



ED PIP: Pilot and Implementation Phase

Overview

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Pilot and Solution Implementation Phase Overview

Purpose

- To test if a change idea or solution will be successful in practice
- To provide a structured and efficient method for putting new solution ideas into practice

Objectives

- To prepare the team and organization for rapid cycle improvements
- To engage stakeholders on the unit, and in supporting units/services for the pilot and solution implementation
- To ensure that there are reliable systems for collecting data to measure the effectiveness of the change
- To foster the capability to analyze results and to select from the toolkit appropriate diagnostic tools and methods of exploring potential solutions where there is room for improvement
- To prepare staff to monitor results and to recognize the need to adapt a change idea or solution
- To inspire a culture of continuous improvement

Key activities

- Design pilot features and build work plan: clarify pilot objectives; develop hypotheses to test; define success criteria; develop pilot design; determine location
- Identify key stakeholders
- Define metrics and tracking processes
- Determine key enablers
- Execute pilot and track results
- Develop and share recommendations
- Build roll out plan

Outcomes and deliverables

- Outcome indicators are present that measure the effectiveness of the change idea or solution
- Process indicators that demonstrate a relationship between specific behaviours/activities and the outcomes
- Balancing indicators to check for unintended negative effects on other parts of the system
- Patient Satisfaction metrics
- Staff Satisfaction metrics
- Recommendations resulting from data analysis
- Learning's from the pilot and solution implementation phase
- Roll out plan



ED PIP: Pilot and Implementation Phase

Work plan

Pilot and Implementation: Outcomes and Timing (1/2)



Operating System

- Weeks 1-2:**
 - Implementation or pilot of each idea underway
- Weeks 3-4:**
 - 'Just Do It' ideas fully implemented
 - Daily review and refinement of each pilot
- Weeks 5-6:**
 - Changes having impact on metrics

Performance Management

- Weeks 1-2:**
 - Daily tracking of pilot results to enable design refinements
- Weeks 3-4:**
 - Visual management used to track and discuss unit performance
- Weeks 5-6:**
 - Unit performance reviews happening daily
 - Results from pilot assessed
 - Process for tracking performance of each new process in place

Culture & Capabilities

- Weeks 1-2:**
 - Team learning check in
 - Functional learning
- Weeks 3-4:**
 - Stakeholder map reviewed, acted upon to ensure support
 - Skills learning
- Weeks 5-6:**
 - Functional learning

Communications

- Weeks 1-2:**
 - Unit update
 - Share early results with sponsors
- Weeks 3-4:**
 - Early results communicated across units
- Weeks 5-6:**
 - Prepare Steer Co Mtng
 - Unit open house

Team Management

- Weeks 1-2:**
 - Team problem solving
- Weeks 3-4:**
 - Team problem solving
- Weeks 5-6:**
 - Team problem solving
 - Involve staff from units that will be involved in rollout

There are items listed as “skills or functional learning”. This refers mainly to the focused training for information and tools found within this toolkit.

Pilot and Implementation: Outcomes and Timing (2/2)



Operating System

- Pilots in place and demonstrating impact on core metrics
- Draft sustainability plan for each new process
- Decision on which ideas to adopt as 'new way of working'
- New processes documented and staff trained on proper use
- Sustainability plan created

Performance Management

- Each metric has owner within the unit and is reviewed daily
- Senior leaders trained on performance tracking and results discussion
- New processes built into standard way of working (e.g., roles, SOPs)

Culture & Capabilities

- Skills learning
- Training on new processes for staff and physicians involved
- Functional learning

Communications

- Steering Committee Mtng
- Hospital wide update
- Unit update
- Unit celebration
- Draft Rollout plan discussed with units involved

Team Management

- Team event
- Draft resources required to make new processes sustainable & scalable
- Control & rollout work plan created – leads for each section
- Resources required for rollout in place (e.g., materials, training, staff)



ED PIP: Pilot and Implementation Phase

Tools

During the pilot and implementation phase, teams should focus on communication and monitoring of results

One tool has been selected to support you in achieving the goal of this phase, which fundamentally is to test changes predicted to improve performance of a given process



	Tool	Description
2	PDSA Tool	Structure and limit the risks of pilots

Other tools already outlined in this toolkit may be appropriate for this phase. For example, see stakeholder maps in the preparation phase.

PDSA Tool: Overview

Outcome:

- A change that has been tested, and therefore, has information to inform readiness and the approach to a broader implementation

**Definition:
'What is it?'**

- The PDSA cycle is testing a change — by planning it, trying it, observing the results and acting on what is learned. This is the scientific method, used for action-oriented learning.
- Teams use Plan-Do-Study-Act (PDSA) cycles to test a change quickly on a small scale, see how it works and refine the change as necessary before implementing it on a broader scale.

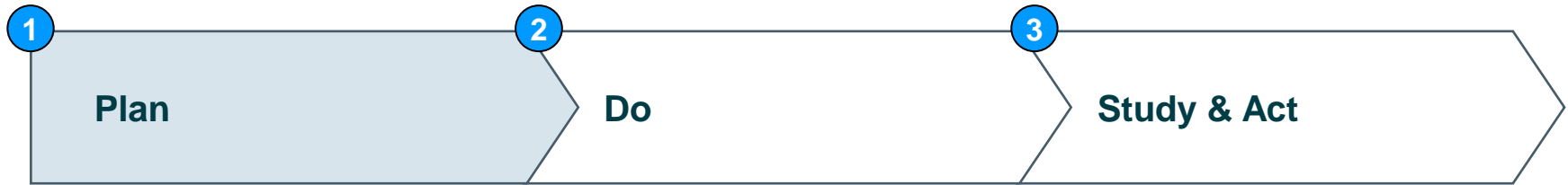
**Objectives:
'What is it used for?'**

- To create some confidence and momentum for the idea
- To decide whether the proposed change will work in the actual environment of interest
- To learn more about the idea so that you can further enhance it
- To decide which combinations of changes will have the desired effects on the important measures of quality
- To minimize resistance upon implementation
- To evaluate and eliminate the idea from further development without a major investment of resources, if it turns out to be not such a good idea

Benefits:

- Mitigate risks of a large scale implementation
- Learnings of initial pilots can be applied to ensure initiatives are more successful

PDSA Tool - Instructions For Use (1/3)



Step 1: Plan

1. Plan the test or observation, including a plan for collecting data.

- Who?
- What?
- When?
- Where?
- What data need to be collected?

2. State the objective of the test.

3. Make predictions about what will happen and why.



- Pick easy changes to start.
- Don't reinvent the wheel. Replicate changes made elsewhere, modifying where appropriate.
- Work with those who want to work with you.
- Avoid technical slow downs. For example, don't wait for the new computer; record data and results with paper and pen.
- Quantitative measures need to be able to answer the question, "how will we know that a change is an improvement?"

PDSA Tool - Instructions For Use (2/3)



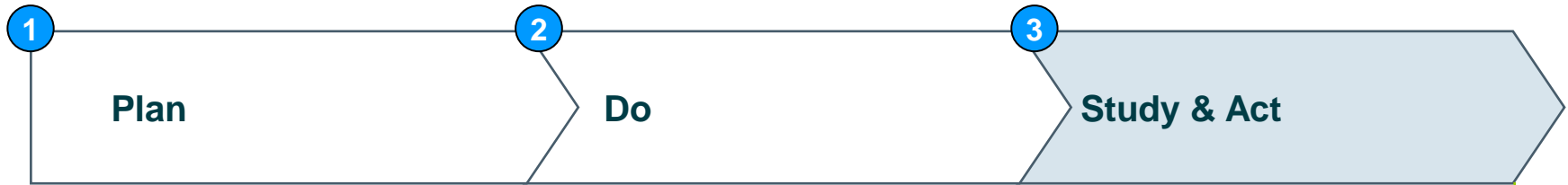
Step 2: Do

1. Try out the test on a small scale.
2. Document problems and unexpected observations.
3. Measure the impact.



- Scale down the size of the test. For example, sample the next ten instead of sampling 200.
- Be prepared for resistance in response to innovative ideas. Be patient, but focus on trying out something new.
- Prototypes and small scale tests, where others can see the impact of the new idea, often help to people to see that their worst fears are unfounded and that there are some benefits that they had not fully appreciated.

PDSA Tool - Instructions For Use (3/3)



Step 3: Study

1. Complete the analysis of the data. Compare the data before and after the change.
2. Compare the data to your predictions.
3. Summarize and reflect on what was learned.

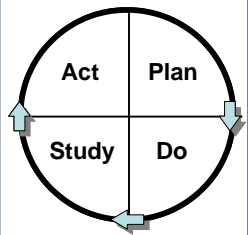
Step 4: Act

1. Refine the change, based on what was learned from the test.
2. Determine what modifications should be made.
3. Prepare a plan for the next test.



- Reflect on the results of every change
- The measure of success for a test is whether or not you learned something. The test is successful even if the idea itself fails, as long as you learn something. The only “failure” is a failure to learn.

PDSA Tool Planning Form



Model for Improvement

Date _____

Objective for this PDSA Cycle:

**Is this cycle being used to develop, test or implement a change?
What question(s) do you want to answer on this PDSA cycle?**

PLAN

- Plan to answer questions: who, what, when, where
- Plan for collection of data: who, what, when, where
- Make predictions for question(s) above

Do

- Carry out the change or test; collect data and begin analysis

STUDY

- Complete analysis of data
- Compare the data to your predictions and summarize the learning

ACT

- Are we ready to make a change? Plan for the next cycle

PDSA Tool Tips & Tricks

- Effective change is born of a sense of urgency. You need to create or increase urgency.
- New ideas/plans need to be in alignment with the organization's mission, vision and goals.
- Every idea needs a guiding coalition (a group of champions/sponsors) whose members are wide-ranging and influential enough to help with necessary resources, including participation by others.
- Over communicate. You are ready to implement when people start saying to you “enough talk already. When are we going to do it?”
- Use feedback to keep the change on track. Information and feedback are important to ensure people know how the change is making a difference.
- Implementation of innovative ideas is frightening to many. Leaders have the responsibility for leading the way by their own actions in supporting and implementing new ideas.
- Take time to celebrate your success, remembering that the measure of success is whether you have *learned* something from the test.

 Think of the stakeholders who may not support this change idea. You need to address the “why should I support this?” question for those who will participate in testing or implementing the change.

 If you cannot state the idea clearly and compellingly in 5 minutes or less, you are not ready to proceed to implementation.

 If all you ever do is test successful ideas, perhaps you are not thinking differently enough!



ED PIP: Pilot and Implementation Phase

Guides

During the pilot and implementation phase, teams should focus on communication and monitoring of results

One Guide has been highlighted to support you in achieving the goal of this phase, which fundamentally is to test changes predicted to improve performance of a given process

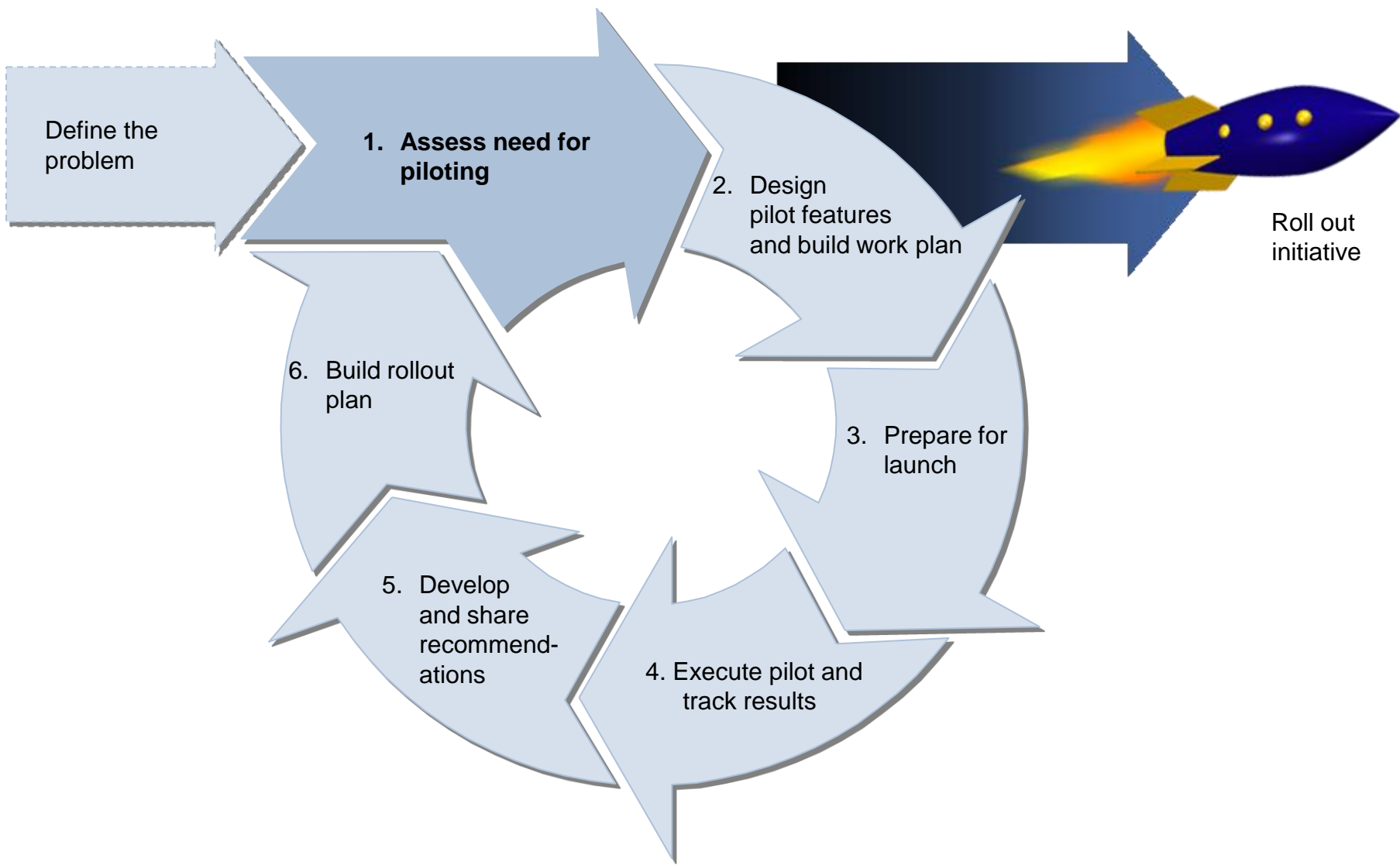


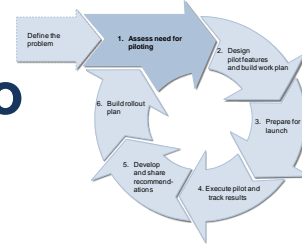
	Tool	Description
1	Piloting and Solution Implementation Guide	Step by step guide to planning and executing pilots

Piloting and Solution Implementation Guide – Overview

<p>Outcome</p>	<ul style="list-style-type: none"> ▪ Understanding when to pilot and when to go straight to implementation ▪ Understanding the steps required to successfully pilot and/or implement a solution
<p>Definition: 'What is it?'</p>	<ul style="list-style-type: none"> ▪ A pilot is a trial undertaken to test if an idea or solution will be successful in practice <ul style="list-style-type: none"> - <i>A 'go / no-go' decision is made based on the pilot results: this is what differentiates a pilot from solution implementation</i> ▪ Solution implementation is a structured and supported launch of a new operating initiative successful in practice <ul style="list-style-type: none"> - <i>Typically launched within a fixed scope (e.g., geographic area), and refined based on initial results before roll out beyond the launch area</i>
<p>Objectives: 'What is it used for?'</p>	<ul style="list-style-type: none"> ▪ Providing a structured and efficient method for putting new solution ideas into practice ▪ Supporting and refining new ideas that are being launched based on performance data ▪ This structured approach to planning, executing, monitoring and refining the launch of a new initiative should be followed for each solution that is put into practice
<p>Benefits:</p>	<ul style="list-style-type: none"> ▪ New changes are introduced in a controlled and managed fashion
<p>When to use</p>	<ul style="list-style-type: none"> ▪ Solutions that have been selected to be put into practice should be piloted if they meet the following criteria: <ul style="list-style-type: none"> - <i>Big value at stake</i> - <i>High level of uncertainty</i> - <i>Testable</i> ▪ Of solutions that are selected to be put into practice, only solutions that satisfy the 'pilot criteria' should be piloted, all others should go directly to implementation

6 steps are outlined visually below which provides the methodology for successful piloting






STEP 1: Assess need for piloting vs. moving directly to implementation

- Big value at stake
- High level of uncertainty
- Testable

- Worth investing the time, important to the organization
- Significant potential for impact
- Heavy failure cost

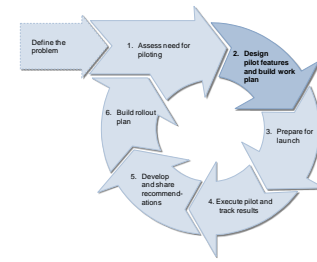
- Difficult to predict all variables in advance
- Many fast-moving parts

- Events for testing are discrete, repeatable, and measurable
- Event cycle time is reasonably short
- Cost of the pilot is acceptable, and pilot can be easily implemented

 **Tips & Tricks:**

- When planning to put your ideas into action , use these criteria to understand if running a pilot is necessary (Ideally you can move straight to implementation without piloting)
- Designing and running a pilot is more work than going straight to implementation
- Ask “*what holds us back from moving straight to implementation*” and “*will running a pilot address these challenges*”

STEP 2: Design pilot features and build Work Plan: Overview



What?

- Clarify pilot objective
- Develop major hypotheses to test
- Define success criteria (e.g., reduction in ED ALOS by x hours)

How?

- Lay out pilot design features
- Define metrics and tracking processes
- Determine key enablers

Where?

- Determine location

When?

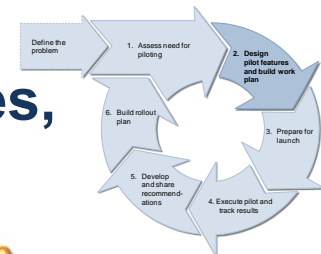
- Define overall timeline for pilot preparation, execution, and result analysis

Who?

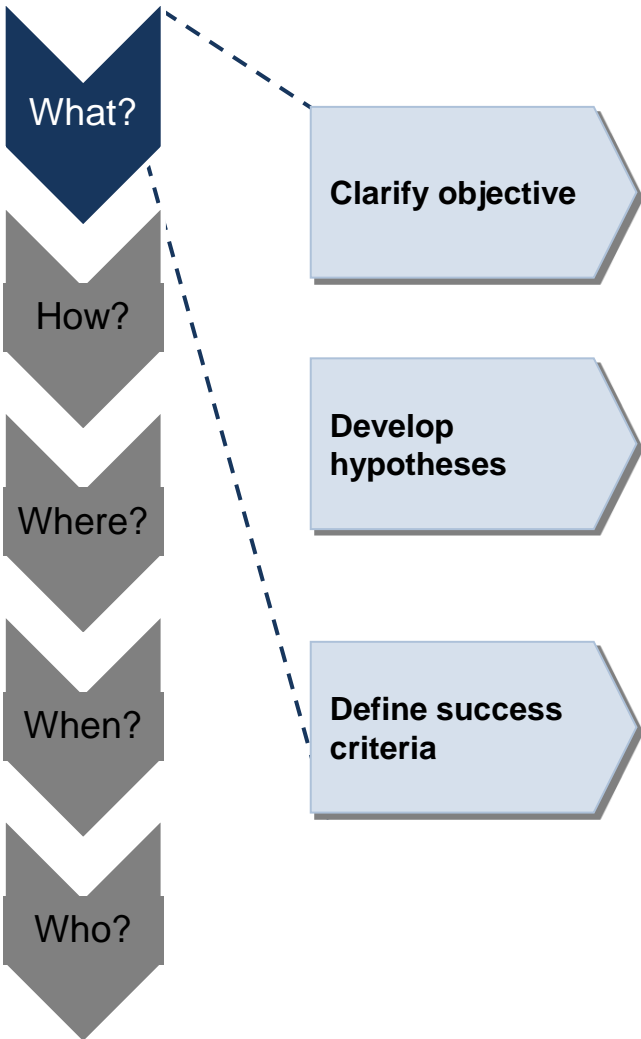
- Identify key stakeholders




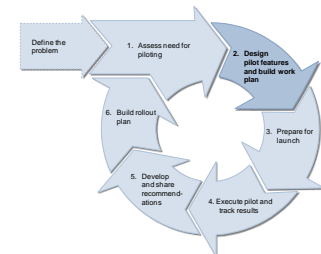
The “what?” and “how?” are the main pilot design considerations



STEP 2: Defining the “what?” helps to clarify objectives, develop hypotheses and define success criteria



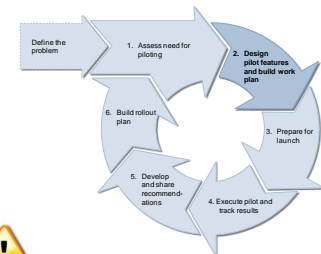
Best practice	Common pitfalls 
<ul style="list-style-type: none"> • Specific and measurable • Ambitious but achievable • Compatible with organizational targets 	<ul style="list-style-type: none"> • Too broad • Not grounded on a solid fact base (e.g., benchmarks) • Misaligned/conflicting with existing plans
<ul style="list-style-type: none"> • Explicitly laid out • Specific, actionable, and debatable • Directly link to planned pilot actions 	<ul style="list-style-type: none"> • Unclear what is being tested • Too novel; no organizational buy-in; only one hypothesis considered
<ul style="list-style-type: none"> • Limited to a few • Aligned with overall organizational goals 	<ul style="list-style-type: none"> • Too many, overlapping



STEP 2: Defining the “what?” shapes all other design elements




Different objectives...	...leads to different hypothesis and pilot design
<ul style="list-style-type: none">• Determining what to launch...• Determining whether launch...• Determining how to launch...• Determining all or some of the above...	<ul style="list-style-type: none">• Design optimal model/product• Proof of concept testing• Testing optimal rollout plan• Combination of above






STEP 2: Designing the “How?” helps lay out the pilot design and define a performance management system



	Best practice	Common pitfalls 
Lay out pilot design	<ul style="list-style-type: none"> Define specific actions to test hypothesis Define control and pilot groups based on clear criteria 	<ul style="list-style-type: none"> Not specific, not testable No control group set up
Define a Performance Management System	<ul style="list-style-type: none"> Define a minimum data set Baseline measurement Metrics tracking at the right level Automated processes for tracking and daily reporting 	<ul style="list-style-type: none"> Not based on success criteria; not measuring full impact No baseline measured; hence, unclear pilot impact Data insufficient to make decisions Questionable accuracy and delays due to manual tracking
Determine key enablers	<ul style="list-style-type: none"> Appoint dedicated pilot team with analytical abilities Engage key stakeholders in pilot design Put functional requirements in place prior to pilot kickoff (e.g., IT workarounds, channel capacity) Rely heavily on feedback and incentives to encourage desired behaviour 	<ul style="list-style-type: none"> Insufficient resources; wrong skill set; ambiguous roles and responsibilities Lack of commitment from key functions, resulting in delays Capacity-constrained channel not funded for incremental piloting requirements No coaching capacity

Pilot Preparedness Summary

Indicate the status of each cell with 'red' (not ready), yellow (partially prepared) or green (fully prepared)

-  Not ready
-  Partially ready
-  Fully ready

- Update and review this one page summary of pilot preparedness regularly to ensure that the team focuses on what needs to be completed to be successful
- Use the text boxes to capture key information (e.g., launch June 1) and share status visually (e.g., format text box colour to indicate status)

Q 1 Opportunity **Q 2 Solution** **Q 3 Implement** **Q 4 Support** **Q 5 Impact**

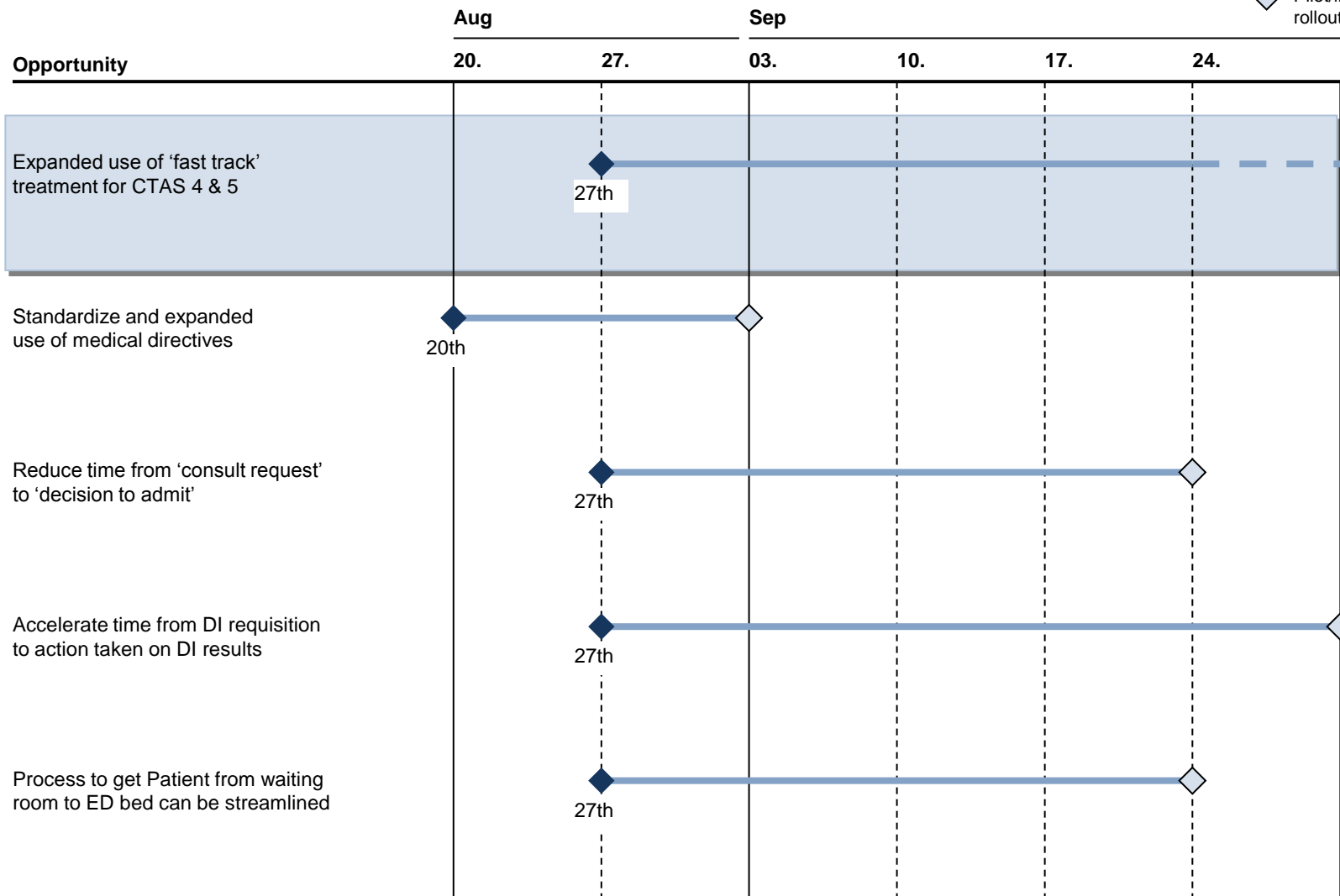
	Decision/ launch date	Are we confident there is an improvement opportunity?	Do we have a clear solution developed that incorporates feedback received?	Are we ready to roll out (content, tools, new roles, communications, etc)?	Are managers & front line supportive and engaged?	Do we have measures in place to track progress / are we achieving results we expected?
1 Name of initiative	Y / N (go decision) Insert launch date	Y / N	Y / N	Y / N	Y / N	Y / N
2 Name of initiative	Y / N (go decision) Insert launch date	Y / N	Y / N	Y / N	Y / N	Y / N
3 Name of initiative	Y / N (go decision) Insert launch date	Y / N	Y / N	Y / N	Y / N	Y / N
4 Name of initiative	Y / N (go decision) Insert launch date	Y / N	Y / N	Y / N	Y / N	Y / N
5 Name of initiative	Y / N (go decision) Insert launch date	Y / N	Y / N	Y / N	Y / N	Y / N

Example: Pilot Preparedness Summary: Paeds ED Team

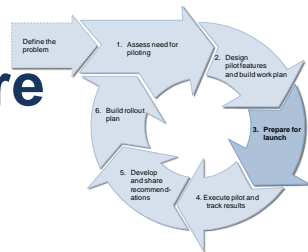
		Q 1 Opportunity	Q 2 Solution	Q 3 Implement	Q 4 Support	Q 5 Impact	
	Decision/ launch date	Are we confident there is an improvement opportunity?	Do we have a clear solution developed that incorporates feedback received?	Are we ready to roll out (content, tools, new roles, communications, etc)?	Are managers & front line supportive and engaged?	Do we have measures in place to track progress / are we achieving results we expected?	
1	Fast track	Y (June 28)	Y	Y	40% Need escalation policy	Y	50%
2	Medical directives	Y (June 28)	Y	Y	Y	Y	TBC
3	Increase clinical Patient time	Y (June 28)	Y	TBC	TBC	Y	TBC
4	Reduce consult delay	Y (TBC)	Y	Meeting on June 21 To confirm approach	Meeting on June 21 To confirm approach	75%	TBC
5	Decision making for DI	Y (June 28)	Y	Meeting with DI group has not taken place	N	Y	TBC
6	Patient flow to ED bed from waiting area	Y (June 28)	Y	TBC	TBC	Y	TBC

Example: ED implementation plan

- Detail follows
- Launch
- Pilot/initial rollout complete



STEP 3: Most successful implementations/initiatives are in part due to the relentless preparation that is undertaken

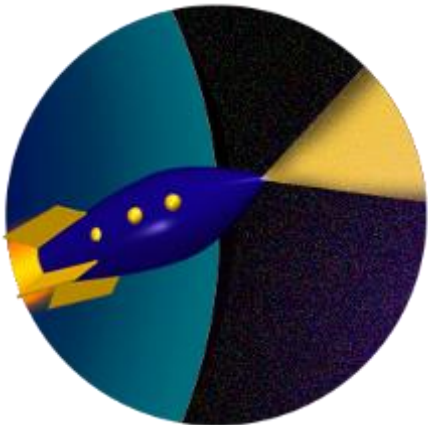


1. Define baseline



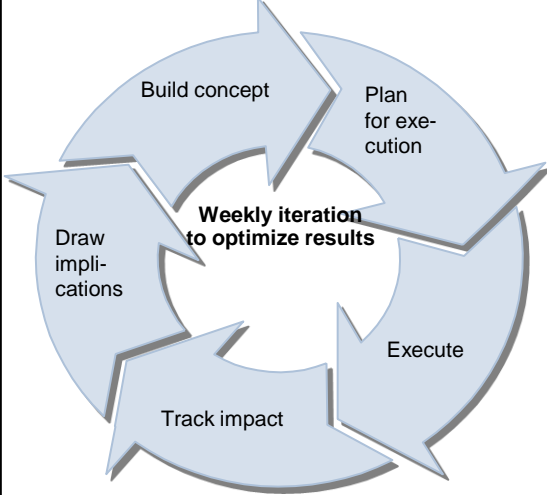
...Beware of data integrity issues

2. Implement tracking process



...Remember tracking can be a challenge

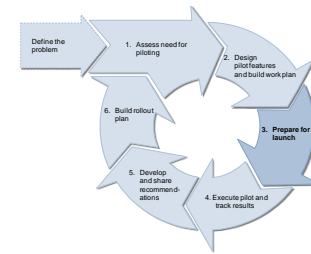
3. Set up process for quick iterations



...Be proactive

Remember: prepare, prepare, prepare

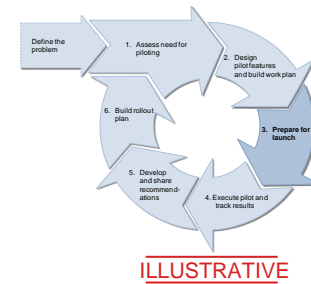
STEP 3: Prepare to launch: Define baseline (1 of 2)



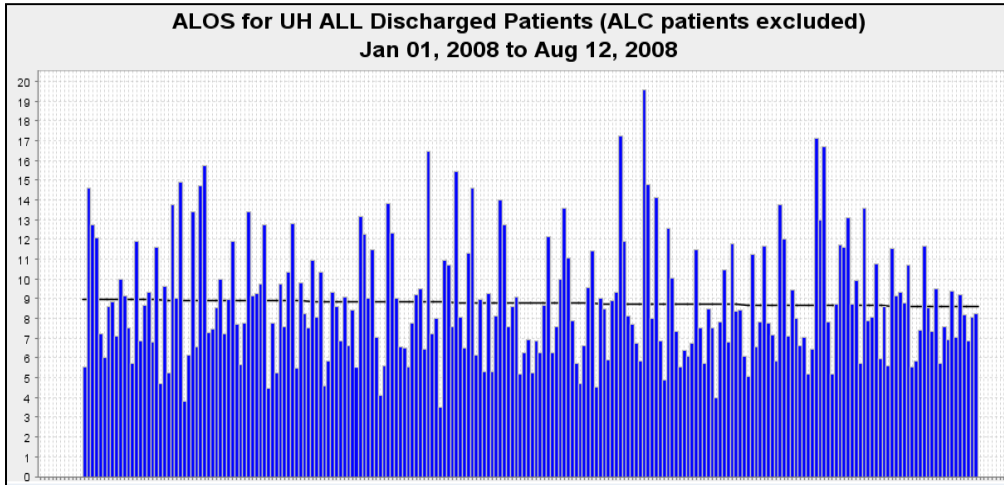
There may be several challenges with the data that makes it difficult to define a true baseline

Sample challenges	Potential resolution
<ul style="list-style-type: none"> Multiple data sources leading to different results 	<ul style="list-style-type: none"> Understand the limitations of your data sources before making a choice
<ul style="list-style-type: none"> Large variations over time 	<ul style="list-style-type: none"> Measure over a long period of time Eliminate outliers
<ul style="list-style-type: none"> Unexpected outcome 	<ul style="list-style-type: none"> Syndicate with key stakeholders to improve understanding
<ul style="list-style-type: none"> Maintain accuracy at a granular level 	<ul style="list-style-type: none"> Validate data at the unit level

STEP 3: Prepare to launch: Define baseline (2 of 2)



ALOS baseline for discharged inpatients, hospital wide, excluding ALC patients



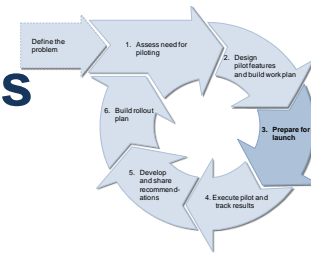
1. How do we prepare a proper baseline?

- What data is available? Where?
- What span/duration of data is needed? (e.g., cyclical trends, anomalies, etc.)
- Who understands the data and can explain how to best work with it?
- What quality of data is required? (e.g. will this change the answer? Is upgrading the data worth the investment?)
- Does the data need to be conditioned? If so, how can we do this efficiently? (e.g., scrubbed for repeated entries)
- What is the organizational requirement (e.g., what will they need to see in order to feel confident in the measurement?)

2. How do we interpret the baseline to ensure we can make meaningful insights from the pilot/implementation results?

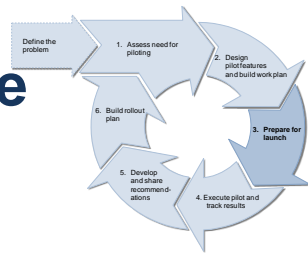
- What are the trends?
- What is the variability? Distribution?
- Are there existing and/or historical circumstances that explain past results? Are these conditions expected to be constant during the pilot?
- How do we expect the impact of the intervention to be measured?

STEP 3: Prepare to launch: Implement tracking process



Part of the preparation effort of any implementation is creating a reliable performance management system with a clear tracking process that the team follow

Principles	Comments
<ul style="list-style-type: none"> • Make sure you understand your data sources 	<ul style="list-style-type: none"> • Different sources may lead to different results
<ul style="list-style-type: none"> • Clean-up the data beforehand <ul style="list-style-type: none"> – Test accuracy of data sources through baseline measurement 	<ul style="list-style-type: none"> • Beware of polishing dirt, and fixing holes
<ul style="list-style-type: none"> • Automate data tracking process; build IT workarounds 	<ul style="list-style-type: none"> • Remember that manual tracking is often untimely and has questionable accuracy
<ul style="list-style-type: none"> • Anticipate obstacles 	<ul style="list-style-type: none"> • What issues can you expect?



Create a simple method for capturing pilot performance efficiently so teams can refine interventions often

ILLUSTRATIVE

Pilot dashboard

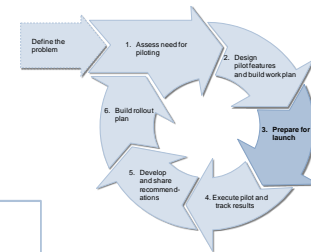
Dashboard	Baseline	Pilot	Day 1	Day 2
ABC - pilot	60	101	-	-
ABC - control	51	84	-	-
% change	18%	20%	-	-
% impact		%		
XYZ - pilot	904	1,038		
XYZ - control	841	831		
% change	7%	25%		
% impact		%		
Etc.				

- All data tracked at individual event level (e.g., by Patient, physician)
- Data supplemented by daily listening/monitoring by coaches and feedback

Key questions

- How can we effectively track pilot results daily given system limitations?
 - Manual tracking
 - System upgrades
 - What data is readily available?
- What resources might be required for tracking?
- How might daily tracking requirements differ after pilot rollout?
- What skills and capacity from the team will be required to track results?

ED Fast track performance monitoring tool



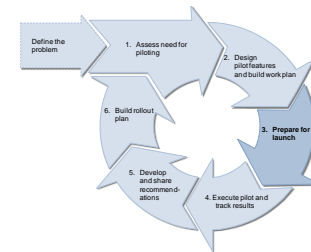
Tues. Sept. 18/07

Fast Track Tracking Sheet

Patient # and Location	Time In	Time Out	Issues
1162 62	10:24	LAMA 14:20	for CT
1028 12	10:26	15:00	lac + xray
1014 32	10:37	11:50	for IV meds
1163 84	10:41	13:05	U/S report
1163 86 1	10:44	11:05	sore throat
1108 89	11:56	13:50 ^{trans. to Cpod}	50B elderly transferred to pod.
1055 15	13:20	14:30	ankle inj.
1163 86	13:42	14:45	request counselling
1023 45	13:55	16:20	RUQ pain
1055 15	14:12	16:15	ankle
1163 34	14:20	15:10	chest cold
1163 87	14:25	15:20	finger lac'n
1160 44	15:10	15:35	sore throat
1024 29	15:25	16:05	ankle inj

Performance should be tracked at a level of granularity that will enable root cause problem solving (e.g., why did pt 116384xx take so long to discharge?)

Preparing to launch checklist



- ✓ Solution design completed

- ✓ Implementation Work Plan completed

- ✓ Detailed implementation plan completed

- ✓ Stakeholders engaged on changes required and expected impact

- ✓ Baseline performance captured and understood

- ✓ Simple measurement for key performance metric(s) tested
(e.g., LOS for patients who used fast track can be calculated real time by...)

- ✓ System for capturing and communicating performance in place

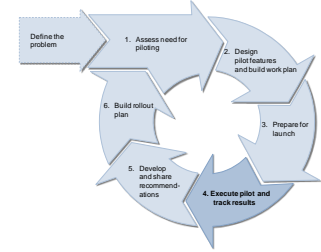
- ✓ Resources and physical changes made

- ✓ Process and information flow changes made

- ✓ Staff and Patient related changes made (e.g., staff training, new role definition descriptions, Patient flow maps)

- ✓ System for identifying, prioritizing and remedying implementation issues in place

STEP 4: Execute pilot and track results

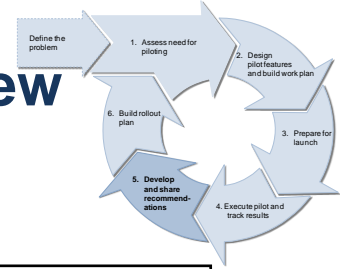


Tips for tracking results

Be...

Early	Do not wait for “1 week” of data before you start analysis
Accurate	Measure impact relative to baseline and control group Keep an eye on statistical significance, but validate results through back-of-the envelope analysis
Comprehensive	Consider system-wide effects of your analysis – e.g. rollout implications
Thorough	Disaggregate effect of each variable
Focused	Only conduct analyses that will prove or disapprove your hypothesis
Timely	Iterate frequently – a day may be too short; a week, too long
Action-oriented	Draw out implications of analyses for pilot design, syndicate with team, and make adjustments for next day

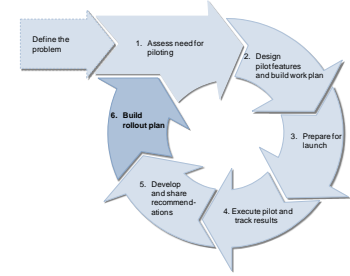
STEP 5: Develop and share recommendations: Overview



Example storyline

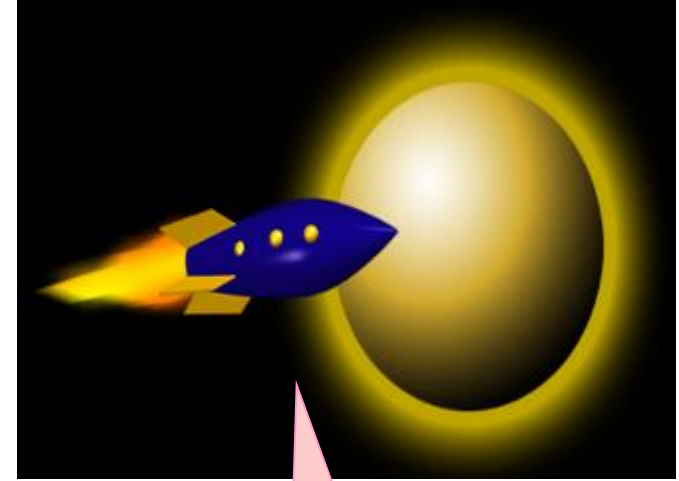
<p>Today's discussion</p> <ul style="list-style-type: none"> • Explain goal and gap • Explain overall approach for initiatives • Review progress to date • Agree on next steps 	<p>Forecasted gap</p>	<p>Impact of time on closing the gap</p>
<p>Approach to closing the gap</p>	<p>Potential impact due to no-regret initiatives</p>	<p>Rationale for initiative</p>
<p>Key Success Factors</p>	<p>Why this is important to you</p>	<p>Next steps</p>

STEP 6: Build rollout plan



Guiding principles of a successful rollout

1. Build rollout plan with clear milestones and targets – stage rollout where appropriate to improve plan
2. Identify rollout champion and team – pilot team is involved/responsible for rollout success
3. Don't wait until the pilot is over to engage other key rollout leaders – have them see/be part of the pilot!
4. Ensure metrics, incentives, and tools are in place – can't change behaviour without them!
5. Quickly move to action – avoid analysis paralysis



Success!!!



ED PIP: Pilot and Implementation Phase

Checklist

Pilot and Implementation check list

Before moving on to the roll out phase, we recommend revisiting the key tasks/deliverables from the pilot and implementation phase as a checklist to ensure you are set up to succeed in future phases. The following represents a sample checklist for the activities related to the pilot and implementation phase.



- Pilots completed
- Solutions implemented and improvements confirmed
- New processes documented
- Metrics and tracking processes and owners defined
- Visual management used to track and discuss unit performance
- Training on new processes rolled out
- Unit celebration organized
- Draft Rollout plan discussed with units involved