation

Variation generated by the current system. Reacting to every point as though something exceptional happened can create tampering and more variation.

Special-cause variation

A signal suggesting the system is behaving differently from its usual pattern. Investigate what changed before deciding whether the cause is desirable or undesirable.

Get the chart right

Different data types require different SPC charts. Use local analytics/QI expertise rather than adding “mean $\pm$ 3 SD” mechanically to any graph.

AQuA QSIR Statistical Process Control; NHS England Making Data Count / SPC resources.

4F

LEARNING

Qualitative learning alongside numbers

Numbers show that the system is changing; conversations and observation often explain why.

Staff feedback

What was easy, hard, confusing or burdensome?

Patient experience

Did the pathway become clearer, quicker or more dignified?

Observation

Are workarounds, interruptions or new failure modes emerging?

Learning log				
Date / cycle	What the data showed	What people told us	What we think this means	Next action

IHI recommends using qualitative and quantitative data in improvement work and plotting measures over time.

4G

DEEP DIVE

Seven practical steps to measurement for improvement

Build the measurement system before debating whether the numbers are “good”.

1. **Clarify the aim.** Measures should answer the improvement question.
2. **Develop the family of measures.** Outcome, process and balancing.
3. **Write operational definitions.** Make data reproducible.
4. **Choose the data source and sampling plan.** Prefer sustainable sources.
5. **Establish the baseline in time order.** Understand current variation.
6. **Collect at the pace of testing.** Data should arrive quickly enough to guide the next PDSA.
7. **Review visually and with context.** Annotate charts and discuss what the data mean.

Measurement is for learning.

Do not wait for perfect data if a simple, consistent measure can safely guide early tests. Improve the measurement system as the project matures.

Go deeper: AQuA QSIR Measurement for Improvement and Seven Steps to Measurement for Improvement.

Notes / local adaptation

4H

DEEP DIVE

Sampling for QI

You often do not need every patient - but you do need a defensible, repeatable approach.

Approach	Useful when	Watch for
Consecutive sample	Small cohort; want to avoid cherry-picking	Workload if volume is high
Fixed number per week	Frequent measures; manual data collection	Keep selection rule stable
Time-based sample	High volume service	May miss night/weekend variation
Automated whole population	Reliable structured data available	Data definition/coding changes can mislead

Sampling rule

We will include...

We will exclude...

We will collect...

41

DEEP DIVE

Run-chart interpretation in more depth

Use a recognised rule set consistently; do not invent a signal after seeing the data.

Shift

A sustained run of points on one side of the median suggests the process centre may have changed.

Trend

A sustained increase or decrease suggests directional change.

Runs

Too few or too many crossings of the median can indicate non-random behaviour.

Astronomical point

An obvious outlier should be investigated in context.

Common trap: treating a shift or trend as proof that the intervention caused the change. The chart shows non-random change; attribution still depends on timing, context, competing explanations and the theory of change.

Go deeper: IHI Run Chart Tool; use the current published rule set your QI/analytics team supports.

Notes / local adaptation

4J

DEEP DIVE

Choosing and interpreting SPC charts

SPC is powerful when the chart matches the data.

Data pattern	Possible chart family	Seek help when...
Continuous measure over time	I-MR / XmR commonly used	distribution or subgrouping is complex
Proportion with varying denominator	p-chart	denominators are small or unstable
Count with fixed opportunity	c-chart	event rarity / assumptions uncertain
Count with varying opportunity	u-chart	exposure definition is unclear

Do not turn SPC into decoration.
Control limits are calculated from the process data and the interpretation rules depend on the chart. Use analytics support when you are uncertain.

Notes / local adaptation

4K

DEEP DIVE

Annotate the chart like a project diary

The chart should tell the story of the tests and the context.

Annotate change

- PDSA cycles
- implementation date
- changes to the intervention
- spread to new areas

Annotate context

- staffing disruption
- industrial action
- digital downtime
- seasonal surge
- policy/pathway change

Chart interpretation

What signal is present?

Which changes/context align with it?

What alternative explanation remains?

4L

DEEP DIVE

When the numbers and experience disagree

Use disagreement as a reason to investigate, not to choose the evidence you prefer.

Pattern	Possible interpretation	Next question
Numbers improve; staff experience worsens	Hidden workload / workarounds may be sustaining the result.	Is the improvement maintainable?
Process measure improves; outcome does not	The theory may be wrong, the outcome may lag, or other drivers dominate.	Is this process truly linked to the outcome?
Outcome improves; process measure does not	Another change or contextual factor may explain the result.	What else changed?
Patients report worse experience despite faster flow	Speed may have displaced communication or dignity.	What balancing change is needed?

Improvement measurement should create better questions, not just better-looking graphs.

Notes / local adaptation

STEP 4 CHECKPOINT

Do the data and experience support a real improvement - and what did you learn?

Before moving to implementation, look for enough evidence that the change works under relevant conditions and does not create unacceptable balancing harms.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

Check

Ready?

Outcome, process and balancing measures have clear operational definitions.

Data are plotted in time order and annotated with tests/context.

PDSA predictions were written before tests.

The change has been tested under relevant variation in staffing/workload/day/time.

Patient/staff experience has informed adaptation.

The team can explain what was learned, not just whether the target was reached.

STEP 5

Sustain, spread and share

Will the improvement last and help others?

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

What you are trying to achieve

Move from successful testing to reliable routine practice, support people through change, monitor the process, and make the learning reusable beyond the original project team.

Core tools in this step

- implementation vs testing
- minimum viable change management
- sustainability / control plan
- standard work
- communications
- spread / adoption
- SQUIRE
- storytelling

Do not treat the steps as a waterfall

Use the step as your current focus, but move backwards when learning changes your understanding of the problem, aim, theory or measures.

By the end of this step

Move from testing to reliable routine practice; Build ownership and monitoring into the system.

Evidence you should have

Share learning in a reusable form.

Ready to move on when...

The team can explain what it has learned and why the next step is justified.

How the tools in this step connect

Implementation -> embed the new way of working

Change management -> support adoption

Control / sustainability -> keep it reliable

Spread / SQUIRE -> help others learn and adapt

5A

IMPLEMENTATION

Implementation is different from testing

A change is not implemented just because a PDSA worked.

Testing
Temporary, small scale, deliberately flexible and focused on learning. The project team may provide extra support that would not exist in routine practice.

Implementation
A permanent change in how work is done. It needs ownership, reliable processes, training/induction, standard work, digital or documentation changes where relevant and ongoing monitoring.

Workflow
Where exactly does the new process sit in normal work?

Ownership
Who is accountable after the QI team steps back?

Infrastructure
What EPR, stock, policy, training or job-role changes are needed?

IHI describes implementation as making a tested change permanent in routine work and notes that workflow, policy, training and infrastructure may need to change.

Notes / local adaptation

5B

PEOPLE & ADOPTION

Minimum viable change management

QI tells you what to test and whether it improves care; change management helps the system adopt and normalise it.

Reason
People need to understand why the change matters.

Involvement
Change is more adoptable when it is shaped with the people affected.

Ability
The new process must fit skills, roles, time, workflow and resources.

Reinforcement
Feedback, measurement and leadership attention help maintain the new norm.

Local context
Expect variation between shifts, teams, sites and professions.

Emotional transition
Change can generate uncertainty, loss and workload concerns even when the idea is good.

Adoption barriers and enablers

Barrier / concern	What is behind it?	What would make adoption easier?	Who can help?

AQuA QSIR Supporting People Through Change emphasises inclusion, listening and involvement to support successful transition and implementation.

5C

RELIABILITY

Sustainability and control plan

Design the system so the improvement survives routine pressure, staff rotation and winter demand.

Element	Decision
Process owner	Who owns the pathway after the project team steps back?
Standard work	What is now the agreed way of working and where is it documented?
Training / induction	How will new and rotating staff learn it?
Monitoring	Which measure continues, how often and where is it reviewed?
Escalation	What happens if performance deteriorates?
Infrastructure	What EPR, supply, staffing or pathway dependencies must remain in place?
Review date	When will the process and measures be formally reviewed?

**A project is not sustained because the poster says it is.
Sustainability is what happens after the project team stops
carrying the process.**

Go deeper: AQuA QSIR Sustainability Model and Sustaining Momentum.

Notes / local adaptation

5D

SPREAD

Spread is not the same as dissemination

Telling another unit what you did is not the same as helping them adopt and adapt it.

Dissemination

Poster, abstract, presentation, paper, newsletter or website. These share learning but do not ensure another team changes practice.

Spread / adoption

Another team understands the core mechanism, assesses its own context, adapts the intervention, tests it locally and monitors whether it works there.

Adoption pack

- problem and aim
- current-state insight / process map
- driver diagram and core theory
- tested change components
- measures and operational definitions
- PDSA learning and common failure modes
- implementation dependencies
- what can be adapted vs what appears essential

IHI distinguishes implementation from spread; the latter occurs after successful implementation and requires adoption in another population, unit or organisation.

5E

REPORTING

SQUIRE 2.0

Use a reporting framework to make improvement work transparent and reusable.

Introduction

Problem, available knowledge, rationale and aim.

Methods

Context, intervention, study of the intervention, measures, analysis and ethical considerations.

Results

Evolution of the intervention, process/ outcomes and contextual interactions.

Discussion

Interpretation, limitations, conclusions and transferability.

SQUIRE is not a QI methodology

Use it to report improvement clearly. The project still needs a sound improvement method, appropriate measurement and honest interpretation.

SQUIRE planning prompt

Area	Question	Ready?
Problem	Have we explained why this matters here?	
Rationale	Is our theory of why the change might work explicit?	
Context	Have we described the setting and factors that influenced the work?	
Intervention	Could another team understand what changed and how it evolved?	
Measures / analysis	Are operational definitions and time-series methods clear?	
Limitations	Have we described uncertainty and alternative explanations?	

Go deeper: SQUIRE 2.0 / EQUATOR Network.

5F

STORYTELLING

Share the improvement story

Make the learning usable, honest and memorable.

Problem

What was happening and why did it matter?

Insight

What did you learn about the system before changing it?

Theory

Why did you think the selected changes would help?

Testing

What changed across PDSA cycles?

Results

What did the time-series data and experience show?

Learning

What should the next AMU know before trying this?

A project that missed its target can still be valuable.

Report what was tested, what was learned, why the intervention did or did not work, and what the next team should do differently.

Notes / local adaptation

5G

DEEP DIVE

A practical sustainability model

Sustainability depends on the change, the people and the organisation around it.

The process

Is the change clearly better, simple enough, adaptable and supported by evidence?

The staff

Do people believe in it, know their role, see progress and have enough support?

The organisation

Is there leadership support, infrastructure, ownership, measurement and alignment with normal work?

Sustainability risk			
Risk to sustainability	Early warning sign	Mitigation	Owner

Go deeper: AQuA QSIR Sustainability Model and Sustaining Momentum.

5H

DEEP DIVE

Reliable design and standard work

Make the preferred process easier to do correctly on an ordinary busy shift.

Standardise where helpful

Reduce unnecessary variation in tasks that should be consistent.

Make status visible

Use clear visual or digital cues for ownership and outstanding actions.

Reduce memory dependence

Embed prompts into workflow rather than relying on recall.

Design for hand-offs

Define what information and responsibility transfer at boundaries.

Plan for failure

What happens when staffing, IT or demand are abnormal?

Remove the old process

Competing pathways make reliability harder.

Go deeper: AQuA QSIR Reliable Design and Lean / 6S resources.

Notes / local adaptation

51

DEEP DIVE

Benefits realisation

Check whether the promised value actually appeared after implementation.

Expected benefit	Indicator	When to review	Owner	Realised?
Reduced waiting after discharge decision	Median decision-to-departure time	Monthly for 6 months	AMU lead	
Less staff rework	Staff pulse question / task duplication sample	6 and 12 weeks	Nurse lead	
No increase in unsafe reattendance	7-day unplanned reattendance	Monthly	QI analyst	

Benefit is not the same as activity.
“We trained 80 staff” is an output. The benefit is the improvement in care or system performance that the training was supposed to enable.

Go deeper: [AQuA QSIR Benefits Realisation](#).

Notes / local adaptation

5J

DEEP DIVE

Handover when people rotate

Design continuity into the project before the original lead leaves.

Named process owner
Not necessarily the original project lead.

Live project record
Aim, driver diagram, measures, PDSA learning and current status.

Next review date
Who will look at the data and when?

Open issues
What has not yet been solved?

Dependencies
Digital, pharmacy, governance, staffing or other external work.

Contact network
Who understands the work enough to support the next lead?

30-minute QI handover

5K

DEEP DIVE

Writing a strong QI abstract

Tell the improvement story without turning it into an audit report.

Section	What to include
Background / problem	Why the local problem mattered and relevant context.
Aim	Specific measurable objective.
Methods	Improvement method, interventions, measures and analysis over time.
Results	Time-series findings, PDSA evolution, balancing measures and unintended effects.
Discussion / conclusion	What was learned, limitations, sustainability and transferability.

Common trap: “baseline 45%, education delivered, re-audit 80%.” A QI abstract should show how the intervention evolved, how data were used for learning and whether change was sustained.

Notes / local adaptation

5L

DEEP DIVE

Designing a QI poster that teaches

A poster should help another team understand the mechanism and learning, not just admire the result.

One clear aim

Visible near the top.

One theory visual

Driver diagram or pathway image.

One main time-series chart

Annotated with PDSA / intervention points.

Three key changes

What was actually tested.

Three lessons

What the next team should know.

One sustainability message

Who owns the change now?

Less is more.

Do not shrink a 20-slide presentation onto an A0 page. Use hierarchy, whitespace and a single improvement story.

Notes / local adaptation

5M

DEEP DIVE

Spread readiness checklist

Before asking another site to adopt the change, know what is core and what is adaptable.

Question	Ready?
Is the improvement implemented and stable in the original setting?	
Can we explain the mechanism, not just the intervention components?	
Have we identified context factors that affected success?	
Do we know which components are essential and which can be adapted?	
Are measures and operational definitions transferable?	
Is there enough support for the receiving team to test locally?	

Spread principle: preserve the function; adapt the form. Another AMU may need a different workflow to achieve the same underlying driver.

Notes / local adaptation

STEP 5 CHECKPOINT

Would the improvement continue if the original project lead left tomorrow?

Sustainability, ownership, monitoring and transferable learning are the real end points.

- 1 UNDERSTAND
- 2 DEFINE & AIM
- 3 CHOOSE CHANGES
- 4 TEST & MEASURE
- 5 SUSTAIN & SHARE

Check	Ready?
There is a named process owner beyond the original project team.	
The improved process is embedded in standard workflow / digital / induction where needed.	
At least one meaningful measure continues and is reviewed in a named forum.	
There is a response plan if performance deteriorates.	
Change-management barriers have been addressed, not just communicated.	
An adoption / transferability note explains what another team should know.	
The work can be reported transparently using SQUIRE where appropriate.	

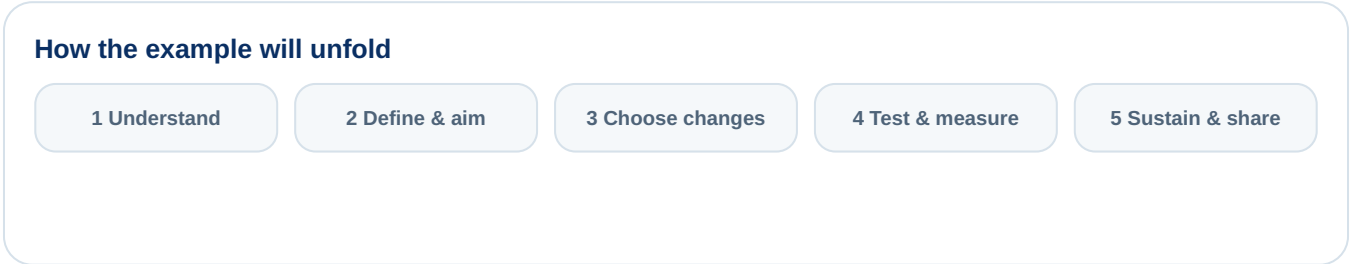
WORKED EXAMPLE

Improving discharge flow from the AMU

A complete illustrative project shown through the same five-step architecture. The example demonstrates method, not a mandated clinical pathway.



Problem Patients remain on AMU for hours after the clinical decision to discharge.	Aim Reduce median decision-to-departure time from 180 to 90 minutes by March 2027.	Balance Do not increase 7-day unplanned reattendance.
--	--	---

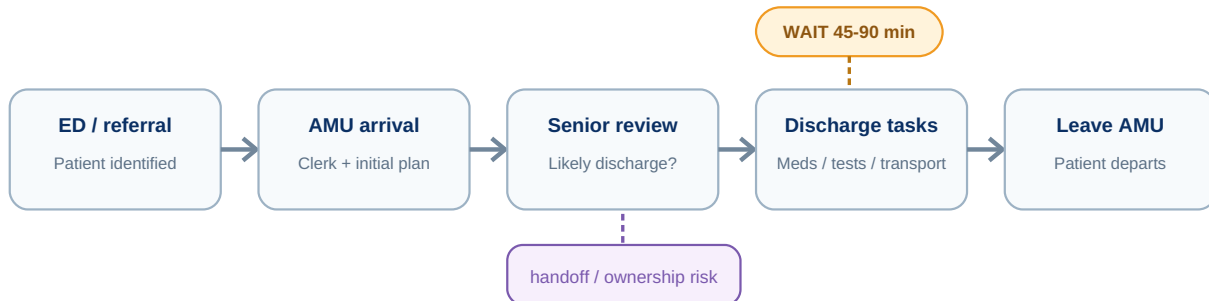


WE1

WORKED EXAMPLE

Worked example - Step 1: understand the problem

The team starts by seeing the pathway rather than assuming the solution.



What the team notices

- discharge tasks are often sequential
- ownership changes after the senior review
- medicines and transport create large waits
- there is no reliable visibility of outstanding tasks

How they investigate

- 5W2H frames the problem
- patient/staff feedback describes waiting and uncertainty
- fishbone generates multiple causal hypotheses
- Pareto analysis shows medicines and transport dominate recorded delay reasons

WE2

WORKED EXAMPLE

Worked example - Step 2: define the problem and aim

The team turns insight into a manageable project.

Problem statement

Patients who are clinically ready to leave the AMU frequently remain for several hours because discharge tasks begin late and ownership varies, leading to unnecessary waiting, poorer experience and reduced capacity for incoming patients.

Aim

Reduce median time from clinical decision to discharge to leaving the AMU from 180 to 90 minutes by 31 March 2027, without increasing 7-day unplanned reattendance.

In scope

Adult AMU patients discharged home directly from the unit after senior review.

Out of scope initially

Complex package-of-care discharges and inter-hospital transfers.

Elevator pitch

"We are losing several hours after the decision to discharge because key tasks start late and are not coordinated. We want to halve that delay without increasing reattendance. We will test early identification and parallel tasking, and need pharmacy and data support."

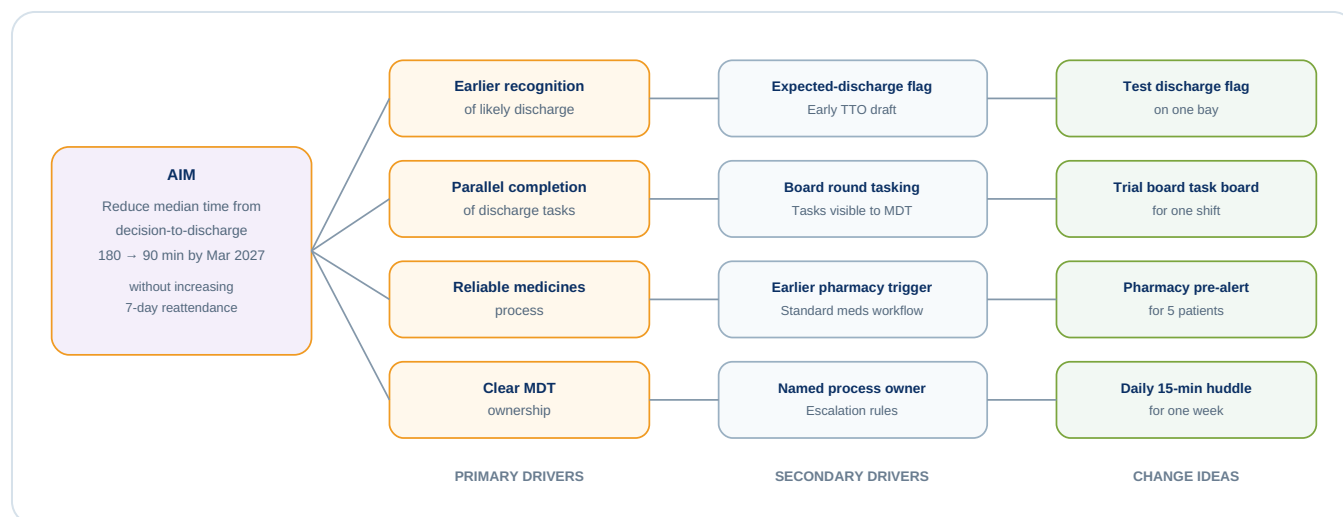
Notes / local adaptation

WE3

WORKED EXAMPLE

Worked example - Step 3: choose change ideas

A driver diagram turns the current understanding into a theory the team can test.



Stakeholder	What matters	Approach
AMU nurses	Clear ownership, workload, fewer late discharges	Co-design and small tests on one bay
Pharmacy	Safety, demand profile, workload	Define eligibility for early medicines trigger
Patients/carers	Information, waiting, safe follow-up	Review communication and pathway experience
Clinical director	Flow, safety, resource	Use baseline data and balancing measures

WE4

WORKED EXAMPLE

Worked example - Step 4: PDSA sequence

The intervention is developed through structured learning rather than one launch.

Cycle	Test	Prediction	Learning	Next action
1	Expected-discharge flag on one bay	Staff will agree which patients meet criteria	Definition too vague	Refine criteria
2	Flag + early medicines request	Medicines task will start earlier	Works when pharmacist sees flag	Add notification
3	Parallel task board during busy weekday	Ownership will remain visible	Transport task still starts late	Add transport trigger
4	Weekend test	Process will remain usable	Different pharmacy cover changes workflow	Create weekend adaptation

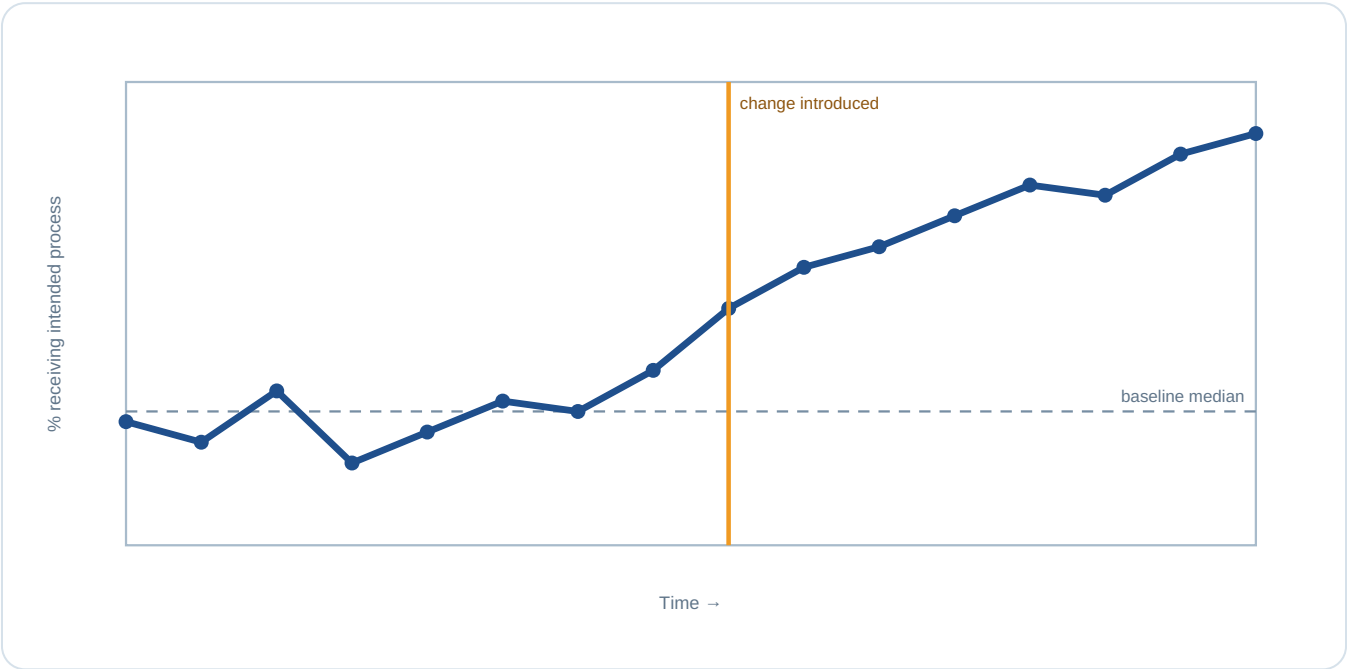
Notes / local adaptation

WE4

WORKED EXAMPLE

Worked example - Step 4: measurement

The team uses a small family of measures and plots them over time.



Measure	Type
Median decision-to-departure time	Outcome
% expected discharges flagged by 10:00	Process
% eligible patients with early medicines task started	Process
7-day unplanned reattendance; cancelled early medicine requests	Balancing

Interpretation

The team does not claim that one good week proves success. It looks for sustained patterns, annotated PDSA learning and whether the mechanism measures move before or alongside the outcome.

WE5

WORKED EXAMPLE

Worked example - Step 5: sustain, spread and share

The project ends by transferring ownership from the improvement team to the clinical system.

Implementation element	Worked example
Owner	AMU operational/clinical leadership with pharmacy partner.
Standard work	Expected-discharge identification and tasking embedded into board-round workflow.
Digital / visual management	Visible task status in the agreed system.
Induction	Short explanation in rotating staff / new starter induction.
Monitoring	Monthly outcome measure plus process reliability reviewed at AMU governance.
If performance falls	Review process compliance and context before adding new interventions.
Spread	Create an adoption pack for another acute ward, preserving the core theory but allowing local adaptation.

Sharing the learning

The project is suitable for a SQUIRE-aligned write-up, abstract/poster and inclusion in a SAM improvement exchange if such a route is formally established.

Notes / local adaptation

TOOLKIT

Reusable pages for real projects

These templates mirror the five-step journey. Use local organisational forms where they already exist.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

Step	Workbook pages
1 Understand	5W2H; observation notes; process-map analysis; fishbone; causal evidence table.
2 Define & aim	Problem/aim builder; one-page charter; stakeholder list; elevator pitch.
3 Choose changes	Driver diagram; stakeholder matrix; influencing plan; communications matrix; RACI; FMEA; prioritisation.
4 Test & measure	Measurement plan; PDSA log; run/SPC interpretation; learning log.
5 Sustain & share	Sustainability/control plan; spread/adoption pack; SQUIRE planning checklist.

T1

WORKBOOK PAGE

5W2H worksheet

Print or duplicate this page as needed.

Prompt	Your answer
What?	
Who?	
Where?	
When?	
Why does it matter?	
How?	
How much / how often?	

T2

WORKBOOK PAGE

Process map analysis

Print or duplicate this page as needed.

Map point	Wait / hand-off / rework	Evidence	Opportunity / question
-----------	--------------------------	----------	------------------------

T3

WORKBOOK PAGE

Fishbone + evidence worksheet

Print or duplicate this page as needed.

Category	Possible contributor	Evidence needed
People		
Process		
Digital / information		
Environment / equipment		
Policy / interfaces		
Measurement / feedback		

T4

WORKBOOK PAGE

Problem, aim and elevator pitch

Print or duplicate this page as needed.

Problem statement

Aim

30-60 second pitch

T5

WORKBOOK PAGE

Driver diagram builder

Print or duplicate this page as needed.

Aim	Primary drivers	Secondary drivers	Change ideas
-----	-----------------	-------------------	--------------

T6

WORKBOOK PAGE

Stakeholder influencing plan

Print or duplicate this page as needed.

Stakeholder	Power / impact	Current position	What matters?	Desired position	Approach / owner
-------------	----------------	------------------	---------------	------------------	------------------

--	--	--	--	--	--

--	--	--	--	--	--

--	--	--	--	--	--

T7

WORKBOOK PAGE

Measurement plan

Print or duplicate this page as needed.

Measure	Type	Operational definition	Source	Frequency	Owner
---------	------	------------------------	--------	-----------	-------

T8

WORKBOOK PAGE

PDSA learning log

Print or duplicate this page as needed.

PLAN + prediction	DO	STUDY	ACT / next test
-------------------	----	-------	-----------------

T9

WORKBOOK PAGE

Sustainability and control plan

Print or duplicate this page as needed.

Element	Your plan
Process owner	
Standard work	
Training / induction	
Monitoring measure and forum	
Escalation if performance drops	
Infrastructure / dependencies	
Review date	

T10

WORKBOOK PAGE

SQUIRE / sharing planner

Print or duplicate this page as needed.

Story element	What we will report
Problem and context	
Aim and rationale	
Intervention and PDSA evolution	
Measures and analysis	
Results and unintended effects	
Limitations	
Sustainability / transferability	
Key message	

REFERENCES

Authoritative resources used to shape this workbook

SAM examples and diagrams are original; external resources are cited for established methods and further learning.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

- **NHS England.** NHS IMPACT: What is improvement? <https://www.england.nhs.uk/nhsimpact/what-is-improvement/>
- **NHS England.** About NHS IMPACT. <https://www.england.nhs.uk/nhsimpact/about-nhs-impact/>
- **Institute for Healthcare Improvement.** Model for Improvement. <https://www.ihl.org/library/model-for-improvement>
- **Institute for Healthcare Improvement.** Run Chart Tool and Model for Improvement guidance.
- **Advancing Quality Alliance (AQuA).** Quality, Service Improvement and Redesign (QSIR) Tools. <https://aqua.nhs.uk/qsir-tools/>
- **AQuA QSIR.** Conventional Process Mapping; Cause and Effect (Fishbone); Five Whys; Driver Diagrams; Stakeholder Analysis; Communications Matrix; PDSA; Measurement for Improvement; Statistical Process Control; Supporting People Through Change.
- **Royal College of Physicians.** RCP Improvement resources and quality improvement guides. <https://www.rcp.ac.uk/improving-care/rcp-improvement/>
- **Health Research Authority.** Is my study research? and NHS REC decision tools. <https://www.hra-decisiontools.org.uk/>
- **SQUIRE.** Standards for Quality Improvement Reporting Excellence 2.0 / EQUATOR Network.
- **AHRQ Digital Healthcare Research.** 5W2H workflow assessment tool.

Use current local guidance

Clinical examples in this workbook illustrate improvement method. They do not replace clinical guidelines, medicines governance, local SOPs or organisational approval processes.

GLOSSARY

A common language for the team

Short definitions for terms used throughout the workbook.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

Term	Meaning
Aim statement	A measurable statement of what the team is trying to accomplish, for whom/where, by how much and by when.
Balancing measure	A measure used to detect an important unintended effect of change.
Common-cause variation	Variation generated by the current system or process.
Driver diagram	A visual theory linking the improvement aim to primary/secondary drivers and change ideas.
Implementation	Making a sufficiently tested change part of routine practice.
Model for Improvement	Three fundamental questions plus PDSA cycles for testing and adapting changes.
Operational definition	A precise definition that makes a measure reproducible.
PDSA	Plan-Do-Study-Act: a structured method for testing and learning from changes.
Process measure	A measure of whether the process believed to produce the outcome is occurring.
Run chart	A graph of data in time order, commonly with a median, used to identify patterns over time.
SPC	Statistical Process Control: time-series methods using centre lines/control limits and interpretation rules appropriate to the data.
Spread	Supporting adoption and adaptation of an improvement in another setting.
SQUIRE	A reporting guideline for systematic healthcare improvement; not a QI methodology.
Sustainability	The extent to which the improved process and outcomes persist over time.

ONE LAST THING

Good QI is a learning system

The strongest improvement teams are curious, rigorous and willing to change their minds when the system teaches them something new.

1 UNDERSTAND

2 DEFINE & AIM

3 CHOOSE CHANGES

4 TEST & MEASURE

5 SUSTAIN & SHARE

Start with the problem. Involve the people. Make the theory visible. Test safely. Measure over time. Learn honestly. Make the improvement easier to sustain than to undo.

If the target is reached

Ask whether the improvement is reliable, sustained, equitable and transferable before declaring the work finished.

If the target is not reached

Report the learning. A well-conducted project that changes understanding can be more valuable than a superficial project with an impressive before-and-after percentage.

Bring your team. Make it better.