Quality Improvement Innovation Toolkit

Contents

Foreword

This set of Quality Improvement (QI) Innovation tools was developed during the PReCePT Study, where our QI coaches worked closely with intervention units to implement and improve the use of intrapartum magnesium sulphate for fetal neuroprotection. The context these innovative tools were developed in is perinatal clinical care delivered by perinatal (midwifery, obstetric and neonatal) teams, however their use will be applicable to clinical care in general, where close collaboration is essential for ensuring the best patient outcomes. Their utility is likely to be generic.

We would like to thank and acknowledge the adopting perinatal teams for engaging and working closely with the PReCePT study team to enable development and refinement of these tools. The Health Foundation supported and funded the PReCePT study.

We hope that future clinical teams doing implementation work will find these tools useful and help to forge better collaboration between and within teams, and also facilitate and accelerate getting evidence-based interventions into clinical practice as swiftly as possible. Ultimately the vision is that our patients will benefit.

Professor Karen Luyt.

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Welcome

Whilst there are many QI toolkits available to support you on your QI journey, this one contains novel tools developed on our journey as QI coaches. We really wanted to capture the intuitive approach that teams apply when working as part of a multidisciplinary partnership. We are passionate about collaboration and the team dynamic and this toolkit is designed to support you build a strong foundation as a team before embarking on implementing change. For us, QI has people and behaviour change at the heart of it, and it is very difficult to embed and sustain improvement without the solid grounding of a well-functioning team.

Whilst this toolkit has been developed with PReCePT in mind, we have since used the various tools and techniques in other contexts. We know that often QI can appear an arduous task. Working with the perinatal teams in PReCePT really inspired us to develop a logical, intuitive and easy to follow step approach to tackling QI.

QI is ultimately trial and error and this is best facilitated in a culture where innovation, creativity and intuition are able to thrive. To do that, we need to build strong multidisciplinary teams that feel psychologically safe to test and push beyond the regular approach to delivering health care.

Embedding and sustaining change is a core element of QI, and often this is not thought about until the process is nearing the end.

As QI coaches we recognised the power of designing processes and innovations that were developed with long term sustainability in mind from the beginning.

We hope you embrace QI using the particular approach this toolkit takes and that it sets you on a lifelong journey of creativity in improvement. We wish you every success as you embark on your Improvement Journey. Good luck!

Noshin Menzies, Vardeep Deogan and Pippa Craggs

Guidance for use

Experience into action and Theory into action worksheets

These worksheets provide an overview about how you might approach a change project, drawing on our experience on the first PReCePT pilot project (PReCePT1). These "… into action" worksheets provide case studies and examples of what we did, how we made changes and how you might implement experience and theory into tangible actions.

Project snapshot tool

This tool is designed to help you as a team take stock of where you are on your improvement project. You can identify hurdles to progress and use the "dartboard" diagrams to plot hurdles to identify which ones can be overcome and prioritised.

Implementation plan

Used as a supportive tool to map out how to bring your project plan to life by breaking it into identifiable steps, where each step is assigned to a team member to complete on a set timeline. This will help you share with others what you are aiming to achieve and has the added benefit of increasing colleagues' sense of ownership, cooperation and buy-in, and helping you to stay on track.

Communications plan

This tool enables you to effectively deliver information to appropriate stakeholders. Use this tool to identify and prioritise stakeholders, what they need to know and how best to communicate this information to them. Communications plans can be used in times of crisis, but they are also used when pitching new initiatives or launching new projects.

Capsule summary tool

This tool is designed to capture a full description of your project across the "capsules" or domains of; process changes, training and education, and communications and engagement. Whilst you are still working within Plan-Do-Study-Act (PDSA) cycles, this document is intended to be updated. You can save versions of this tool as you go to document your progress.

Embedding tool

This tool is designed to streamline your thinking and support you in making firm plans to build in sustainable changes as you go and maintain the successes you have achieved.

PReCePT
Steps to Success

Invest in
Partnership Working

Collaborate & Share
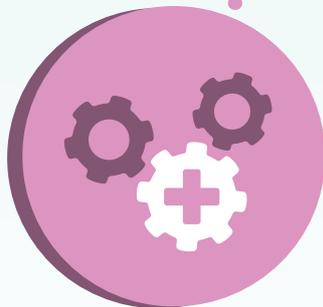Experential Learning

Promote an
Experimental Culture

PReCePT

$MgSO_4$

Embrace QI

Understanding
the Numbers

Mine the
Microsystem

Prioritise
Planning

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1a. Embrace QI

Why?

The pace of change in maternity services is fast, so implementing change or new guidelines is something that is not new to you or your team. However we know that just writing and publishing a guideline often does not lead to embedded change in clinical practice. Using a Quality Improvement (QI) framework gives the team an opportunity to be actively involved in the change, innovate and measure successes to demonstrate sustained change resulting in improved patient outcomes.

QI is not just a method or a model, but more of an overall approach to organisational development and improvement.

QI brings a systematic approach to tackling problems by

- Focussing on outcomes
- Giving everyone a voice
- Bringing staff and patients together to problem solve, redesign and improve services together.

There are a range of approaches and tools that fit into the QI umbrella, some of which are demonstrated throughout these worksheets, however they all have the same principles in common

- The concept of cycle of improvement which involves understanding the problem, testing of change and collection of data
- A set of tools or techniques that help support the steps above and implement improvement
- Importance of engaging stakeholders
- Importance of culture and clinical leadership

As clinicians you will be very used to problem solving and 'knowing' what the right solution is and we often see this approach applied to making system change within the NHS, however we know that is often ineffective and may lead to change that may not be an improvement. There is clear evidence that this not the most effective way of achieving faced paced, sustained change and that using Quality Improvement methodology and tools helps teams to effectively embed change that demonstrates measureable improvement.

We learnt from the pilot PReCePT project that testing and varying approaches to improvement to suit the individual needs of the sites helped the success. An example of this would be in the delivery of training. Most sites trained large numbers of staff including those not directly involved in the administration of magnesium sulphate. However due to the individual needs of one of the sites only a small number of key influencing staff were trained, others were given information and included in communications. This team saw similar successes and engagement in the project was maintained as the team were able to adopt the original plans to suit their needs.

How do we work in this way?

Using Quality Improvement methods requires a change of mind set for clinicians. It requires teams to take time to really understand the current position of the unit using available intelligence (data, staff and patient insights), in order to make changes that lead to improvements. It requires teams to really understand barriers and facilitators to be able to create solutions to address these together.

There are a wide variety of 'tools' that fall into the methodology known as Quality Improvement and a number of these are featured in more detail throughout the worksheets.

Experience from PReCePT1 tells us that teaching the teams to use Quality Improvement tools and methods to implement the project, led to a long lasting change within the culture of some of the units and the way the teams implemented change moving forward.

"As a project midwife at the RUH Bath, PReCePT was my first experience of using QI methods and tools. Seeing the impact using these methods made was quite remarkable in comparison to the previous way we managed change. I believed that using QI methodology would be more time consuming and complicated, however this was far from the truth and we gained fast paced improvement and engagement within months of starting the project. We continued to apply these methods to future improvement projects with great success and it helped us develop our culture of innovation and improvement"

How can the coaches support this step?

The coaches both have experience of implementing PReCePT having been involved in the pilot study to be able to help support discussions by sharing learning from these teams. The coaches are both experienced in using Quality Improvement tools and methods so can offer further support in many areas from how to get started, to embedding and sustaining change. This may be in the use of a particular tool, supporting cultural change, overcoming barriers or communications with the wider Trust team.

Where can we access more information and QI resources?

https://www.health.org.uk/publication/quality-improvement-made-simple

http://www.ahsnnetwork.com/about-academic-health-science-networks/national-programmes-priorities/precept/precept-resources/

https://www.weahsn.net/what-we-do/using-evidence-based-healthcare/qi-tools/quality-improvement-tools-2/

http://www.ihi.org/resources/Pages/AudioandVideo/MikeEvansVideoQIHealthCare.aspx

1b. Embrace QI

What is it?

Many of the individual tools that come under the umbrella of Quality Improvement (QI) are included in other worksheets.

To understand the theory of 'Embracing QI' we have focussed on one of the tools developed by NHS Improvement to encourage and support clinicians to 'Think Differently'.

"The only limits to our realisation of tomorrow will be our doubts of today" Franklin D Roosevelt

Embracing QI within your units may require you to think differently, it will require you to be innovative and give your team a chance to brainstorm and try ideas that may not always lead to successes.

Thinking different had led to innovations such as mobile telephones and keyhole surgery. Every day front line NHS staff think differently about solutions to some of the challenges, the GP receptionist who wondered if sending text message reminders would help reduce the number of missed appointments.

Resources you need

The main resource will be a motivated team that are engaged in improving patient care, alongside this the additional funding available within this project gives the team some time to think differently.

There are a number of tools and case studies within the whole 'Thinking Differently' workbook, that can help support teams to think differently https://improvement.nhs.uk/documents/1485/thinking_differently.pdf

An example of one exercise is Idea generation – it is a simple as it sounds, however comes with some simple rules
Criticism is ruled out – There are no bad ideas, there will be time to judge later
Go for quantity – Aim for 10-20 ideas
Encourage wild ideas – It's the wild ideas that often lead to breakthrough insights
Build on ideas of others – What can you add? What else? What other ideas can be generated
One conversation at a time – That way all ideas will be heard and built upon

Time for a game?

This is often a good way to break the ice and get people to start thinking differently in a safe way.

Ask staff to come up with tools that could be found on a Swiss army knife, these could be ones they already know and new ideas. The team that names the most in 3 minutes wins!

2a. Invest in Partnership Working

Why?

Simply put, you cannot design an efficient system wide improvement project without representatives from all of the parts of the pathway. Working together to identify all of the key areas and to problem solve from the points of view of the parents, midwives and doctors as well as any other significant members of the team will support improvements that are efficient, innovative and long lasting.

A strong project team which enables all members to have a voice will cultivate intuitive thinking and implementation. Learning from PReCePT1 highlighted that a flexible approach to training and implementation allowed each unit to tailor the project to suit their local context and culture. Ensuring that there is a good mix of people around the table will support this process.

How do we work in this way?

From the experiences of the first run of PReCePT it is essential to build some time into your project hours to think about who you want around the table. How often, when and where you meet is down to how you want the project to run, but an often quoted benefit of the way the pilot was run was the opportunity to get together and to really talk through the project.

The Learning Events will offer the chance to share your experiences and maybe trouble shoot with your colleagues from other sites, but don't underestimate the importance of doing this with your team members. What we are essentially doing is delivering a project that is centred round changing the culture within your microsystem through the people that are part of it. The best way to do that is to do so with those people. As clinicians who will have their hands on the delivery of MgSO4 in day to day situations you hold the answers as to what will facilitate and prevent an increase in this intervention.

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How do we get started?

You might find it useful to meet for an initial longer planning session with a formal agenda or a workshop style forum to bring your team together. From our experience of PReCePT1 it is important to create a forum in which an in depth discussion can take place to understand the barriers and facilitators in the clinical unit, the needs and thoughts of each staff group represented and to develop an initial project implementation approach.

You may wish to employ QI techniques such as Stakeholder Analysis. The accompanying Theory into Action Guide outlines two methods that you can use at this stage of the project.

How can the coaches support this step?

The QI coaches can support you in identifying the right team members, understanding the team dynamics and the strategic side of bringing a group of people together. The coaches can share techniques for facilitating efficient and productive meetings and scheduling meetings to align with implementation plan crunch points. The coaches can also offer to guide teams through stakeholder analysis and offer insight into how to engage patient representatives to better support PReCePT within your unit.

If you feel a webinar or group coaching session would be helpful with a wider view on initialising the project including structuring meetings and accompanying QI tools then please request this through your lead coach.

2b. Invest in Partnership Working
- QI Tools and Approaches

1. Stakeholder Mapping

High power	**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, co-production and consultation.
Low power	**Monitor** This group may be ignored if time and resources are stretched.	**Inform** It may be helpful to take steps to increase the influence of groups in this category through active consultation to stimulate co-production.
	Low impact / stake holding	**High impact / stake holding**

What is it?

Stakeholder mapping offers an overview of stakeholders within and outside of your clinical unit who will be affected or involved in PReCePT. It helps to identify who will need to be reached and at what depth, for example through training because they are involved in the administration of MgSO4, or for information because they are community midwives who will be caring in the community for women who have received it.

Resources you will need

Something to write with / on.

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Why it is useful

It is a good way to visualise those who will be involved or affected by the implementation of PReCePT in your unit. It allows the project team to get a shared understanding as well as formulate plans and approaches based on who is identified as central to the delivery of the project.

2. Min Specs (prioritising solutions)

What is it?

By evaluating and deciding what is absolutely essential for success, you focus energies and resources and open possibilities.

How it works

1. Clearly define the problem / task to tackle (2 mins)

2. Ask each team member to write down a list of all the things they would need to do / steps they would take to achieve an increase in the use of MgSO4 (5 mins)

3. Split the group into two, each group nominates a scribe and merges their lists to make one final big list of 'max specs' a pooled list of all of the steps (5 mins)

4. During this time the facilitator writes on a board "if we ignored this step could we still achieve our purpose? "

5. Ask each group to spend 15 minutes going sequentially through the max spec list, applying the question to each step. If you could achieve an increase in MgSO4 uses without this step then cross it off the list. After 15 minutes you should have a final min specs list (15 mins)

6. Ask each group to write their list of min specs on their flip chart and to present it to the whole group. (5 mins)

7. Compare min specs list – for similarities and differences etc
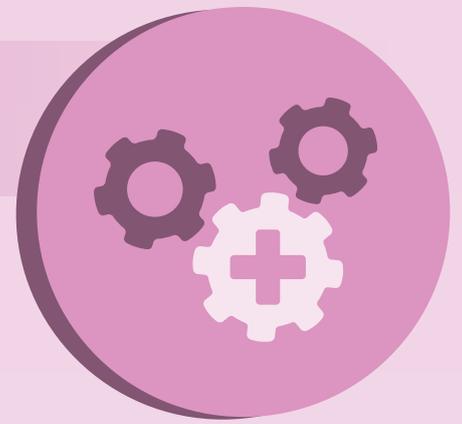
3a. Mine the Microsystem and identify barriers and facilitators

Why?

Clinicians do not work in a vacuum; they are reliant on and contribute to the other team members and wider support services. Another way of looking at this is to view this relationship as a microsystem. Sheffield Microsystems Academy defines a microsystem as the building blocks of the health care system, small functional frontline units that provide most health care to most people.

In order to design a service that complements and intuitively fits within a microsystem, it is important to bottom out all of the factors that influence it. This includes people, processes, patients.

There is likely to be a number of changes needed to see an improvement in the use of magnesium sulphate within your unit. In order to identify where changes need to be made, contextual factors for each step of the patient journey need to be clarified. These will include (but not be limited to) the numbers and types of staff working on different rotas alongside the demands of a busy obstetric unit, the administration processes that exist to identify and record what interventions women in pre term labour are eligible for and the pathway they are on.

How do we work in this way?

Thinking creatively and with the understanding and insight of colleagues will support the development of an improvement project that is innovative in its reach as well as impactful. For example, when designing how PReCePT training will be implemented in your unit, using your own experiences as a clinician who has received training but also listening to the experiences of other staff groups will promote understanding of how best training is received by your team members.

The same applies when changing a process or implementing a change to or a new pathway. Investing time in identifying what will hinder success and what will facilitate its implementation will result in changes that whilst won't immediately be the answer to the problem, will be intuitive to the needs of the micro system. This then provides a platform for the next iteration of the pathway or process, using the PDSA model of QI.

The outcome of this process is to build an evidence base of the contextual factors within your unit (microsystem) that will facilitate a tailored approach through which PReCePT can be embedded.

There is a wealth of learning from the pilot of this project which can inform your approach, but ensure that it captures the nuances of your microsystem and team dynamics rather than using it as a standardised approach. Successful quality improvement is more likely to be seen when the solution is developed in line with the needs of the people using and delivering it, rather than the tailoring of a process to fit the environment.

How this information is gathered and where from will depend on the way your unit operates as well as who is in your project team. Spending time thinking through what information will best illustrate your microsystem and guide the implementation of PReCePT will support your PDSA cycles.

How do we get started?

In a team identify and record the key factors that make up your microsystem. This should include as a minimum the staff groups, numbers of staff, all relevant local contextual information and the pathway or process that women in pre term labour experience. It is also essential to understand the process from the point of view of all staff involved in the organisation and delivery of care of women in pre term labour. There are a number of methods that you can employ to guide this exercise, particularly the use of process mapping.

Experiential Learning: PReCePT 1

Each of the project midwives and their teams were encouraged to map the journey of women in pre term labour within their unit. This enabled the teams to work in partnership to identify the 'touch points' of women on this pathway and to identify the opportunities for improving the processes.
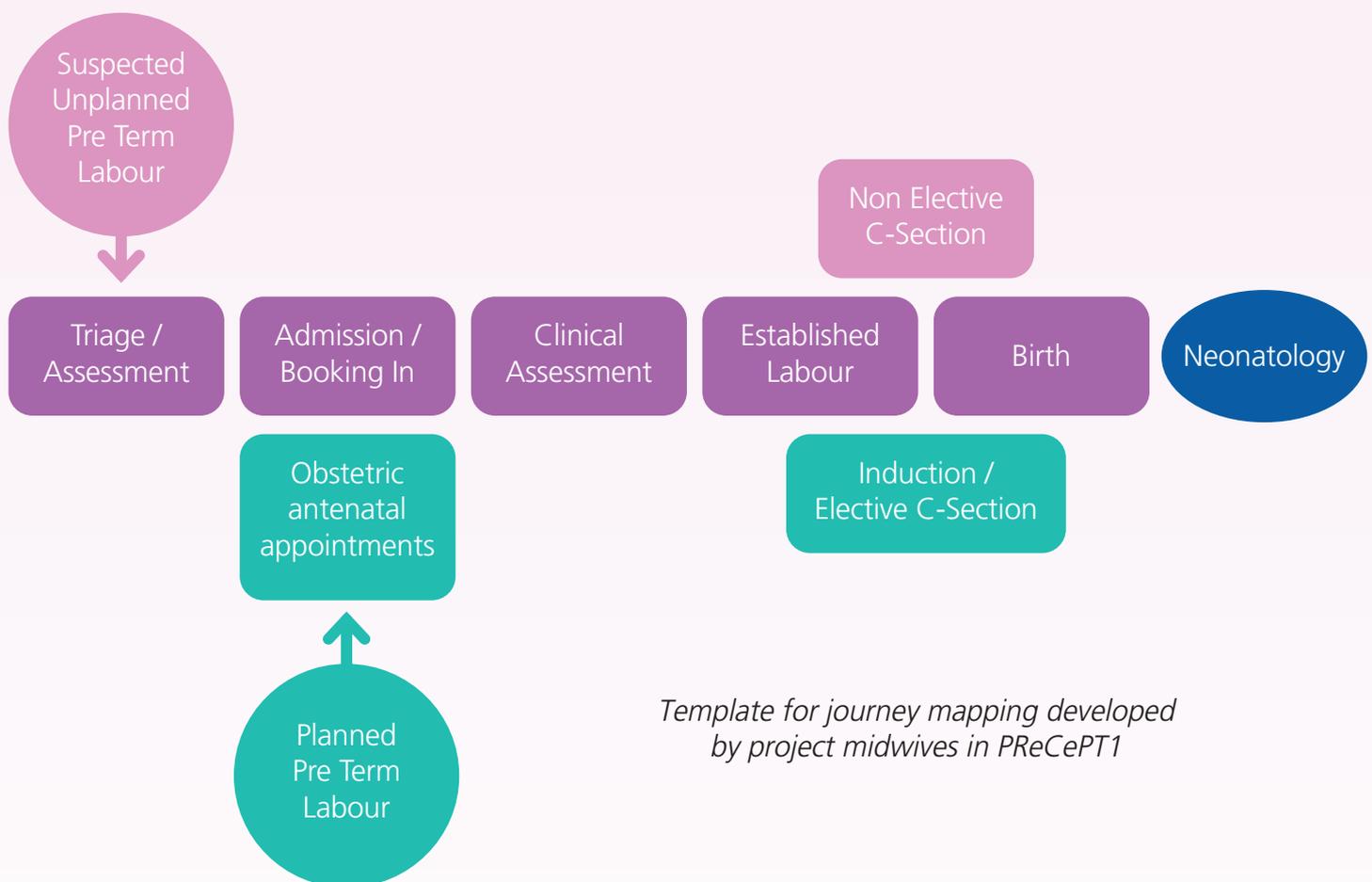
Template for journey mapping developed by project midwives in PReCePT1

How can the coaches support this step?

The QI coaches can support units undertaking this step of the project through telephone and face to face coaching as well as providing extra information and templates as necessary. Coaches are also available to sense check and provide feedback on any approaches that arise from completing this step. If there is an appetite for it, QI coaches can also facilitate process mapping workshops with individual or units or bring other teams in the study together to do so.

PReCePT Study:
Theory into Action Guides
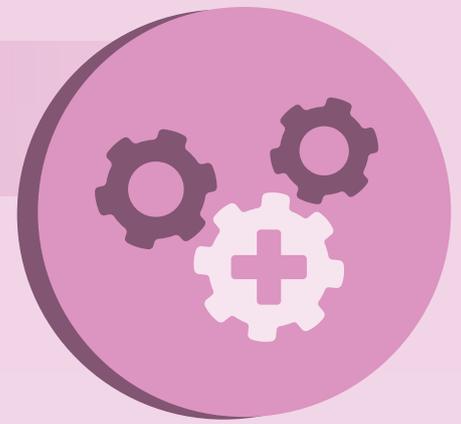
3b. Mine the Microsystem and identify barriers and facilitators

What is this guide for?

This guide is to illustrate two tools that you can use when you are gathering the contextual factors that will facilitate or prohibit change and improvement. It is designed to accompany the Experience into Action Guide of the same name.

Why do we need to work in this way?

As highlighted, improvements happen within a complex system, culture and context. There are likely to be things within a system that can either support your improvement or make it harder to implement change. It is essential to dedicate time to build a full picture of the current situation before you begin to implement a change to it. By gathering this information you will understand the processes that currently exist and will be able to identify what facilitates it and what factors impede it. Working in this way will not only show you where the bottle necks are but will support the creative process in developing innovative changes to the status quo.

What do we need to look at?

Ultimately you want to examine the data in light of these two questions;

What does your benchmarking information tell you about your local context?
What patterns can you see from your service data?

This source of this information can be categorised under 5 headings:

• Purpose • Patients • Professionals • Processes • Patterns

This method of collecting and displaying data is called a 5P's assessment.

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Mining the Microsystem, Tool 1:
The 5p's Assesment

This method comes from the Sheffield Microsystems Academy and is aimed at creating a snapshot of the current picture within a clinical microsystem.

The 5p's look at your system and promotes the identification of trends and patterns.

1. Purpose, "our system exists to"....?

2. Patients

- Who do we care for? are there any sub populations we care for differently?
- What support do we need?
- How satisfied are our patients / carers?

3. Professionals:

- Who provides care and who supports them?
- What skills and talents are required?
- What is the role of IT?
- How is staff morale?
- Do people feel safe?
- Do people feel empowered to make changes?

4. Processes:

- How is care delivered / what is our current clinical pathway?
- How does technology support us / the pathway?
- How do we learn from our mistakes?

5. Patterns

- Health outcomes
- Cost of care
- Interaction with other systems
- Common work activities
- Leadership
- Quality and safety discussions and mechanisms
- Team traditions, dynamics

Where can I get more information on undertaking a 5p's assessment?
https://www.sheffieldmca.org.uk/UserFiles/File/5Ps_One_Page_Book.pdf

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Mining the Microsystem, Tool 2: Process Mapping

This method is used to develop a map of a process within a system. It is often used to map all the of the steps in a patient's journey through a health care system and is often powerful as a tool to bring whole teams together to appreciate the entire pathway, not just 'their' bit.

It is a useful tool in highlighting where the problems are and identify areas for improvement. It can also be used to show where there is any interconnection in patient flow between microsystems, for example between neonatal transfer networks and maternity units.

Suspected Unplanned Pre Term Labour → Triage / Assessment

Admission / Booking In

Clinical Assessment

Non Elective C-Section → Established Labour

Birth

Neonatology

Obstetric antenatal appointments

Induction / Elective C-Section

Planned Pre Term Labour → Obstetric antenatal appointments

Template designed by PReCePT midwives to support process mapping
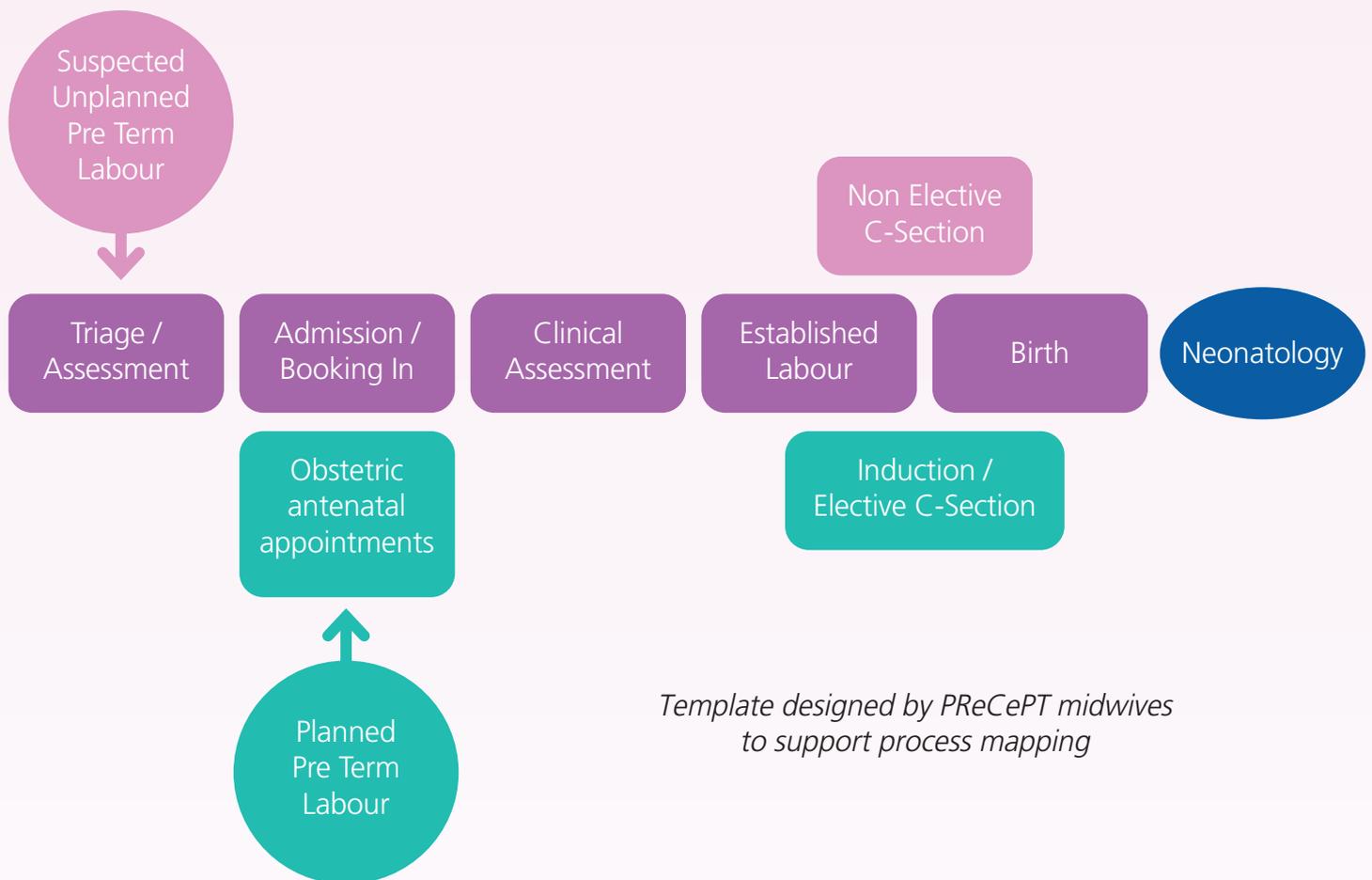
How to process map:

To get the most out of this activity, it is suggested that you do this with your project team, ensuring that there is representation from the main clinical staff groups present, for example a midwife, obstetrician, neonatologist, maternity support worker etc.

1. Decide on a start and end point, for example, starting with triage into maternity unit and ending at handover to neonatology. You can use software to develop the process map once it has been drafted but it is fine to use it in its original format.

2. Use rolls of paper, marker pens and post it notes in different colours to draw the process map

3. Keep it simple, stick to the main steps in the patient journey, we suggest 5 – 10 steps in half an hour is a good start.

4. Use high level identifiers to build the process map;

    - Boxes for activities (eg patient admitted to maternity ward)
    - Diamonds for stages in the process that a question is asked or a decision required (eg does patient require steroids?)
    - Ovals for start of a process and inputs required. This identitifier is also used to signify the end of a process with results or outputs.
        - Arrows to show the direction of flow or process

5. Once you have completed the process map you will be able to start to understand how the process currently works and where there are any hold ups. Spend time as a team to study the process, what is working well and where there are barriers. Annotate the process map so that it is clear where the process works and where it needs improving.

6. If there is one part of the process that requires a more in depth investigation you can repeat the mapping exercise and expand a step on the original pathway into a more detailed, stand alone process map.

7. When you are satisfied with the process map(s) spend time 'journeying through' from the perspectives of patients or particular staff groups. Understand what steps are valuable to them and try and remove or slim line those that aren't.

You can also use process mapping to design a new pathway or to make amendments based on the initial exercise.

> For more information on process mapping please visit:
> https://www.weahsn.net/toolkits-and-resources/quality-improvement-tools-2/process-mapping/

4a. Understand the Numbers

Why?

Using data when measuring for improvement is different to that used for performance purposes. It does not seek to prove or disprove clinical interventions, but seeks to answer a key question 'how do we know that a change is an improvement?

Collecting data is an essential part of any improvement project and acts a tool to help you analyse and review your project.

Improvement data is traditionally collected in small numbers frequently as opposed to the traditional clinical audit which is often retrospective. The benefit of this is that you can gain instant feedback about the impact of a change and gain an opportunity to analyse findings and plan subsequent tests of change at a fast pace.

The data also serves as an intervention and an effective communication tool. Illustrating the local progress, particularly against the national picture will highlight to the team the direction of improvement and can be used as a communication tool when working with colleagues to understand barriers and facilitators.

Midwives involved in PReCePT1 highlighted this as one of the key improvements that led to successes. Frequent communication about progress and analysis of cases where magnesium sulphate was not given led to regular tests of change and innovation to overcome barriers which resulted in fast paced improvement.

How do we work in this way?

It is essential to ensure data is available and use this to influence the work of the project team. You should build data analysis into the on-going project planning and implementation to give the team the opportunity to understand the impact of changes made. Throughout PReCePT1 the project midwives collected and reviewed data monthly.

Another important use of data was for communication. This helped the project midwives keep the momentum and engagement of the wider staff group in the project and created an appetite for successes. The team in PReCePT1 used a simple but effective info graphic that was used to communicate progress, some units sent it to staff by email and others used notice boards in clinical areas.

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How do we get started?

It is important to ensure that data is available to you at frequent intervals throughout implementation. The way this is made available may be different across hospitals, it may be from your business intelligence team, by running a report from Badgernet or an element of manual audit. The first step is to explore this in your local unit to ensure that wherever the information is coming from, it available to you as the project team.

Ensure that the project team are regularly reviewing data and establish a way of communicating this with the wider team.

Project Midwives with their bespoke PReCePT notice board. This was later used to share the progress of the unit, with infographics highlighting percentage of eligible women who received MgSO4 and numbers of staff trained.

How can the coaches support this step?

Using data in this way may be a new way of working for the team, the coaches are able to offer advice and support with how to collect data, understanding and interrogating the data, how to use data to inform improvement, how to display and communicate your data.

This may be in the form of understanding your baseline position, troubleshooting 'blips', helping develop charts and communications.

Where can we access more information and QI resources?

https://www.weahsn.net/what-we-do/using-evidence-based-healthcare/qi-tools/quality-improvement-tools-2/define-the-problem/understanding-data/

4b. Understand the Numbers

What is this guide for?

For this part of the theory into action journey we are focussing on how to use data to support communication, engagement and positive action. Measuring progress in QI focuses on the journey of improvement, and uses the data to contextualise the current picture and to identify when to make further changes. This guide will highlight how units can use the data generated through the study as an intervention to see improvement, taking the information further than an auditing activity.

What is it?

In order to see whether progress has been made in QI we move away from traditional measuring that you might use in performance management or research. Rather, QI seeks to answer the key questions of "how do we make PReCePT work in our unit" or "how do we know that change is an improvement?"

Measurement overview:

There are three types of measures that we focus on when embarking on improvement journeys. These are:

1. Outcome measures: reflect the impact on the patient and show the end result of your improvement work
2. Process measures: reflect the way your systems and processes work to deliver the outcome you want
3. Balancing measures reflect what may be happening elsewhere in the system as a result of the change. This impact may be positive or negative.

It is better to measure progress against these three types of outcomes little and often gathering data as you go rather than waiting for one big collection at the end of the project. That way, if your PDSA cycles aren't working you will find out fast.

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How do we apply this theory in the PReCePT Study?

One way of using the numbers to affect change is through the creation of Infographics and using continuous data collection as an improvement intervention. In PReCePT1 units were encouraged to use infographics to illustrate the monthly progress of the unit, alongside the progress of the other units in the cohort. Provided by the QI team, simple excel spreadsheets were given to each lead midwife to complete monthly.

PReCePT MgSO4

PRevention of Cerebral Palsy in PreTerm Labour

PReCePT Monthly Performance

50% TREATED LAST MONTH

36% STAFF MgSO4 TRAINED

70% TREATED

It became an essential tool in communication of the teams progress and was a visual way of displaying improvements. The midwives used the info graphic in a variety of ways including sending by email, displaying on notice boards including it in newsletters. Staff would be keen to see publication of the poster which kept momentum and helped embed the new processes into normal business following completion of the project.

Ultimately the power of this tool was not in the design of the infographic but rather its application as an intervention, relaying the state of play each month allowed front line staff members to understand the current picture and to think through where change could be made.

What resources do I need?

As part of the QI toolkit supplied by the NHSE and the national programme team, you have been given access to an excel spread sheet that has a built in formula to produce the info graphic.

You will need to find a way of accessing your data regularly and a process that suits your unit to share this information with the wider team.

What other methods exist for measuring and understanding data?

There are a number of tools that are useful in measuring improvement. For further information you can follow the links below. You can also ask for specific coaching in any of these aspects from the QI coaches.

- **Run Charts**

A Run chart is the best way to measure the cumulative impact of your PDSA cycles over time because small amounts of data can be collected regularly and compiled to review the impact of change over a period of time. It focuses on variation and highlights ups and downs in the data, which is more useful to the PDSA approach than a traditional audit, which uses a snapshot approach and can only highlight what things look like at a point in time.

> For more information on presenting and understanding data
> for improvement projects see;
> http://www.qihub.scot.nhs.uk/knowledge-centre/quality-improvement-tools/
> statistical-process-control.aspx or www.youtube.com/watch?v=Za1o77jAnbw

5a. Prioritise Planning

Why?

There is a relatively short timeline to this project and many aspects that need targeting, set against the backdrop of the daily clinical and operational demands within units.

Learning from the pilot highlighted that implementing PReCePT can be done rapidly, but momentum must be maintained for time pressures to have a positive impact on delivery. An effective and efficient way to maintain momentum and to see progress is to develop a project management framework that fits with your preferred style of working. This could simply mean setting aside the time to predict the risks, barriers and facilitators to the progress of the study in your in unit. Using a framework approach to roll out PReCePT in your unit will foster creative and strategic thinking in how to shape the study to best fit your local context.

How do we work in this way?

An effective way of managing this project is to develop a project plan and risks and issues log to complement the implementation and training plans. Don't be put off by the 'dryness' of this aspect of the project, it can take many forms and can be as comprehensive or as 'light' as suits the team operational style and dynamic. When writing a project plan or implementation plan it is important to understand the working patterns of the team, whilst taking care to predict any contextual factors which will negatively impact the progress of the improvement project (seasonal demands, staff turnover etc.). You can log any expected risks in a risks and issue log.

How do we get started?

Designing a project approach does not have to be onerous but it is essential to spend time in planning the project timeline, identifying milestones and developing outcomes. Not only will this provide your team with a structure to measure progress, but it will also help sharpen the approach you take to design and implement PReCePT.

Project plan templates can be obtained from the QI coaches or you can develop your own. By working through the sections in a project plan, the approach will take shape.

How can the coaches support this step?

QI coaches can support you in developing a project approach and can offer more specific help with putting together project plans and risks and issues. The coaches have access to a number of tools and templates that can support you designing a project framework.

Experiential learning: PReCePT1

The project midwives in the pilot phase of the project highlighted that the main restrictions they experienced were around planning. At times they reported feeling rushed and struggled to meet the demands of delivering the training in the compressed timelines.

Where can we access more information and QI resources?

The IHI website has a range of tools and background on project planning;
http://www.ihi.org/resources/Pages/Tools/ProjectPlanningForm.aspx

Remember you can also ask the QI coaches for advice and guidance on starting planning.

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5b. Prioritise Planning

What is this guide for?

This Theory into Action Guide highlights how to use a Driver Diagram when planning a QI project, a tool that is effective in clarifying and stratifying goals, aims and outcomes. This guide is designed to accompany the experience into action guide of the same name.

What is a Driver Diagram?

Driver diagrams are a structured logic chart with three or more levels:

- A goal or vision: a clear aim
- The high level factors that you need to influence in order to achieve this goal (called primary drivers)
- Specific projects and activities that would act upon these factors (called secondary drivers)

Where do we start?

There are four key steps in the journey to producing a successful driver diagram.

1. Set out what you want to achieve in your Aim. Make it specific and measurable (Increase the use of MgSO4 for neuroprotection in women in pre term labour of less than 32 weeks)

2. Identify the big topics and important areas that need to be addressed to achieve your aim in the Primary Drivers, such as patient information and informed consent

3. Consider which activities can positively influence the Primary Drivers. For example, patient information might be clinician awareness or improved patient education. These are Secondary Drivers, which can influence more than one Primary Driver and help you identify relevant change ideas.

4. Think very carefully about your change ideas. These should have an effect on at least one secondary driver and help you achieve your aim. These are the important changes that will go into your implementation plan and inform the PDSA cycles.

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Driver Diagram Template

Primary Drivers:

System components which will contribute to moving the aim

Secondary Drivers:

Elements of the associated primary driver. They can be used to create projects or change packages that will affect the primary driver

Aims / Primary Outcome:

Measures:

Aim Measure:

Primary Driver— Outcome Measure(s):

Secondary Drivers- Process measure(s):
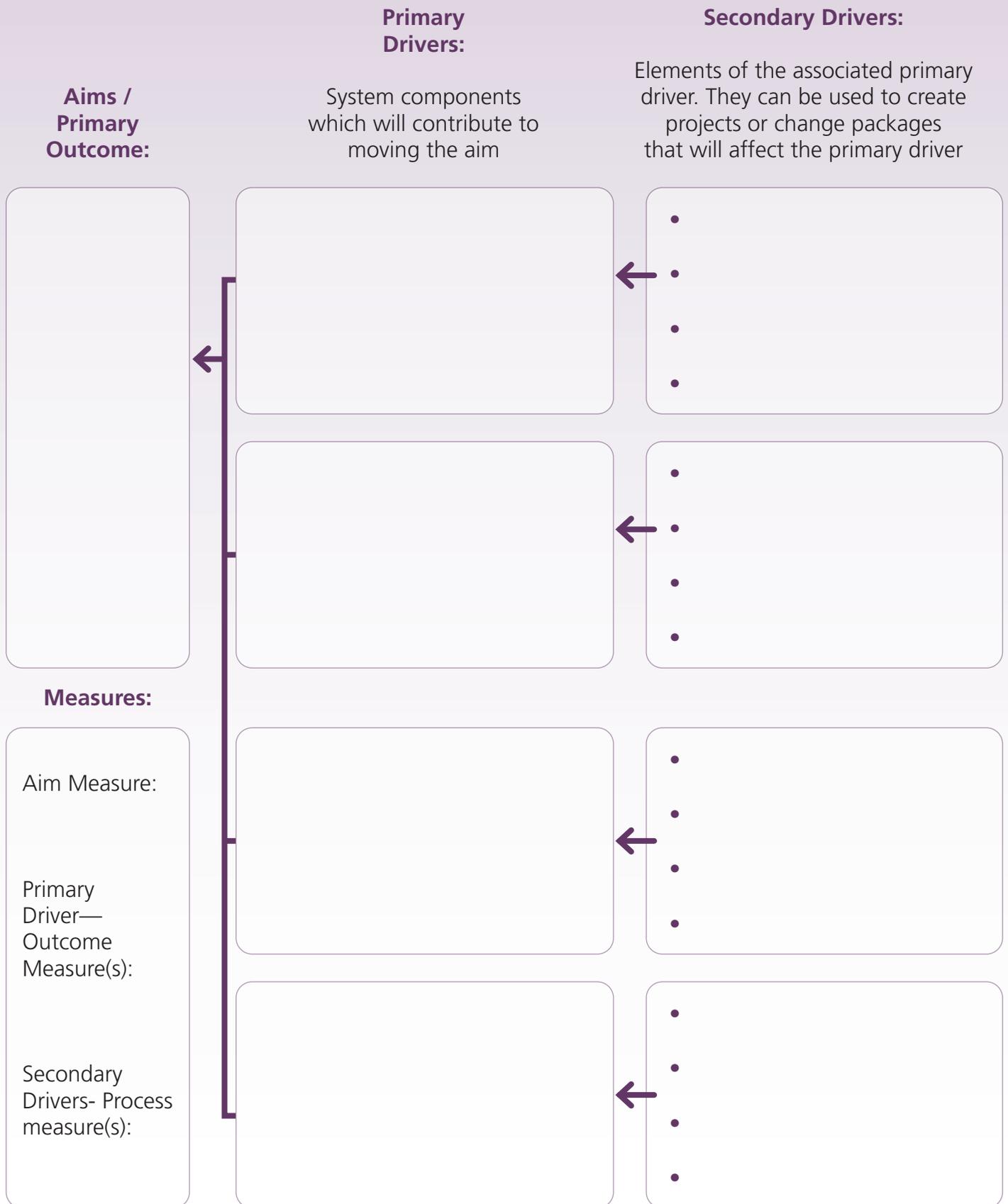
A driver diagram is used to conceptualise an issue and determine its system components which will then create a pathway to get to the goal.

Driver Diagram Completed Example

Primary Drivers:

Secondary Drivers:

Aims / Primary Outcome:

System components which will contribute to moving the aim

Elements of the associated primary driver. They can be used to create projects or change packages that will affect the primary driver

To support all maternity units in England to increase their average uptake of magnesium sulphate eligible mothers (below 30 weeks gestation) during preterm labour, to 85%, with a stretch target of 95% for high performing units, by 2020.

Measures:

Primary driver / outcome measure(s):
• Uptake of magnesium sulphate

Secondary drivers / outcome measures:
• Process measures
• Resource use / costs

Awareness raising

• PReCePT Champions in each site
• Awareness raising communication pack (incl. marketing material, video, infographics etc)
• Patient stories and patient leadership
• Executive sponsorship

Knowledge mobilisation
Operation / System enablers
Behaviour change – embedding knowledge

• Staff training
• Staff and patient leaflets
• Posters
• Collective learning via IHI breakthrough collaborative series (learning events)
• Improvement knowledge capture in place

Operation / System enablers

• Care pathway developed
• Clinical decision tool in use
• Local policies refreshed
• PReCePT "How To" pack in use by local champions

Behaviour change – embedding knowledge into practice

• Staff confidence
• QI coaching of PReCePT champions
• Culture and leadership
• PReCePT 'nudges' pack (magnets, stickers, lanyards with quick reference cards etc)
• PReCePT community of practice for peer-to-peer support in place
• Visual data management in place about number of days between missed doses (from BadgerNet unit dashboard)

6a. Promote an Experimental Culture

Why?

Solutions to problems aren't sitting around waiting to be discovered. Being involved in this study buys clinicians the time and space to roll your sleeves up and produce solutions which are innovative but more importantly with the potential not to work. The way to prove a process works is to test it, study the outcomes and act on error. This approach lies at the heart of quality improvement.

During the improvement process, errors are good if they lead to an innovative way to overcome them in the future. PReCePT teams are encouraged to use creativity, intuition and logic teamed with experience in order to identify innovative and fresh solutions as part of the PDSA Cycle. Working in a collaborative way to allow everyone to input their ideas will facilitate this process. Embedding quality improvement methodology into the working methods of the clinical unit will have wider benefits than PReCePT; it will provide a mechanism for future continuous improvement work.

How do we work in this way?

We are so often encouraged to work with accuracy and to achieve the desired results first time that it can sometimes be discouraging to see failure and to embrace it. The quality improvement process allows a space in which versions of a process can be tested, observed and tweaked using the evidence and then tested again. The PDSA cycle and quality improvement ramp approach is the ultimate way to test out the tweaks and changes you make to ensure that all eligible pregnant women received MgSO4. Remember, this is not a one chance process, there are lessons learned from each iteration which will inform the design and implementation of the next version.

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How do we get started?

At this stage you want to build on the ideas generated through mining the microsystem and identifying barriers and facilitators. The idea is to pull all of your intelligence, evidence and ideas together in order to refresh the current pathway with innovation that is based on logic. How you do this depends on your preferred way of working, but workshop set ups are often good at promoting creative thinking. The key outcome of this process is the development of a 'prototype' or a beta version of the intended improvements. For example this could be a modified patient pathway, edits to clinical guidance or visual prompts.

You are now ready to test the improvements and we recommend doing this using PDSA methodology. To do this efficiently it is recommended that you start with a small scale test and use a simple form to capture your aim, what you actually did and what you learnt through doing it. It will take a number of short testing cycles to refine a change before it is in a state for implementation.

How can the coaches support this step?

The coaches can guide you through the run up to developing a prototype, including how to generate ideas and innovation and can support the team through PDSA cycles. If you feel that your unit would benefit from a more in-depth grounding in IHI methodology, this can be delivered by the coaches.

Where can we access more information and QI resources?

Creative Idea Generation
Q Creative Approaches to Problem Solving Methods toolkit, The Health Foundation
https://q.health.org.uk/resource/creative-approaches-to-problem-solving/

Experience into Example

*For the trusts involved in the first roll out of PReCePT, the Triage board was identified as the most logical place to identify which women were eligible for MgSO4. It was seen as a real breakthrough moment when the use of a PReCePT magnet was put forward as a way to highlight which women needed to be considered for treatment (**creative ideas generation**). The proposed process was that eligible women were to have a PReCePT magnet put against their name at booking in, which, according to the process selected by the trust, would either trigger a sticker prompt being added into the handheld notes to record MgSO4 use or the addition of fields in the existing booking in proforma (**developing a prototype**).*

*The magnets were designed and emboldened with the PReCePT logo and distributed. However, at the beginning of the PDSA cycle, (**Do**) it was clear that this was not going to work for one of the hospital as the triage board was not metal and therefore would not hold the magnets. The design was reviewed (**Study**) and a new magnetic board was implemented (**Act**).*

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PReCePT Study:
Theory into Action Guides

6b. Promote an Experimental Culture

What is this guide for?

This guide offers practical insight into how to get started with PDSA cycles. It is designed to accompany the Experience into Action Guide of the same name.

IHI Model for Improvement

This model involves undertaking Plan, Do, Study, Act cycles as a simple way for testing ideas.

Act
- What changes are to be made
- Next cycle

Plan
- Objective
- Questions / Predictions
- Plan to carry out cycle (who, what, where and when)

Study
- Compare Analysis of data
- Compare data to predictions
- Summarise what was learned

Do
- Carry out plan
- Document problems and observations
- begin analysis

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The approach relies on three key questions:

- What are we trying to accomplish? (develop a clear aims statement)
- How will we know a change is an improvement? (decide what you will measure)
- What changes can we make that will result in improvement? (use the outcomes of driver diagrams, min spec or other creative ideas generation tools)

These questions are answered by testing change ideas using PDSA cycles, which is simply put, a way to take ideas, try them in practice and to observe and understand what works and what doesn't.

It is usual for there to be a number of short testing cycles to refine a change idea before it is ready for full implementation.
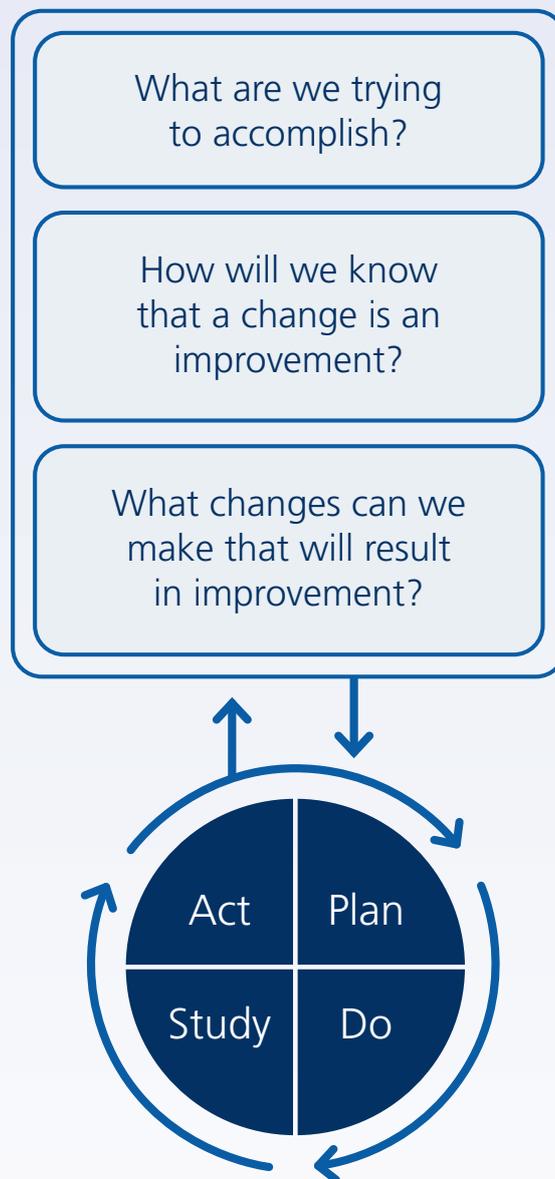
Start with a small-scale test and use a simple form to capture your aim, your plans and what you actually did and what you learned through doing it. This will then inform your next PDSA cycle. You can use a simple form like the template included to record your process and direct your experimental thinking.

PDSA Cycle [Number]

Aim: what are you trying to accomplish?

Prediction: what do you think will happen as a result of your test?

Plan: what will your test be?

Do: what happened when you carried out your test?

Study: how did the results of your test compare with predictions?

Act: how will you change your previous test in light of what you have learned?

7a. Collaborate and Share Experiential Learning

Why?

From the experiences of supporting the teams in PReCePT1 and from what we were told by the first tranche project midwives, the coming together of the units was highly valued. Bringing the teams together at the right point in the process was a springboard for idea sharing and problem solving.

As a unit selected to participate in the study, you immediately become part of a wider network of clinicians who are also working to embed the PReCePT project within their individual trusts. It is important to take advantage of this community, sharing lessons learned and solutions to obstacles within the clinical environment will enhance the work driven by your project team and support its success. The QI coaches will encourage communication by creating spaces to do so, both electronically and face to face.

A strength of the PReCePT pilot was the quality of relationships with parent representatives. QI methodology has co–production at the heart of its collaborative approach and it is expected that units in the study endeavour to adopt this approach.

Co-production is the bringing together of patients or patient representatives, parents or carers to work in partnership to bring about improvements to a clinical or support service. The NHS has a duty to involve patients in the development of clinical services, but co–production goes beyond this and fosters a collaborative partnership between service providers and patient representatives.

PReCePT has parents at the heart of its design and implementation process; parent representatives are highly valued and fully participative members of the steering group. This is important, often, when we are planning quality improvement projects, patient involvement is not given the weight of importance it demands and can often be seen to be done as a 'tick box exercise'. We should involve patients not because the NHS has a duty to include their input in a tokenistic way, but because as QI practitioners we subscribe to the benefits and importance of co–production. Historically in the NHS, collaborative work involving patients was seen as a consultative interaction; "we, the NHS have designed this service with you, the patient in mind, what do you think of it?" rather than, "you, the patient have experiential knowledge and insight that we, as service providers cannot, shall we work in partnership to understand the issues and solutions from all angles?" Putting the patients at the heart of the QI team can facilitate an environment that is rich in innovation and creativity, but that is also responsive and intuitive to the needs of the patients and the clinicians providing the service.

How do we work in this way?

Simply, you cannot design an efficient system wide improvement project without representatives from all of the parts of the pathway. Working together to identify all of the key areas and to problem solve from the points of view of the parents, midwives and doctors as well as any other significant members of the team will support improvements that are efficient, innovative and long lasting.

A strong project team which enables all members to have a voice will cultivate intuitive thinking and implementation. Learning from PReCePT1 highlighted that a flexible approach to training and implementation allowed each unit to tailor the project to suit their local context and culture. Ensuring that there is a good mix of people around the table will support this process.

How do we get started?

From the experiences of the first run of PReCePT it is essential to build some time into your project hours to think about who you want around the table. How often, when and where you meet is down to how you want the project to run, but an often quoted benefit of the way the pilot was run was the opportunity to get together and to really talk through the project.

The Learning Events will offer the chance to share your experiences and maybe trouble shoot with your colleagues from other sites, but don't underestimate the importance of doing this with your team members. What we are essentially doing is delivering a project that is centred round changing the culture within your microsystem through the people that are part of it. The best way to do that is to do so with those people. As clinicians who will have their hands on the delivery of MgSO4 in day to day situations you hold the answers as to what will facilitate and prevent an increase in this intervention.

How can the coaches support this step?

From our experience of PReCePT1 it is important to create a forum in which an in depth discussion can take place to understand the barriers and facilitators in the clinical unit, the needs and thoughts of each staff group represented and to develop an initial project implementation approach. The learning events will provide a forum in which to work alongside your colleagues from other units and to develop strong working relationships.

In addition, QI coaches will support members of PReCePT Study in communicating and sharing learning outside of Learning Events. Coaches will provide information on how to access the communication groups, such as WhatsApp and to share the contact details of participating sites.

Experiential Learning from PReCePT1 – collaborative working to fine tune an approach

Following a learning event in which the project midwives were brought together to share their approaches, lessons learned and to work collaboratively on specific tools such as stakeholder engagement and a communications plan, the midwives representing two of the units decided to work together to produce a standardised training presentation that could be adapted to fit the needs of the individual trusts. This collaborative approach only happened because the midwives came together and developed bonds through shared experiences.

Experiential Learning from PReCePT1: Coming together to launch a QI Project

The input to the project from the parent representatives was invaluable. Strong working partnerships were formed within the original project team between the two patient representatives put forward by BLISS and the clinical and operational team members. The lived experience of the parent representatives brought a level of insight into the development of communication materials but also ensured that the parents and the outcomes for preterm babies remained at the heart of the project aims. One of the key areas in which the parent team members had direct influence was the delivery of information to women and their partners when in pre term labour. Whilst the clinicians were able to give an experienced and educated view point on how best to ensure mothers were making an informed decision, the parent team members were able to point out that the word count of the first version and its language style were not suited to women in stressful, frightening situations.

Where can we access more information and QI resources?

https://qi.elft.nhs.uk/resource/what-is-co-production/

7b. Collaborate and Share Experiential Learning

This step of the QI journey will be supported by the QI coaches bringing together the study sites from across the country. Collaboration will be a central theme of the learning events and will also be promoted and encouraged throughout your time in the PReCePT study.

Through the learning events you will be provided with the opportunity to come together and share experiences of designing and implementing PReCePT with your colleagues who are on their PReCePT journey in other parts of the country.

As with all of our work, there is QI methodology underpinning the way we operate. This way of working, based around three learning events follows the IHI Collaborative Model for achieving Breakthrough Improvement. The Breakthrough Series is designed to help organisations close the gap between what we know and what we do in healthcare settings by creating a structure in which interested organisations can easily learn from each other and from recognised experts in topic areas where they want to make improvements. A Breakthrough Series Collaborative is a short-term (6- to 15-month) learning system that brings together a large number of teams from hospitals or clinics to seek improvement in a focused topic area; in this case, neuroprotection in pre term labour.

How can I ensure that our unit is participating fully?

To ensure that your unit is gaining the most it can from the study as well as contributing fully, it is important that the learning events are prioritised and that you attend when possible. We aware that clinicians on a busy unit are often unable to commit or have to cancel attendances at events in line with clinical demands, but we ask that attendance at learning events is consistent and by the same three clinicians.

Where can I learn more about the model for Breakthrough Improvement?

http://spectrum.diabetesjournals.org/content/17/2/97

A final note;

Helping other people to learn from your experience, helps to spread good practice to other areas. The temptation is to move on quickly to the next problem area you've identified. However, it is crucial that as a maternity and neonatal community of practice we start to share our results and how we achieved them. We would like to encourage you to share your work widely.

Don't feel that other people will only be interested in projects that have been successful (although it's always nice to share success stories!). It will be just as valuable to share information on projects that have not been successful or where things didn't go quite to plan. This is where keeping a 'lessons learned' log as you go through your improvement journey is useful; as it will help you remember the ups and downs of delivery.

Project Snapshot

About you	Site:	Date:	Team Member:
	Process	**Training**	**Comms & Engagement**
Aim			
Where are we now?			
Where do we want to be at this point of the project?			
Celebrating Success – your key milestones			

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Project Snapshot

	Process	Training	Comms & Engagement
Identifying hurdles			
Solutions			
Plan Going Forward			
Coaching Needs			

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Implementation Plan

Team:	Trust:	Date Created:	Date Reviewed:

IMPLEMENTATION PLAN : PRIORITY AREA 1 e.g. "Training and Education"

Priority Area description:	
Goal / Future State:	
Performance Measures:	
Objectives:	

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Implementation Plan

Implementation Activity for Priority Area 1	Time Line	Resources Needed	Lead Team member	Progress

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Implementation Plan

Team:	Trust:	Date Created:	Date Reviewed:

IMPLEMENTATION PLAN : PRIORITY AREA 2

Priority Area description:	
Goal / Future State:	
Performance Measures:	
Objectives:	

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Implementation Plan

Implementation Activity for Priority Area 1:	Time Line	Resources Needed	Lead Team member	Progress

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Communications Plan and Actions

Team:	Trust:	Date Created:	Date Reviewed:

Step 1: Stakeholder Analysis:

Identify your Stakeholders

Prioritise your Stakeholders

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Communications Plan and Actions

	Low involvement	High involvement
High influence	Satisfy	Manage
Low influence	Monitor	Inform

Communications Plan and Actions

Step 2: Develop your Communication and Engagement Plan				
Stakeholder	Team Member Responsible	Stakeholder Analysis outcome	Role in Implementation	Action Needed (to move stakeholder to target position)

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Communications Plan and Actions

Step 3: Develop your Communications Action Plan

Priority Area / Stakeholder group:	
Goal / Future State:	
Performance Measures:	
Objectives:	

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Communications Plan and Actions

Communications Activity for Stakeholder 1	Time Line	Resources Needed	Lead Team member	Progress

Communications Plan and Actions

Communications Action for Stakeholder 2	Time Line	Resources Needed	Lead Team member	Progress

Capsule Summary

Team:	Trust:	Date Created:	Date Reviewed:

CAPSULE ONE: PROCESS

Capsule description:

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Capsule Summary

CAPSULE TWO : TRAINING AND EDUCATION

Capsule description:

Capsule Summary

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CAPSULE THREE : COMMS AND ENGAGEMENT

Capsule description:

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Embedding Tool

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About you	Site:	Date:	Team Member:
	Process	**Training**	**Comms & Engagement**
Description of improvement			
Current state			
Wins			

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Embedding Tool

	Process	Training	Comms & Engagement
Priority for sustainability (Is this a priority for action?)			
Steady state - Description of what this will look like			
What resources are needed to embed this as "steady state?"			
Who needs to be involved in achieving "steady state?"			
How will you know it has become "steady state?"			
Timescales and evaluation (- i.e yearly training updates, aim for 85% of staff) to complete each year			