

PreciSSIon

Implementation Toolkit

The West of England AHSN PreciSSIon Team



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Introduction

This guide has been developed to support the implementation of the Surgical Site Infection (SSI) Bundle in patients undergoing elective colorectal surgery.

PreciSSIon stands for **Preventing Surgical Site Infection** across a **regION** and is the name of a collaborative project involving all hospitals in the West of England. The project started in November 2019, however trusts had previously worked together on the Emergency Laparotomy Collaborative which ran from 2015-2017.

The aim of PreciSSIon is to spread the use of a Surgical Site Infection bundle to reduce the incidence of Surgical Site Infection after elective Colorectal Surgery.

The intervention is evidence based and could be applied to most surgical procedures where there is a risk of surgical site infection.

All resources in this toolkit can be found on [hyvr](#).

PART 1: Introduction to PreciSSlon

- 1.1 Background
- 1.2 What is the PreciSSlon bundle?
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- 1.4 The aim of the PreciSSlon project

1.1 Background

Surgical site infection (SSI) refers to wound infections following invasive surgical procedures. SSI arises from contamination of the wound site during or after surgery from either endogenous or exogenous sources. The development of SSI is complex with pathogenicity of the microorganism, the host's immune system and wound factors all contributing^{1,2}. SSI constitutes a major healthcare burden accounting for 14.5% of all hospital acquired infections in the UK³ and an estimated 34-226% increase in associated costs⁴. It is also a significant cause of patient morbidity including increased length of stay⁵, readmission⁶, wound dehiscence⁷, hernia⁸, need for intensive care⁹, as well as death¹⁰.

SSI is more common after colorectal surgery where wounds are frequently contaminated by bowel content and rates are reported between 8-30%¹¹⁻¹⁴. However, the prevalence is often likely to be underestimated because SSI frequently presents after the patient has been discharged from hospital. This is especially true since the introduction of enhanced recovery programmes after colorectal surgery. The NBOCAP Report 2019 reports that median length of stay for all colorectal resections is 7 days¹⁵, yet it has been reported that the median time to development of SSI is 13 days¹².

Unlike orthopaedic and vascular surgery, mandatory reporting of SSI following gastrointestinal surgery is not a requirement in the UK. National data is offered voluntarily and incidences are only captured during inpatient stay or on readmission. Data submitted to the national SSI surveillance service show that, at present, only 39% of UK trusts continuously survey the rate of SSI following colorectal surgery¹⁶. The Getting It Right First Time (GIRFT) specialty report for general surgery detailed that just four of the 50 hospitals that participated in the GIRFT review programme were able to report wound infection rates reliably¹⁷. This may relate to difficulty in defining SSI¹⁸ as well as accurate measurement and post-discharge surveillance¹².

The existing World Health Organisation (WHO) SSI bundle, which is part of the Surgical Safety Checklist, consists of four evidence-based interventions, which have been shown to independently reduce infection^{19,20}. These are:

- Antibiotics within 1 hour of surgery
- Normothermia - temperature >36 degrees in recovery
- Blood glucose control in known diabetics - glucose in normal range in recovery
- Appropriate hair removal from the surgical site – using clippers, not wet razors

This is routinely used throughout the NHS.

1.2 What is the PreciSSlon bundle?

The use of care bundles have been shown to reduce SSI rates from between 33-70%²¹⁻²⁶. The PreciSSlon bundle was developed by reviewing literature for interventions other than those included in the WHO bundle that have been shown to reduce infection^{19-20,27}. It was introduced at North Bristol NHS Trust in February 2013 consisting of:

- 2% chlorhexidine isopropyl skin preparation for all cases²⁸⁻³⁰
- Use of a dual ring wound protector^{31,34}
- Repeat dose of antibiotics after 4 hours operating time^{17,35}
- Antibacterial suture for mass closure and skin³⁶⁻⁴¹

The bundle elements have been further validated by inclusion in the 2016 WHO global guidelines on the prevention of surgical site infection⁴² and more recently in the April 2019 update to NICE guidelines⁴³. These interventions are in addition to reliable implementation of the WHO bundle.

The SSI collaborative, made up of all hospitals in the West of England, agreed to adopt this bundle. Optional extras included:

- Change of gloves before closing the wound if contaminated (non-evidence based)
- Betadine into the wound on closing (in WHO guidance - weak evidence)

As a collaborative, we agreed that other interventions such as oral antibiotics plus mechanical bowel preparation or negative pressure dressings, such as PICO™, could be added at a later stage once SSI is consistently being measured and once the basic bundle has been implemented.

1.3 The evidence

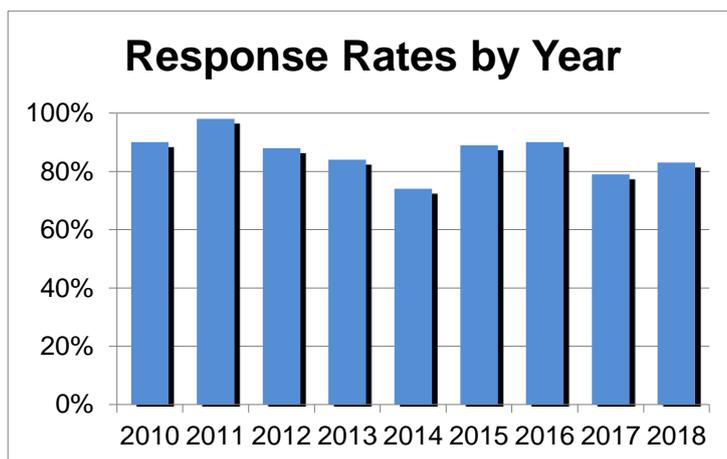
The gold standard for reporting SSI is at 30 days. A standardised questionnaire (page 29) was produced by the Public Health England SSI surveillance service in 2009²⁷. This is an evidence based tool designed to detect superficial wound infection based on patient assessed appearance and management of wound according to the following criteria:

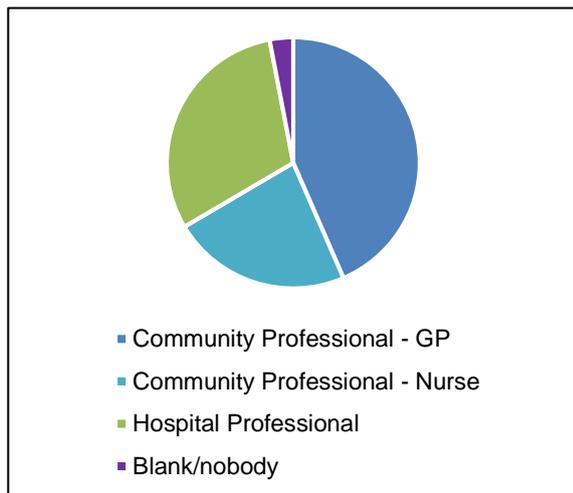
- Criterion 1 - Discharge pus AND antibiotics prescribed
- Criterion 2 - Clinical signs* AND dehiscence
- Criterion 3 - Clinical signs* AND antibiotics prescribed

* At least 2 of the following clinical signs must be present: pain, heat, redness or swelling.

The questionnaire was used at North Bristol NHS Trust to measure patient reported 30-day SSI rates after colorectal resection.

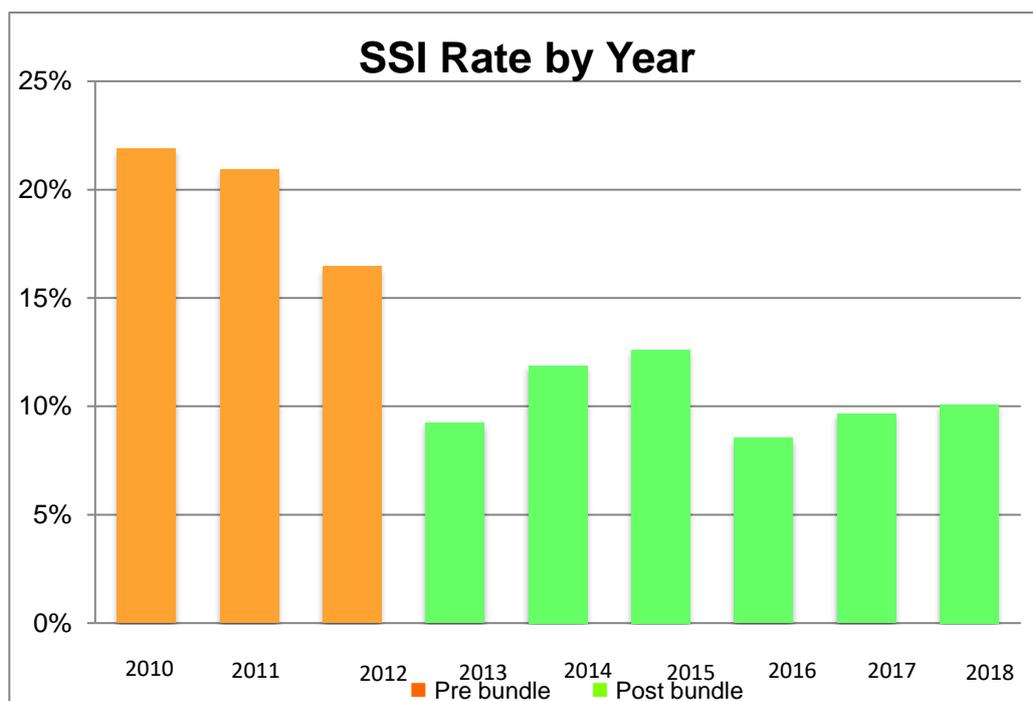
There are various ways of implementing the questionnaire. Sending a questionnaire by post usually produces a response rate of 60-70%. The questionnaire can also be completed by phone or online. The method used in the original study was using a paper questionnaire with telephone follow-up to non-responders giving a median response rate of 89% (range 74-98%). This method was also used by Howard et al to study SSI after open and laparoscopic colorectal surgery⁴⁴. The response rates by year are shown here.





67% percent of 1527 colorectal patients presented to community services rather than in hospital, so it is very important that 30 day SSI is measured. This means that any data collection strategy such as GIRFT (which focuses on in-hospital), SSI surveillance and readmission will grossly under report SSI rates and therefore post discharge surveillance is essential.

The introduction of the PreciSSlon care bundle produced a sustained reduction in 30 day patient-reported infection rates after colorectal surgery, displaying that the four interventions when used concurrently can reduce the incidence of SSI⁴⁵. The SSI rates by year are demonstrated below.



Implementation of the bundle was monitored by continuous audit. Once the use of the bundle became business-as usual-this was discontinued with smaller audits to confirm continuing compliance.

Sustainability is important to any quality improvement project and the project should be able to continue regardless of personnel. In this case, the outcomes were sustained over six years by integrating the data into the trust's reporting systems via the business intelligence unit, together with continual oversight and feedback of data.

1.4 The aim of the PreciSSlon project

The aim of the PreciSSlon project is to reduce surgical site infection after colorectal surgery by 50% by March 2021.

PART 2: The Project Structure

- 2.1 Project structure and the role of the Academic Health Science Network
- 2.2 The planning stage
- 2.3 Implementation of the PreciSSlon bundle
- 2.4 Evaluation and outputs

2.1 Project structure and the role of the Academic Health Science Network

The overall structure of the project is based on the 'Breakthrough Series Collaborative' model developed by the Institute for Health Improvement. This involves a series of six monthly collaborative meetings with coaching, calls and teleconferences in between. The aim of the meeting is to share failures and successes, understand how barriers have been overcome and to learn from data.

The Academic Health Science Network (AHSN) is a network of 15 organisations throughout England, who link all healthcare organisations in a region to improve healthcare at pace and scale. The AHSNs host the Patient Safety Collaboratives for England and also lead on innovation. The West of England AHSN will support this project through project management, provision of resources and funding of collaborative events.

West of England Academic Health Science Network Map

-  Bristol, North Somerset and South Gloucestershire STP (Healthier Together)
-  Bath and North East Somerset, Swindon and Wiltshire STP
-  Gloucestershire ICS (One Gloucestershire)



2.2 Planning stage

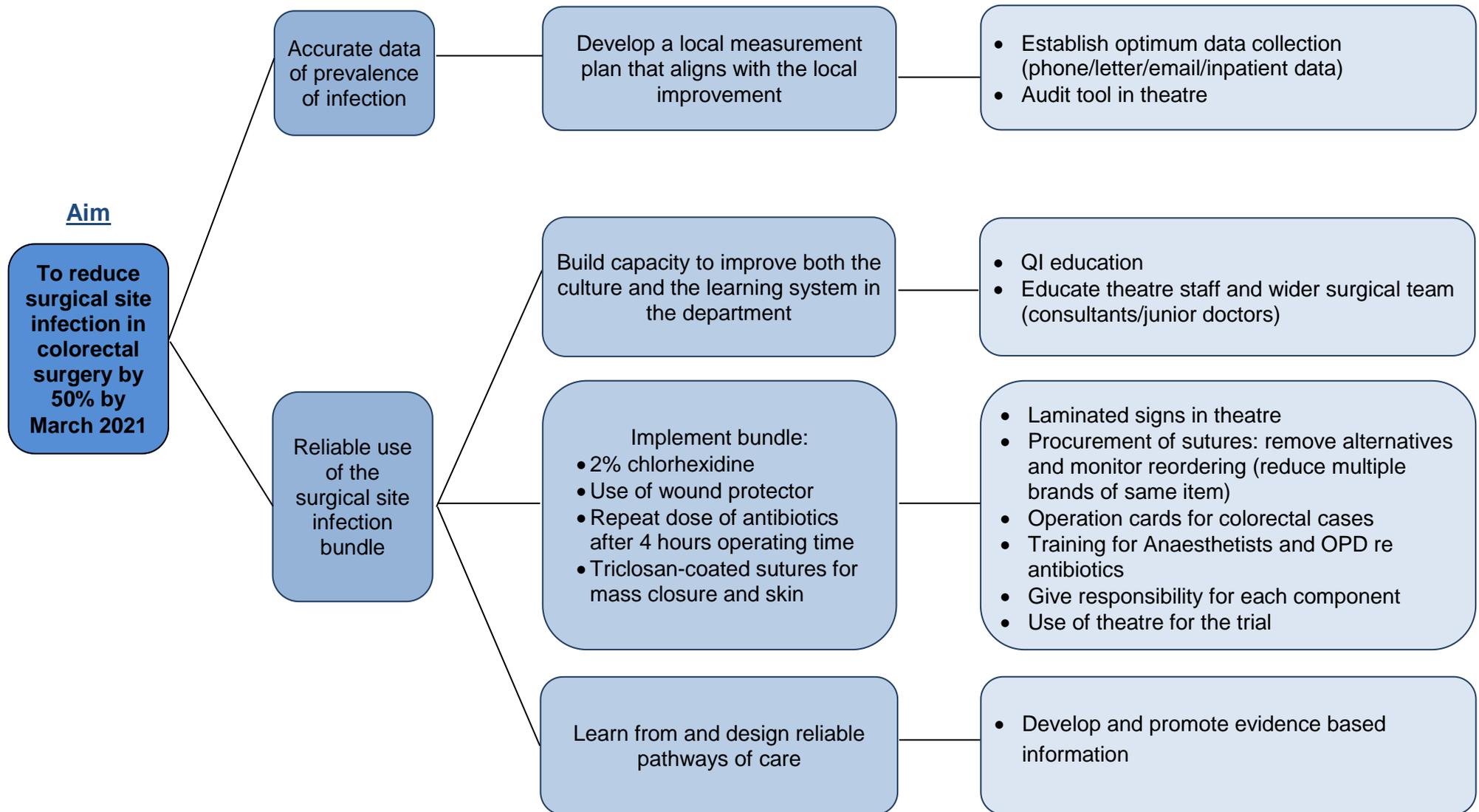
See "Part 3: Quality Improvement Resources" section, page 18, further details.

A key factor to gaining engagement with the project is to invite input from all staff involved in the pathway from the very beginning. Having agreed the aim, brainstorming with the group about what is required and listening to all views is important for good engagement. Using tools, such as process mapping or developing a driver diagram, may be useful as part of the planning stage.

A driver diagram is a visual way of breaking down the stages of the project. The driver diagram can act as a personal project plan, and although the aim and measurement strategy will be the same for all organisations, the details of the driver diagram in terms of actions required to achieve the goal might be different for individual teams.

Below is the PreciSSlon project driver diagram. There is a blank template in the resources section (page 19) so that you can create your own diagram with your team.

PreciSSion Driver Diagram



These following steps outline three vital components of the planning process: stakeholder engagement, data collection and the measurement strategy and lastly the availability of the elements required for the PreciSSlon bundle.

Step 1: Stakeholder engagement

Set up a multidisciplinary team (MDT) to include all roles involved in the process. Each person should have defined roles and, in particular, ensure that effective communication is fed back to each discipline.

Nominating an Executive Sponsor for the project is also a vital element, plan to keep them briefed regularly. This can be important to unlock difficult obstacles if they arise. All chief executives are aware of PreciSSlon and each trust has a representative on the West of England AHSN Patient Safety Collaborative Board which oversees this project. They can provide senior support if needed.

Regular meetings to review progress and discuss issues are important to ensure the practicalities of the project are being addressed, staff are being supported and messages are being appropriately disseminated. Frequency of these meetings can be decided by the project lead and alternative ways of communicating such as posters, email and presentations at surgical governance meetings can also be effective.

Suggested inclusions in the MDT are:

- Anaesthetist
- Colorectal surgeon
- Ward nurses
- Theatre lead nurse
- QI / Audit department
- Junior doctors
- Infection control nurses
- Speciality manager
- A layperson is also beneficial to add the patient perspective

Step 2: Data collection and measurement strategy

Development of a robust measurement strategy is important for coordination of the project. This ensures progress is tracked and maintained and any difficulties addressed and can be documented using a measures checklist if helpful.

The strategy should include:

- i) The type of measures that you will be collecting and their definitions
- ii) Your data collection method
- iii) How you will present your data

A measurement strategy template for PreciSSlon is shown on page 11.

i) Type of measures and definitions:

The measures for PreciSSlon have been fully defined in the template (page 11), categorised as outcome, process and balancing measures.

Collect baseline measures for outcome and process measures before starting the project. Baseline measures are essential so that you can demonstrate any change in outcome and demonstrate improvement in the processes to achieve the improved outcome. Although it is useful to be able to compare data between trusts, it is important to remember that the data you are collecting is for improvement in your organisation, rather than for comparison or benchmarking, as each organisation is different.

Before starting the project, you should also confirm good compliance with the elements of the WHO Checklist SSI Bundle, as listed below:

- % elective colorectal surgery patients receiving Antibiotics within 60 minutes surgery
- % elective colorectal surgery patients receiving appropriate hair removal with clippers if required,
- % elective colorectal surgery patients with Temperature >36 on arrival in recovery
- % elective colorectal surgery patients with Glucose 4-12mmol/l perioperatively if diabetic

High compliance with these measures is also important to decrease SSI and ideally should be reliable before implementation of the PreciSSlon bundle, or if not, improved at the same time.

ii) Data collection method:

Consideration needs to be given to how data will be collated.

- How are the measures going to be collected (paper, electronic, telephone, postal)
- Who is going to collect them? Allocating responsibility adds reliability and ownership of measures, thereby increasing chance of achieving success. Measures may be collected by different people depending on availability of staff in your organisation.

For example:

- Enhanced recovery nurses
- Infection control nurse
- Colorectal specialist nurses
- QI audit departments
- Input might be needed from IT for electronic systems or admin support to post out questionnaire and input the returned information

Data collection needs to be reliable and continuous. **In practice this means recording that each element of the bundle is delivered for every case.** Do not rely on one person to do this; it must not be person dependent and should happen for every case, no matter who is on duty. Building the data collection into routine processes for colorectal surgery helps make this reliable.

iii) Displaying your data

Decide how you are going to display and feedback your data and to whom. Allocate responsibility for this.

Present baseline measures, SSI rates in particular, to stakeholders to win 'hearts and minds' and help engage stakeholders in valuing your project as a necessary change. Presenting a patient story from your organisation is also very helpful for getting staff on board.

Step 3: Availability of PreciSSlon bundle elements

Before launching the bundle, ensure the bundle elements are available:

- 2% chlorhexidine isopropyl skin preparation for all cases²⁸⁻³⁰
- Use of a dual ring wound protector³¹⁻³⁴
- Repeat dose of antibiotics after 4 hours operating time^{17,35}
- Antibacterial suture for mass closure and skin³⁶⁻⁴¹

Ensure that the elements required are in stock and readily available in theatres. Support might be needed from procurement or pharmacy and engagement of Surgical Managers will be essential.

PreciSSion Measurement Strategy

Measure type	Measure	Numerator	Denominator	Source	Frequency	Collector	Display method
Outcome	% patient reported SSI at 30 days following elective colorectal surgery	Number of SSI reported from patient questionnaire	<i>Number elective colorectal surgery patients each month</i>				
Process	% response to patient questionnaires	Number patients who returned completed questionnaires	<i>Number elective colorectal surgery patients each month</i>				
	% patients receiving elective colorectal surgery in whom wound protector used	Number patients in whom wound protector used	<i>Number elective colorectal surgery patients each month</i>				
	% patients receiving elective colorectal surgery in whom AB sutures used	Number patients in whom AB sutures used	<i>Number elective colorectal surgery patients each month</i>				
	% patients receiving elective colorectal surgery in whom 2% chlorhexidine used for skin prep	Number patients in whom 2% chlorhexidine used for skin prep	<i>Number elective colorectal surgery patients each month</i>				
	% patients who receive second dose antibiotics after 4 hours	Number patients receiving second dose AB after 4 hours	<i>Number patients having elective colorectal surgery lasting > 4 hours each month</i>				
Balancing	Cost	Cost (£) bundle elements used each month	<i>Number elective colorectal surgery patients each month</i> <i>*No requirement for continuous data collection but to be considered as a balancing measure</i>				
	Adverse reaction to any elements of the bundle	Number patients with any adverse reaction	<i>Number elective colorectal surgery patients each month</i>				

2.3 Implementation of the PreciSSlon bundle

1. Test in a small group first:

PDSA stands for Plan-Do-Study-Act. This means doing small tests of change and understanding what works before changing your system. Details of how to do this are in “Part 3: Quality Improvement Resources” on page 18.

Ideally start testing use of the bundle on one operating list with one surgeon to test ease of delivery of the bundle. Ensure all staff members (theatre nurses, junior doctors and anaesthetists) that need to be aware are fully informed before the start of the case and have been asked for feedback so they feel involved in the change. The important part of doing small PDSAs is to LEARN from what happened:

- What went well and should be repeated?
- What could have made things easier?

Add these to the plan for testing on the next patient.

2. Ensure the bundle is delivered and audited:

Adapt processes as you learn from testing the bundle and listen to staff feedback. In doing so, the team will feel ownership of the change which in turn will help sustain the change in the long term. Regular ongoing measuring of compliance with each element of the bundle, as well as the incidence of SSI, is important to demonstrate effectiveness and ensure this is presented regularly to all stakeholders. The data can then be fed back to the theatre team to show how well data collection is going and how successfully each bundle element is being delivered.

Below are 2 examples of theatre audit tools. The first example is one data collection sheet per patient, the second allows multiple patients to have data recorded on one sheet.

Surgical Site Infection Bundle Checklist - *Individual Patient*

Patient Details:

Date: __/__/____

	YES	NO
2% Chlorhexidine prep?	[]	[]
<i>If NO, give reason</i> _____ _____		
Wound protector?	[]	[]
Antibacterial suture for deep layer? (PDS Plus)	[]	[]
Antibacterial suture for skin? (Monocryl Plus)	[]	[]
Did operation last for more than 4 hours?	[]	[]
<i>If YES was a second dose of antibiotic given? (Remind the surgeon!)</i>	[]	[]

Surgical Site Infection Bundle Checklist - *Multiple Patients*



Date	Patient/sticker	Surgeon	2% Chlorhexidine		Operation >4 hours?		If >4 hours, 2 nd dose antibiotics?		Wound protector		Plus Sutures for deep layer		Plus Sutures for skin	
			Y	N	Y	N	Y	N	Y	N	Y	N	Y	N

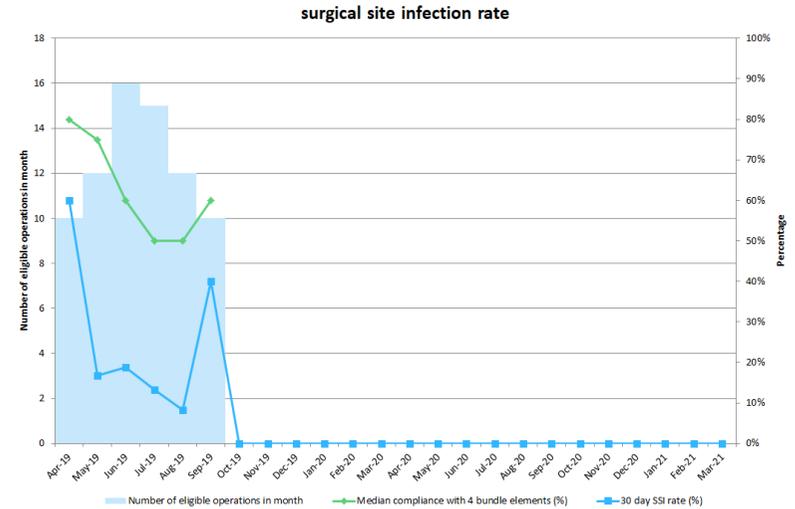
Data Collection Dashboard

The dashboard below has been developed to support your data collection. Once populated, the dashboard will calculate your compliance to the bundle and will produce a run chart of your outcome data.

Hospital												
Instructions: Use the + buttons or 1/2 above to expand columns. Some fields are optional (shown above the column) and some will autopopulate.												
0 Copy and paste this each month as a new sheet to collect the data												
Latest month												
01-00												
Calculated												
0% == Calculated ==												
Do not edit												
Date procedure performed	Bundle compliance	2% chlorhexidine	Operation >4 hours	If date >4 hours 2nd dose of antibiotics?	Wound protector	Antibacterial sutures	Antibacterial sutures for deep layer Y/	Antibacterial sutures for superficial layer Y/N	Outcome	% compliance with bundle	Date 30 day surveillance	Other comments / optional
										0%		0.00
										0%		0.00
										0%		0.00
										0%		0.00
										0%		0.00
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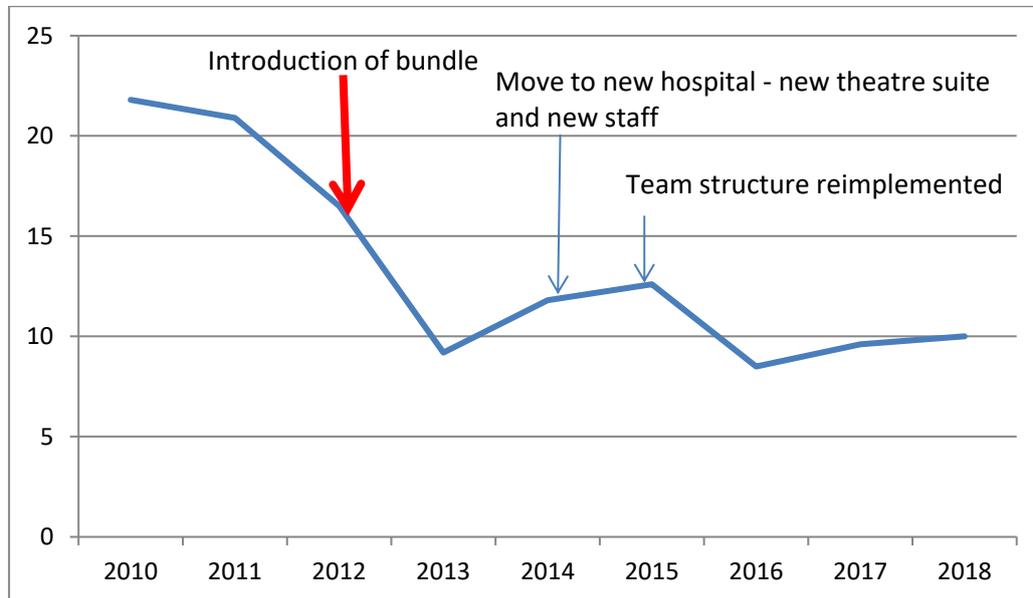
Instructions for use

- 1) Enter data into the “monthly data sheet” tab. Use the “+” buttons (circled) to expand columns. Some fields are optional (shown above the column) and some will auto-populate.
- 2) Copy and paste this each month as a new sheet to collect the data.
- 3) The “monthly data sheet” will provide you with summary data that you can enter each month in to the “dashboard” tab.
- 4) The “dashboard” will generate the chart.



Review and feedback

Feeding back in a simple way to the team and other stakeholders is important to maintain momentum and support. Displaying the compliance with each bundle element as a run chart (compliance over time) is a simple effective way of visibly seeing any changes and the chart can also be annotated with whichever interventions occurred at the point of implementation, as shown below.



Further information is available in the Quality Improvement section on page 18. The West of England AHSN project team can help you develop run charts for display if needed.

Regular review of bundle compliance also enables issues, such as lack of bundle elements, to be addressed promptly, as well as ensuring all staff members are informed of the progress of the work. Any difficult issues can be recorded and plans to un-blocking discussed before spreading bundle further.

3. Celebrate success

Don't forget to celebrate success as you go and thanking staff has a great impact on engagement and sustainability. Cakes go a long way!

Sharing results in a newsletter and showcase in coffee rooms to make sure success is shared. Don't forget to showcase to your executive sponsor as well!

2.4 Evaluation and outputs

As a collaborative, our aim is publication in a peer reviewed journal and application for a national patient safety award.

PART 3: Quality Improvement Resources

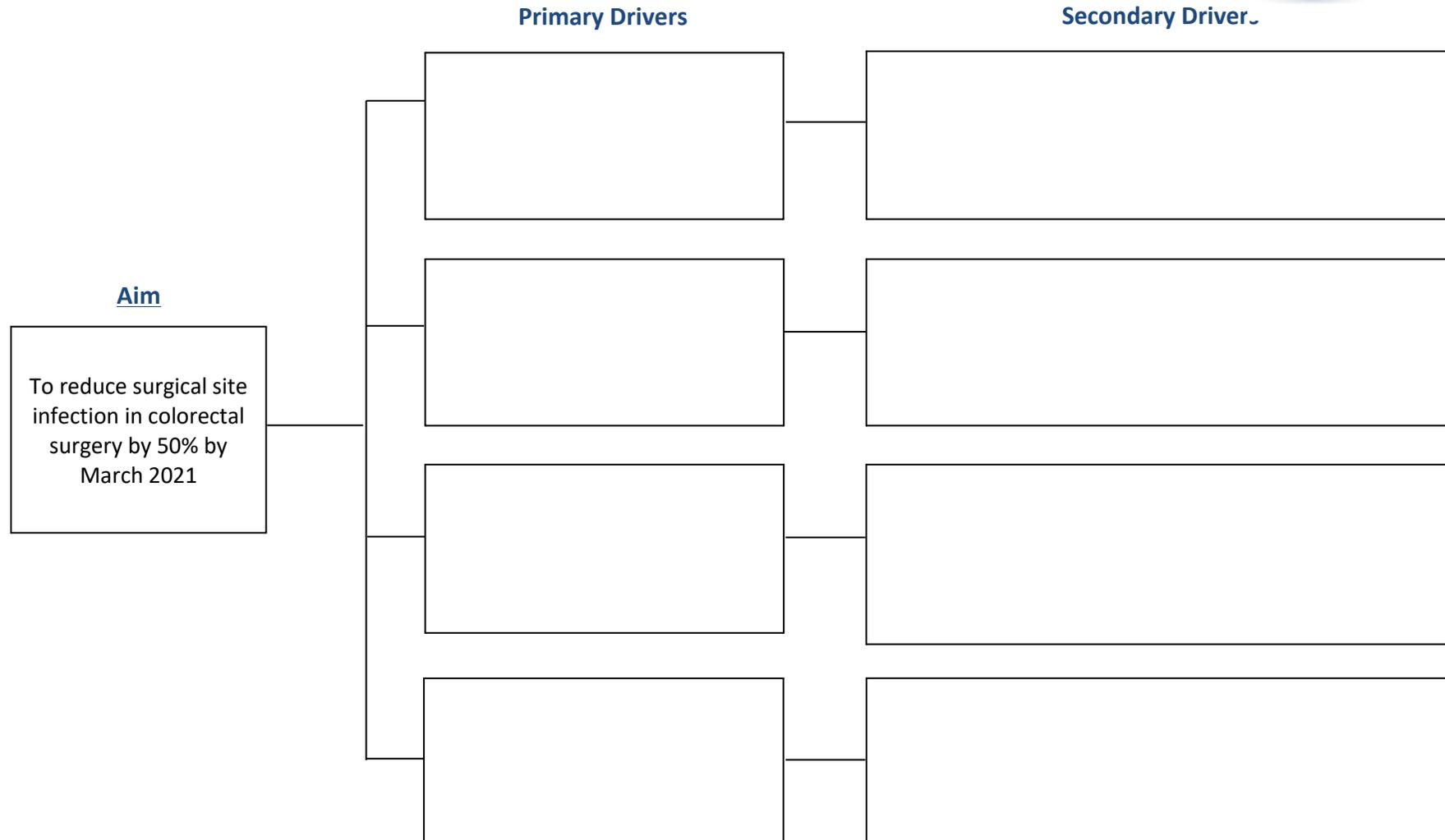
- 3.1 The PreciSSlon Driver Diagram Template
- 3.2. The Model for Improvement
 - PreciSSlon Quality Improvement Learning Log
- 3.3 Demonstrating your improvement – Run charts
- 3.4 Celebrating and sharing success
- 3.5 Sustainability
 - NHS Sustainability Tool

3.1 The PreciSSlon Driver Diagram Template

This template can be completed to assist you with planning your actions that are required to successfully implement the SSI bundle and achieve the project aim.



PreciSSlon Driver Diagram



3.2 The Model for Improvement

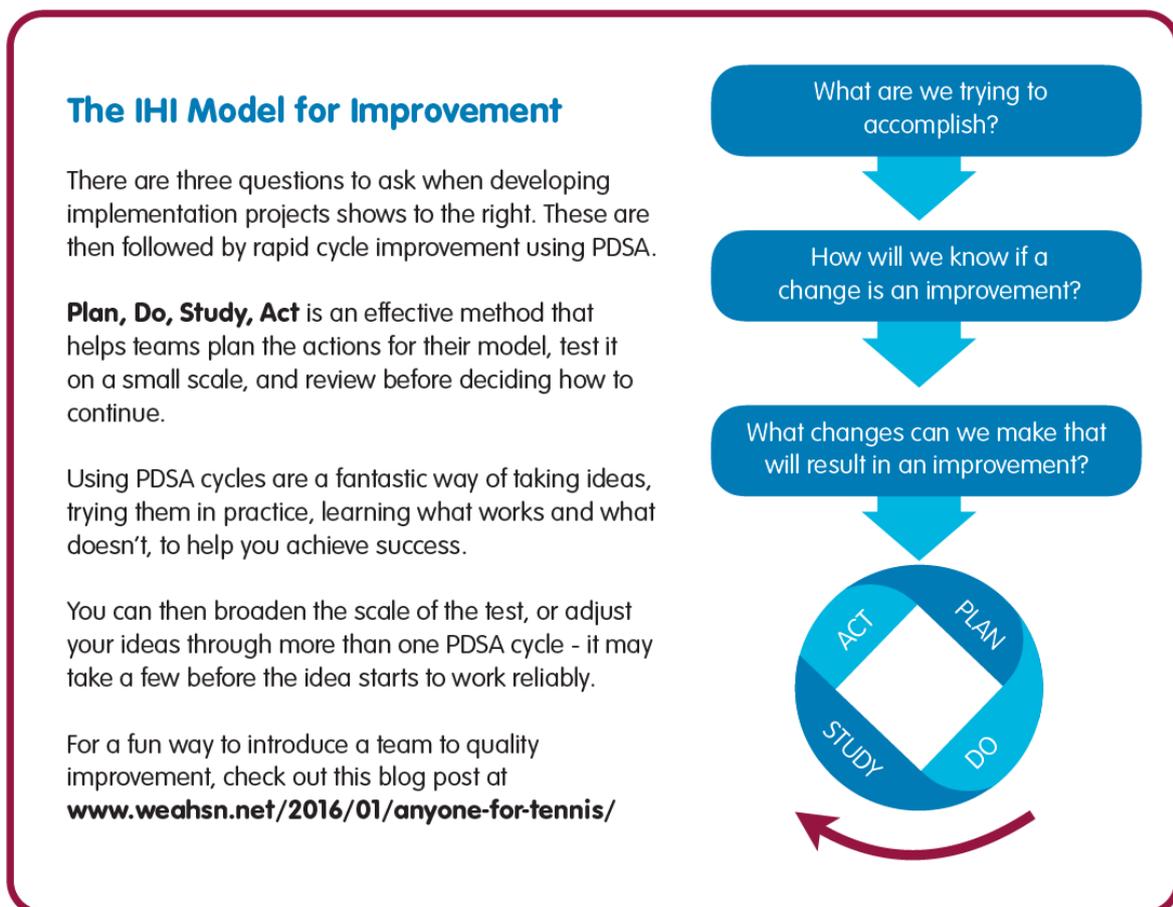
In order to implement a change in a sustainable way in your organisation, and to be able to measure the impact of this intervention, we recommend a structured Quality Improvement framework for implementation.

Quality Improvement science is the application of a systematic approach using specific methods and techniques in order to deliver measurable improvements in quality, care and safety.

The processes we describe can be adapted to meet the needs of staff, service users and organisational context. Our approach uses the methodology developed by the Institute of Health called the IHI Model of Improvement.

You can find out more about the Model for Improvement through the [MINDSet quality improvement toolkit](#). Although aimed at people involved in providing and commissioning services for people with mental health projects, it is an excellent resource for practical quality improvement guidance.

Other useful resources include an introduction [video to PDSA cycles](#) and the [Institute for Healthcare Improvement Website](#).



If you have any immediate clinical concerns regarding a patient's safety or wellbeing please escalate via normal channels.

PreciSSlon Quality Improvement Learning Log

The purpose of the learning log below is to record implementation activity, learning and reflections from implementation of the PreciSSlon project to:

- Capture lessons learnt
- Inform the approach of future improvement initiatives and
- Contribute to the evaluation of PreciSSlon

As discussed in section 3.2, a key component of the 'Model for Improvement' approach is the Plan-Do-Study-Act (PDSA) cycle.

The following template can be used to record your PDSA steps.

PreciSSlon Learning Log



PDSA cycle number: _____

Date:

__/__/__

Objective for this PDSA Cycle

To audit surgical teams' compliance to the WHO bundle of four recommended SSI prevention interventions (appropriate hair removal from surgical site using hair clippers, normothermia (temp above 36 degrees in recovery), blood glucose control in known diabetics, antibiotics within 1 hour of surgery)

What question(s) do we want to answer on this PDSA cycle?

Is there sufficient compliance to the WHO bundle in elective colorectal surgeries across 6 acute trusts in the west of England?

Predictions

Plan

*Plan to answer questions: Who, What, When, Where
Plan for collection of data: Who, What, When, Where*

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

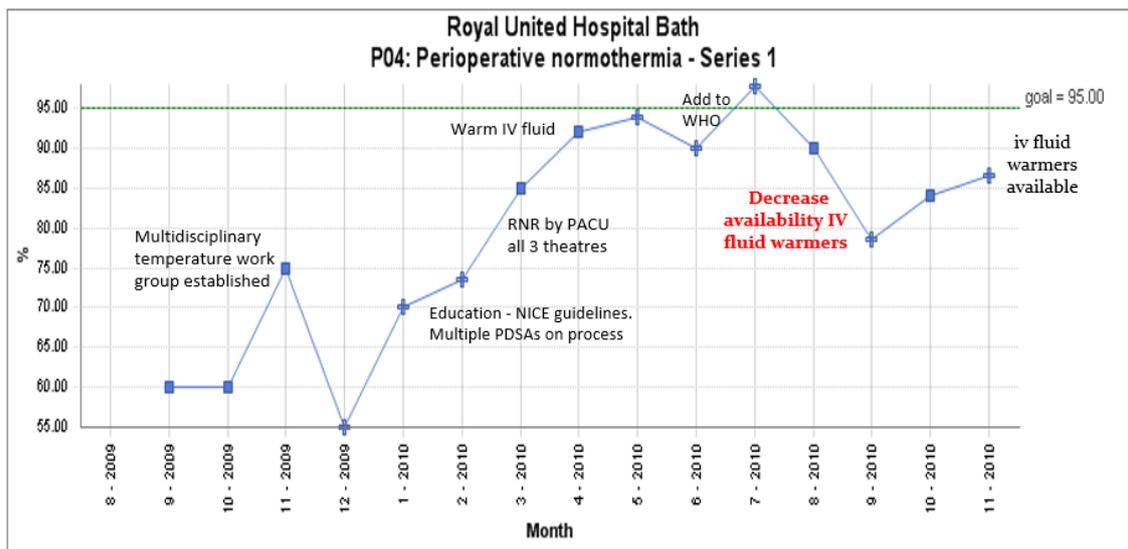
Are we ready to make a change? Plan for the next cycle

3.3 Demonstrating your improvement – Run charts

Run charts are line graphs where a measure is plotted over time, often with a median (the middle value of those plotted so that half are above and half are below) also shown. Display of the data in a run chart, demonstrating the change in compliance over time, is a very visual way of demonstrating improvement. They allow us to:

- Display data to make process performance visible
- Determine if a change resulted in improvement
- Assess whether improved performance has been sustained

Changes made to a process are also often marked on the graph so that they can be connected with the impact on the process. The example below demonstrates improvement in perioperative temperature.



Royal United Hospitals Bath 
NHS Foundation Trust



Ideally a minimum of 20 patients a month should be sampled or all of the patients if you have less than that. Sampling smaller numbers has also been shown to be an effective and reliable way of obtaining data where data for all is not easily available, and it allows for continuous repeated data collection⁴⁷.

Data should be reviewed each month so you understand what is happening and any issues can then be addressed promptly, as in the example above when there was a decrease in the availability of fluid warming devices.

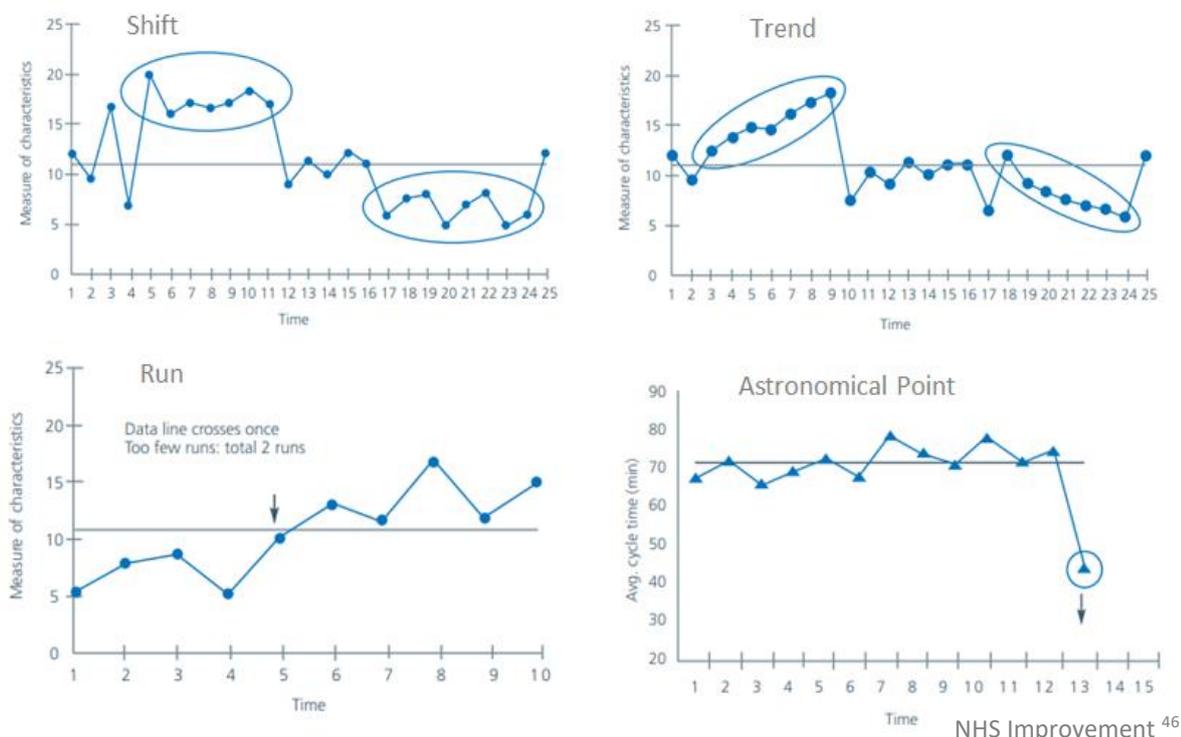
Displaying data in run chart format is not only useful as a visible demonstration of the impact of your changes but can also be used to demonstrate whether any improvement is significant and that processes have become more reliable, if the variation between data decreases^{48,49}.

Run Chart Rules

Run charts are a powerful tool for detecting special cause (non-random) variation. If there are at least 10-12 data points on the graph, run charts can also be used to distinguish between random and non-random variation using four simple rules.

1. A **shift**: six or more consecutive data points either all above or below the median. Points on the median do not count towards or break a shift. This suggests there has been a genuine change and this is what we will look for with SSI i.e. a shift to below the median.
2. A **trend**: five or more consecutive data points that are either all increasing or decreasing in value. If two points are the same value ignore one when counting. This is a good sign and might demonstrate that the bundle is working and that change is happening although not yet established.
3. **Too many or too few runs**: a run is a consecutive series of data points above or below the median. As for shifts, do not count points on the median: a shift is a sort of run. If there are too many or too few runs (i.e. the median is crossed too many or too few times) that's a sign of non-random variation. We would not expect this for the SSI project as elective cases of colorectal cancer tend to remain constant. However if, for example, we were looking at mortality in the population, there might be non-random variation as deaths increase in winter and reduce in summer.
4. An **astronomical data point**: a data point that is clearly different from all others. This relies on judgement. Sometimes it means you have not collated all the data for this point e.g. for SSI your response rate might have suddenly dropped and SSI rate appears very high or it can be a genuine mistake in data entry.

It is important to understand the reason for special cause variation and not to react unnecessarily to one-off changes in the behaviour of a process. Analyse the chart by studying how values fall around the median⁴⁶. Below are some examples of run-charts and their corresponding rules.



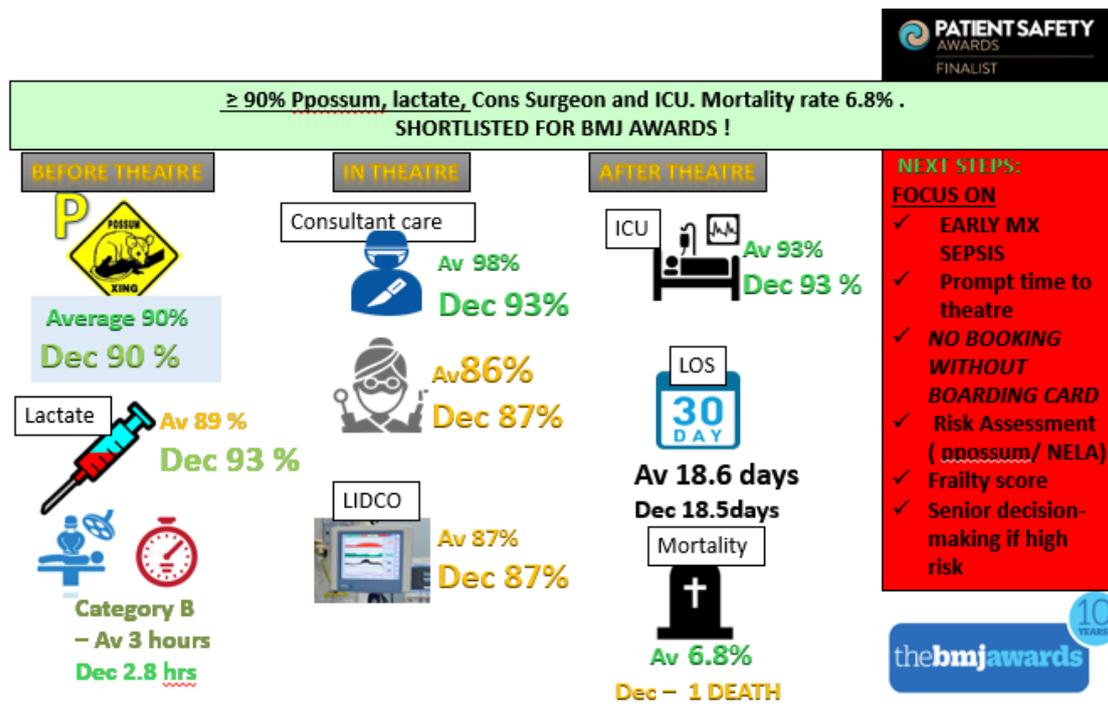
NHS Improvement ⁴⁶

Further information can be found in the NHS Improvement resou [Count: Getting Started](#) and [Making Data Count: Strengthening Your Decisions](#).

3.4 Celebrating and sharing success

This is important to maintain engagement with the teams. There are various ways of communicating with the teams, such as newsletters and notices. Remember to feedback to divisional leads and your executive sponsor.

An example of a Laparotomy Newsletter is shown below. Creating a newsletter with specific information about compliance with the SSI bundle would be a great way to feed back to your teams.



3.5 Sustainability

Sustainability means ‘**holding the gains and evolving as required, definitely not going back**’ and needs to be thought about from the beginning of the project^{50,51}.

A project has increased chance of being sustained if:

- Team engagement is encouraged from the beginning
- The team have ownership of the change and have had input into it
- The team understand the need for change and have visible feedback on progress
- Senior leadership and organisational engagement are visible
- New processes are added to existing processes that are reliable
- Processes do not rely on one person and reliable processes are in place for change-over of staff if necessary
- Making the new processes as easy as possible (‘making it easy to do the right thing’) – embedding processes into your electronic system can support this⁵⁰

The NHS Sustainability Tool

The [NHS Sustainability Tool](#) utilises many of these factors and is useful to do with the team at the beginning, middle and end of the project and can guide you as to which areas to concentrate on. The AHSN can support you with this.

PART 4: Implementation Resources

4.1 Hyvr

4.2 Posters

- PreciSSIon project poster for theatres
- Example trust poster

4.3 Colorectal Surgical Site Infection Documentation

- SSI Patient Letter to Accompany Questionnaire
- Patient Questionnaire
- Surgical Site Infection Protocol
- Guidelines for Conducting Surgical Site Infection Calls

4.1 Hyvr

Hyvr, developed by the West of England Academic Health Science Network in partnership with Cyber Media Solutions Ltd, stands for “Have Your Vision Realised”. It acts as a social media platform for healthcare users and healthcare innovators to meet, discuss, collaborate and co-design new healthcare ideas, products and services. In short, crowd intelligence.

Groups are known as ‘hives’; this is where documents can be shared and discussions can be held.

All documents in this toolkit are available on the Surgical Site Infection Collaborative [hive](#) as well as on the West of England AHSN website.

Local project teams in the West of England have been provided with access to hyvr and have been invited to the Surgical Site Infection Collaborative [hive](#). If you currently do not have access, contact the West of England AHSN at contactus@weahsn.net.

4.1 Posters

PreciSSlon project poster for theatres

This poster can be printed out, laminated, and displayed in theatres.

PreciSSlon

Preventing Surgical Site Infection across a Region

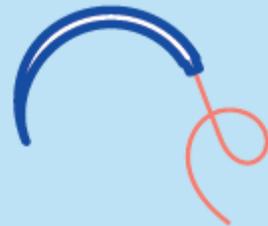
Surgical Site Infections (SSI) are a common complication following colorectal surgery and cause pain and discomfort for patients. They can lead to a longer stay in hospital and sometimes a subsequent return to theatre, and can result in extra pressure on emergency departments. Through PreciSSlon, we can beat Surgical Site Infection together.

These evidence-based measures should be used in all patients undergoing major colorectal resection:

2%
chlorhexidine



Antibacterial
sutures



Second dose
antibiotics
after **4** hours



Wound
protectors



Contact your **Trust project team/surgical lead** at:

Contact the **West of England AHSN Team** at: contactus@weahsn.net



Let's beat Surgical Site Infection together

These evidence-based measures should be used in all colorectal patients



2% chlorhexidine preparation

Wound protectors



PLUS antimicrobial sutures for muscle and skin

Second dose of antibiotics after 4 hours of operating time



Change of gloves before closing

Betadine to wash wound



4.2 Colorectal Surgical Site Infection Documentation SSI Patient Letter to Accompany Questionnaire

Clinician Contact Details

Dear

You have recently been a patient at **xxx** Hospital under the care of the Enhanced Recovery Programme. We would be very grateful if you could spare a few minutes of your time to complete the attached surgical wound healing questionnaire, as this will enable us to monitor our wound infection rates.

When you have completed the questionnaire please send it back to us in the pre-paid envelope supplied.

We would like take this opportunity to send you our best wishes and to thank you for your help and assistance for taking part in this survey.

Many thanks,

xxx

Patient Questionnaire

Surgical wound healing questionnaire

Dear Patient,

We are monitoring all patients with surgical wounds, to detect patients who develop wound infections after surgery.

We would be grateful if you could complete this questionnaire and return it in the pre-paid envelope.

Have you had any problems with the healing of your wound?

Yes Please continue with this questionnaire
No You do not need to continue with any further questions.

Did the problems with your wound arise when you were in hospital?

Yes
No

Since you were discharged from hospital after your operation have you noticed any of the following symptoms?

Has there been any discharge or leakage of fluid from any part of the wound?

Yes
No

If yes, was it either: Clear or blood stained
Yellow/green (pus)
Other – please specify _____

Please tick any of the following additional symptoms that applied to your wound:

Pain or soreness in addition to the discomfort experience following the operation
Redness or inflammation spreading from the edges of the wound
The area around the wound felt warmer/hotter than the surrounding skin
The area around the wound became swollen
The edges of any part of the wound separated or gaped open

Did any health care worker take a sample from your wound to send to the laboratory?

Yes
No

PLEASE TURN OVER

If you saw a health care worker because of these symptoms, please indicate who you saw from the list below –

- | | |
|-----------------------------------|-----|
| GP | [] |
| District Nurse | [] |
| Midwife | [] |
| Doctor or Nurse at the hospital | [] |
| Other – please specify | [] |
| Did not see anyone about my wound | [] |

Please tell us the date you noticed these symptoms.

If you cannot remember the exact date, please give an approximate date ___/___/___

Have you been prescribed antibiotics for an infection in the wound?

Yes []

No []

If yes, who prescribed them? _____

Have you been readmitted to hospital with an infection of the surgical wound?

Yes []

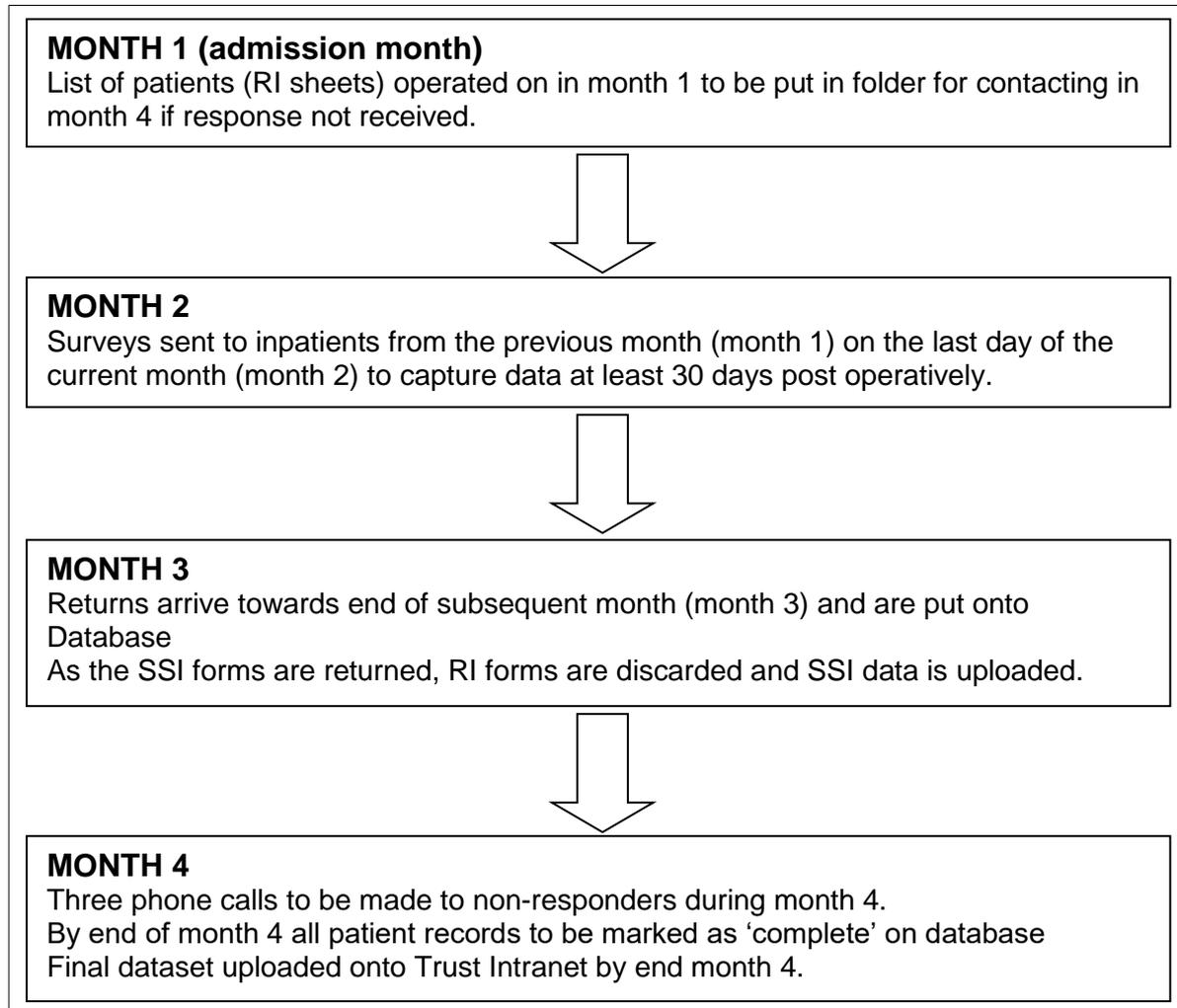
No []

If yes, which hospital? _____

Other comments

Surgical Site Infection Protocol

It is important to have a system for sending out questionnaires. Below is an example of how it can be done (from NBT). It is important to have a cut off for data collection as otherwise data might continue to change as late replies are received. This protocol mentions folders and paper but this could be electronic.



Guidelines for Conducting Surgical Site Infection Calls

The guide below was developed for people who might ring up and conduct the HPA questionnaire over the phone. It is specific for NBT. Lorenzo is PAS system used by the trust and CISS (Clinical Information System Suite) was the trust computer database used to record the data.

Guidelines for conducting Surgical Site Infection Calls (if not conducted by ERP team)

1) Check the patient is not deceased.

This can be done on your PAS system

- Enter the patients name into the patient search and identify them from the hospital number.
- Check patient details are correct
- Select patient
- Select Patient demographics on the right hand side
- If patient is deceased the top bar will be black and date of RIP listed

2) Check the patient is not an inpatient

This is done through LORENZO as above.

To check in patient status:

- Select My work tab
- Select inpatient on left hand side
- Enter patient hospital number in ID search
- Details will displayed at the bottom if patient is currently in hospital or
- No records to show if patient is not in hospital

3) Completing the follow up call guidelines

When you have obtained answers from the patient, please place a tick through the YES or NO box on the surgical site infection follow up call guidelines. Once the call is complete please place the completed guidelines into the patient record file.

4) What to do once the calls have been completed

Once the calls have been made, the details are uploaded to CISS. The ERP team will oversee this process. Some answers given by patients may need to be checked against ICE so please ensure you return the completed paperwork to the ERP team so that this can be checked and updated.

5) What if a patient asks me something I cannot help them with?

Please pass any queries to the ERP team who will ensure their query is dealt with.

If you have any queries regarding the surgical site infection calls, then please contact The ERP Team on Ext **xxx or mobile number: **xxx****

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