NHS
Ambulatory Emergency Care Network

Measurement for Improvement

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sam

The Royal College of Emergency Medicine

Royal College of Nursing

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Fire

Agenda for the day

Ambulatory Emergency Care Network

- Welcome, introductory info and aims for the day

- Measurement for improvement
- Work our way through the 7 step model for measurement for improvement - including some practical work for you to do today

- Some homework for you before the next national event

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Ground Rules

Ambulatory Emergency Care Network

- “Chatham House” rules

- Timekeeping - please stop exercises when asked, we have a big group today so try to be on the ball in breaks - you’ll have plenty of homework on the exercises to take away too

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Aims of today

Ambulatory Emergency Care Network

- To share knowledge and expertise around data collection and analysis – with the aim of gearing you up to demonstrate the local impact of SAEC

- Go through the seven steps to measurement - **again**
- Look at what you aim to achieve and what measures you will need to know how you are doing
- Look at trends/patterns

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Our approach to measurement

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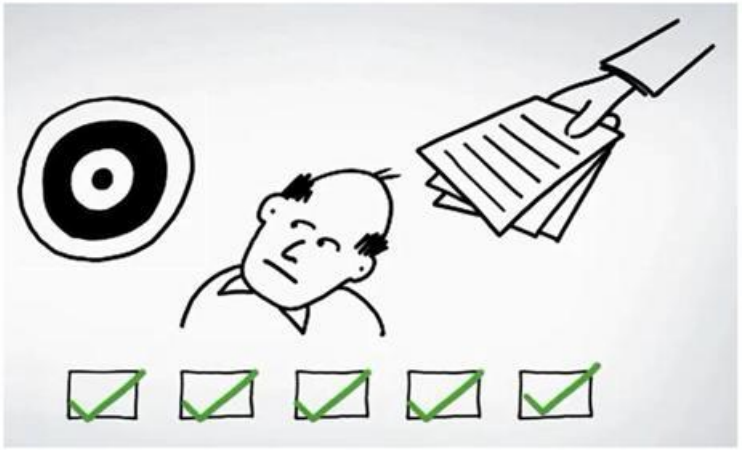

Measurement for judgement

Have to hit a target – set by someone
Using data provided or told what to collect

Measurement for research

Discover new knowledge. Well constructed trial, lots of data. Distinguish between effects of new drug and existing treatment

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Measurement for improvement

Ambulatory Emergency Care Network

Reference: Langley et al 1996

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Measurement for improvement

Ambulatory Emergency Care Network

- “You can’t fatten a cow by weighing it”
- Improvement is not about measurement, you have to make some sort of change to the system.
- But…….
- “If you can’t measure it, you can’t improve it”

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Measurement for improvement

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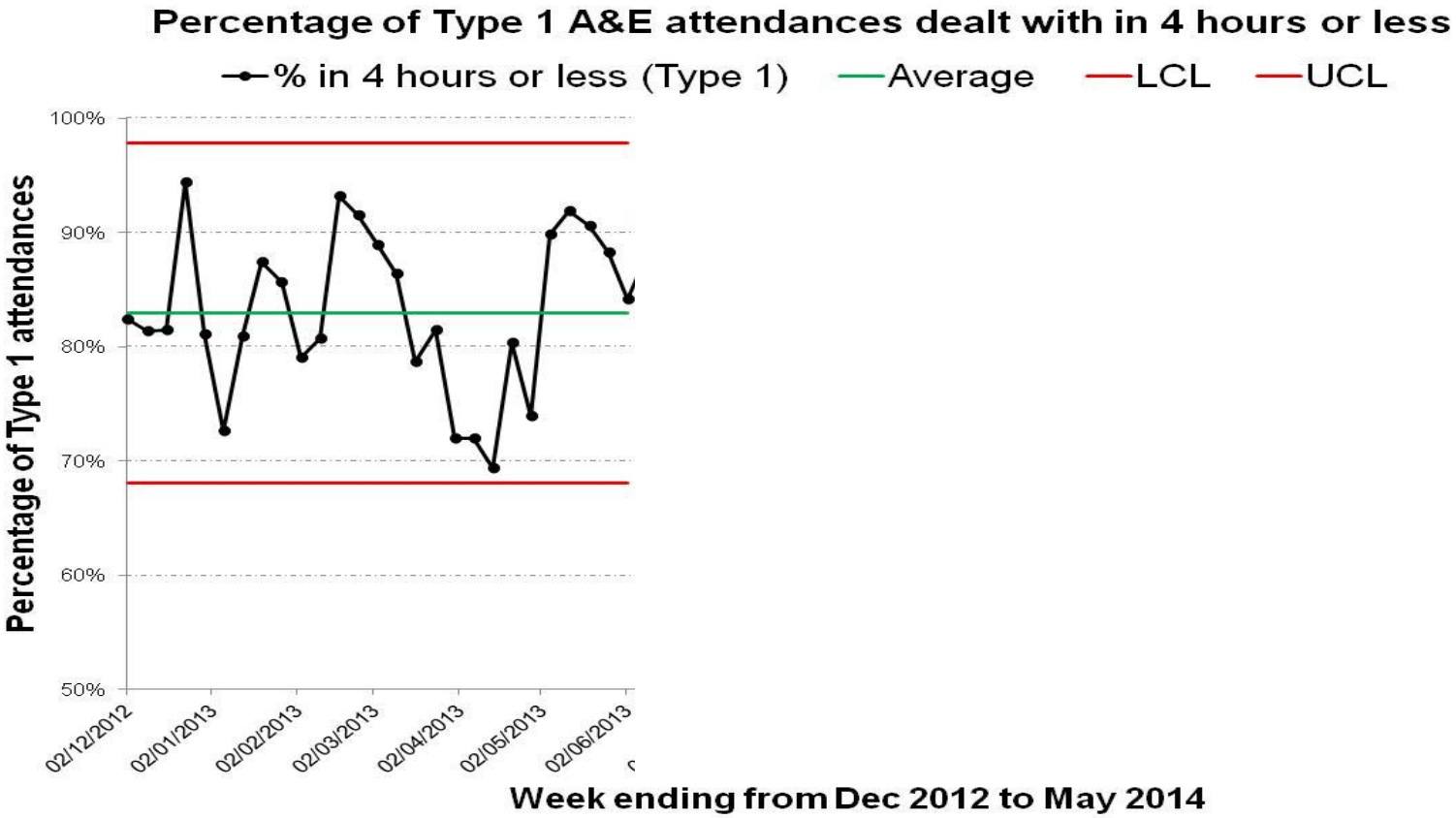

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Measurement throughout SAEC

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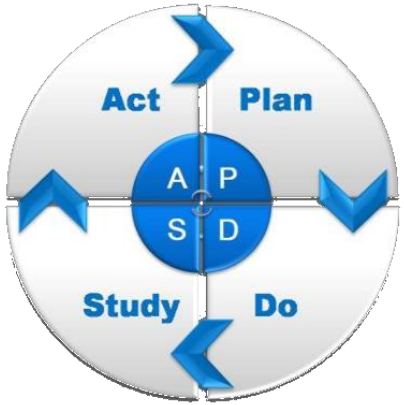
- Identification of need for SAEC
- Getting a baseline
- Did SAEC make a difference?
- What needs to be in place to mainstream SAEC?
- Evaluating worth (benefits, income) of SAEC



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7 Steps to Measurement for Improvement

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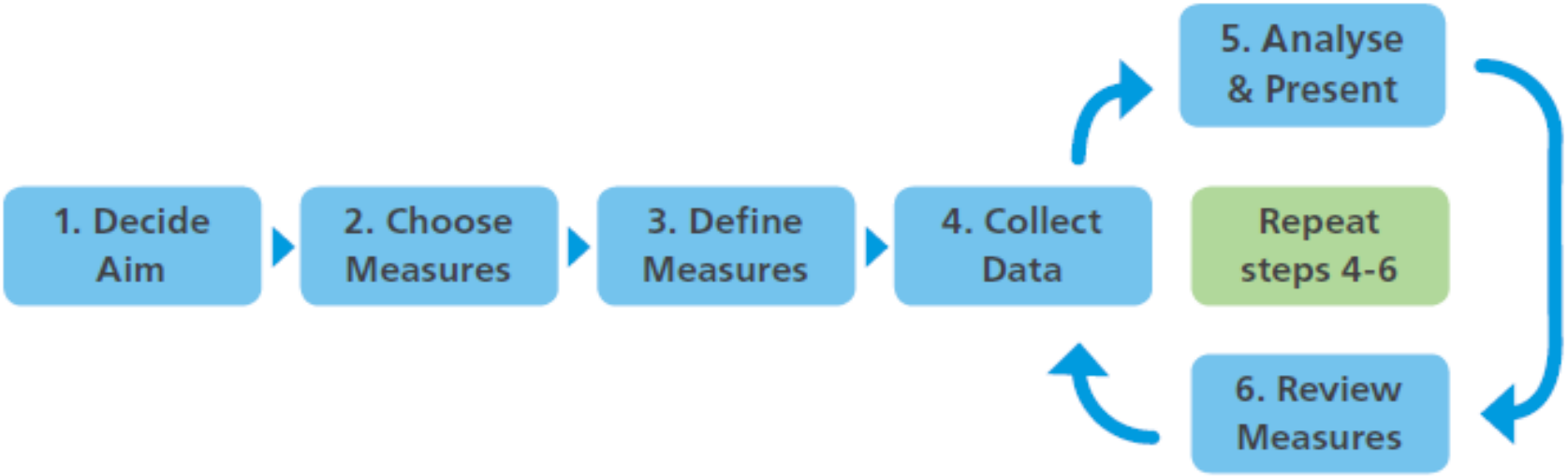

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Step 1 - Decide Aim

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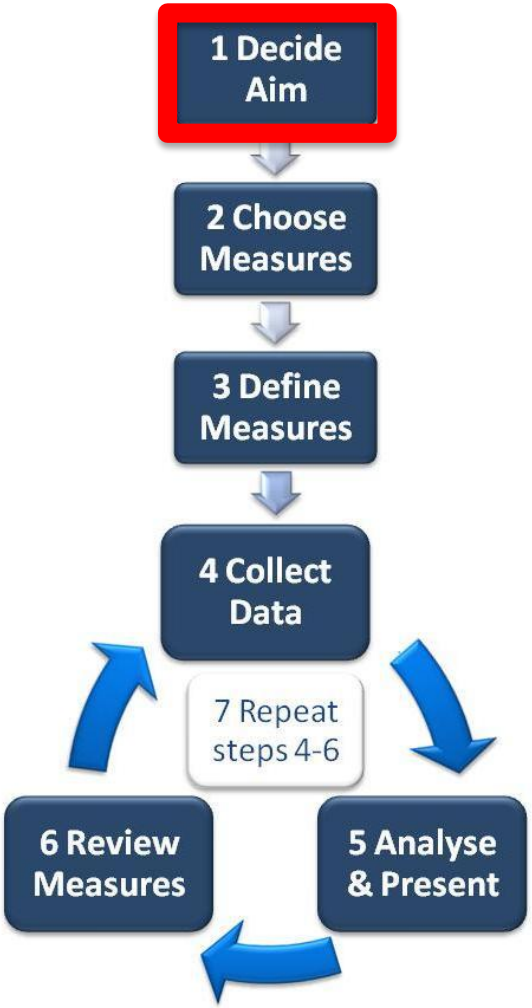

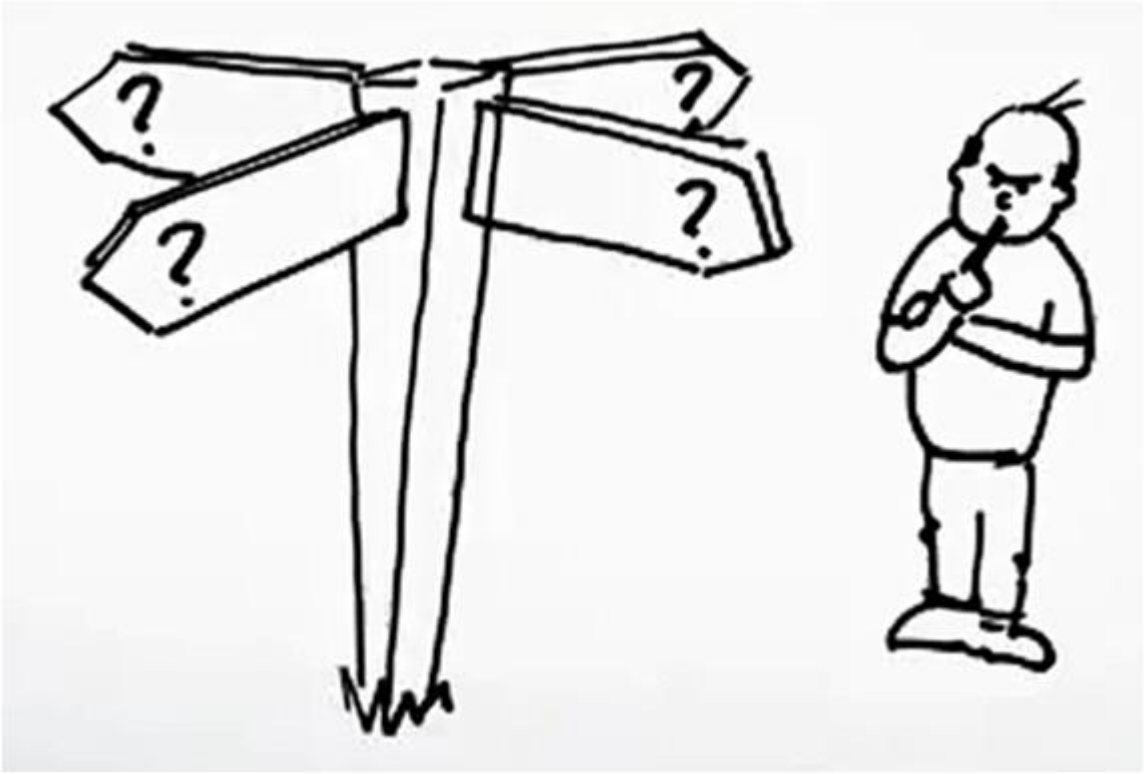

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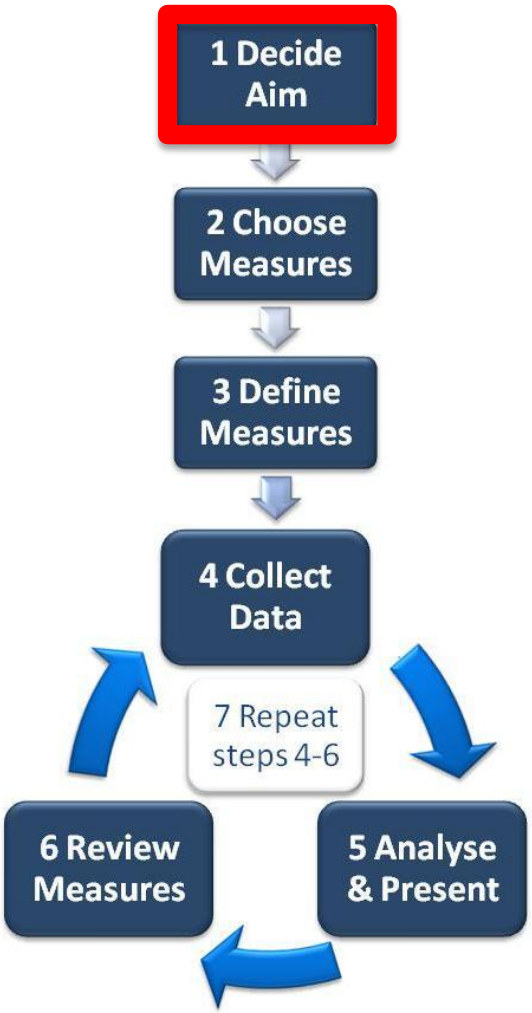
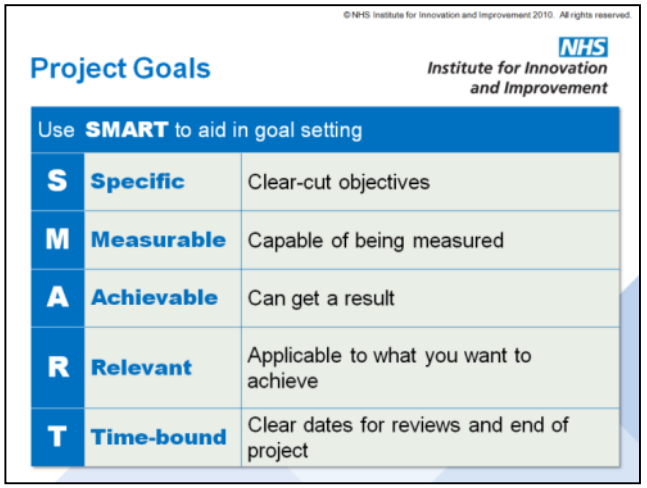
Step 1 - Decide Aim

Ambulatory Emergency Care Network





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Exercise 1 - What is your aim?

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You've got the amount of time it takes for the lift to go from the ground to the third floor to explain what your project is trying to do

5 minutes: discuss in your group, agree and write down a clear, unambiguous aim for your project

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Helpful Tool : Aims template

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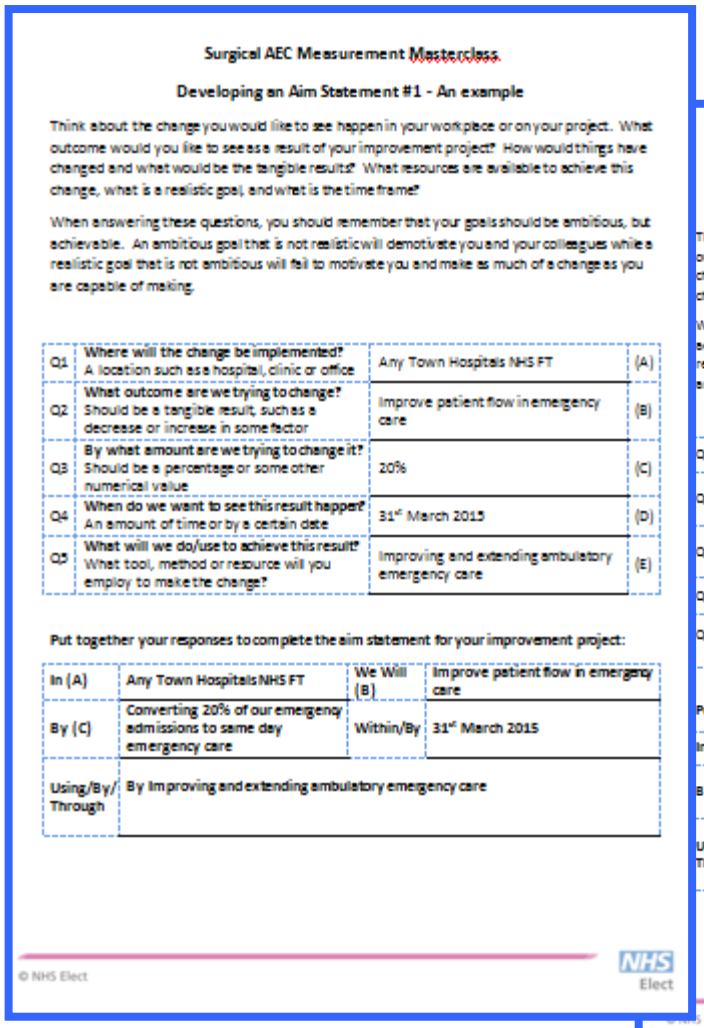

Surgical AEC Measurement Masterclass

Developing an Aim Statement #1 - An example

Think about the change you would like to see happen in your workplace or on your project. What outcome would you like to see as a result of your improvement project? How would things have changed and what would be the tangible results? What resources are available to achieve this change, what is a realistic goal, and what is the time frame?

When answering these questions, you should remember that your goals should be ambitious, but achievable. An ambitious goal that is not realistic will demotivate you and your colleagues while a realistic goal that is not ambitious will fail to motivate you and make as much of a change as you are capable of making.

Q1	**Where will the change be implemented?** A location such as a hospital, clinic or office	Any Town Hospitals NHS FT	(A)
Q2	**What outcome are we trying to change?** Should be a tangible result, such as a decrease or increase in some factor	Improve patient flow in emergency care	(B)
Q3	**By what amount are we trying to change it?** Should be a percentage or some other numerical value	20%	(C)
Q4	**When do we want to see this result happen?** An amount of time or by a certain date	31st March 2015	(D)
Q5	**What will we do/use to achieve this result?** What tool, method or resource will you employ to make the change?	Improving and extending ambulatory emergency care	(E)

Put together your responses to complete the aim statement for your improvement project:

In (A)	Any Town Hospitals NHS FT	We Will (B)	Improve patient flow in emergency care
By (C)	Converting 20% of our emergency admissions to same day emergency care	Within/By	31st March 2015
Using/By/ Through	By improving and extending ambulatory emergency care		

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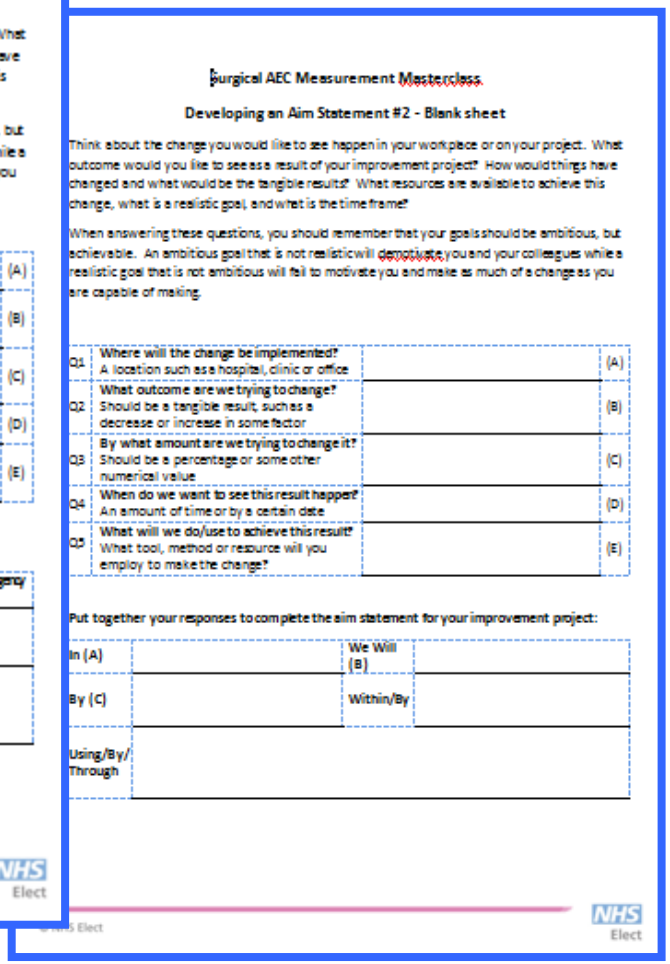

Surgical AEC Measurement Masterclass

Developing an Aim Statement #2 - Blank sheet

Think about the change you would like to see happen in your workplace or on your project. What outcome would you like to see as a result of your improvement project? How would things have changed and what would be the tangible results? What resources are available to achieve this change, what is a realistic goal, and what is the time frame?

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Put together your responses to complete the aim statement for your improvement project:

In (A)		We Will (B)	
By (C)		Within/By	
Using/By/ Through			

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Step 2 - Choose measures

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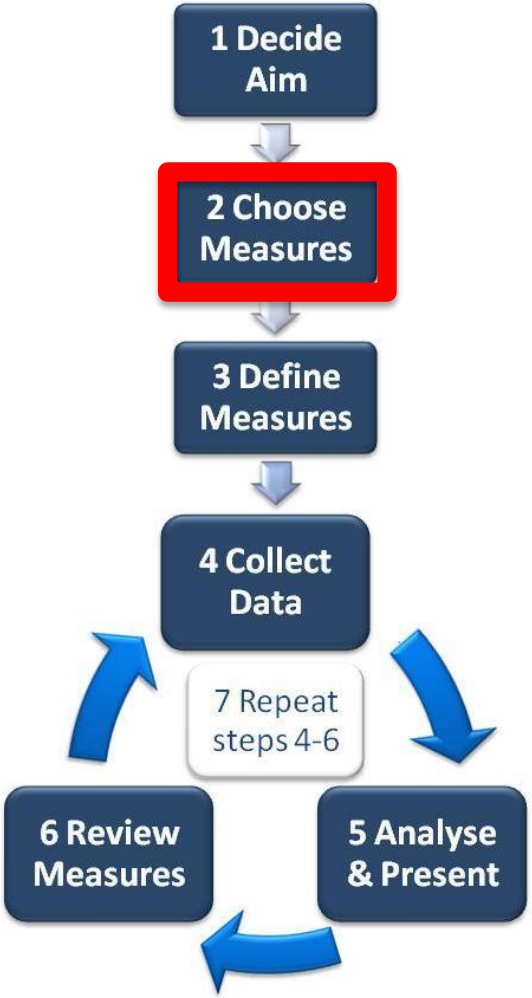

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Systems thinking

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Input	Process	Outcome
Staff time and resources used by your service	The care plans, protocols and policies which staff use to care for patients	The effect on the patient of how you use the inputs and follow the process

Source: "Evaluating the Quality of Medical Care", Donabedian A, 1966

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Three types of measures

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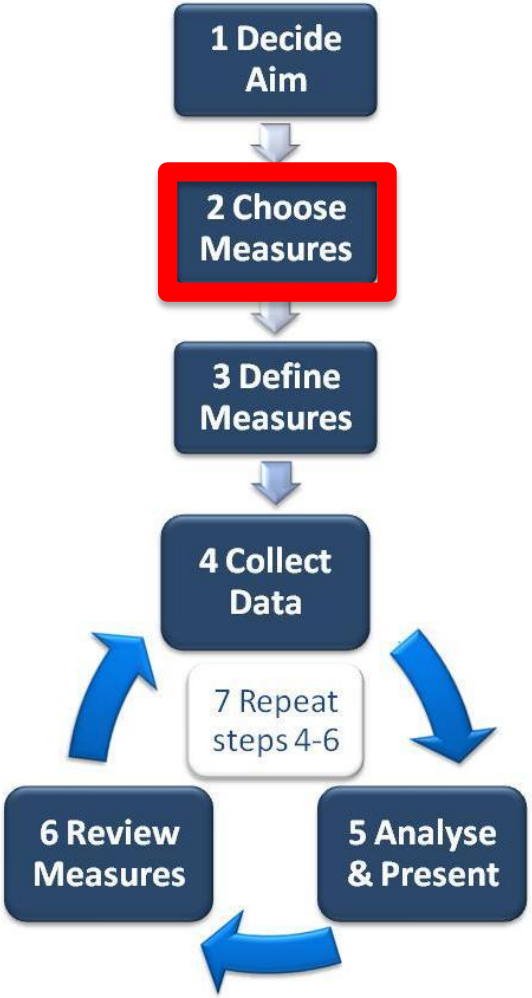

Process measure

Process measures show how well we do what we say we do

Outcome measure

Outcome measures show the impact on patients/our aim

Balancing measure

Balancing measures show any unintended consequences

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Step 2 - Choose measures

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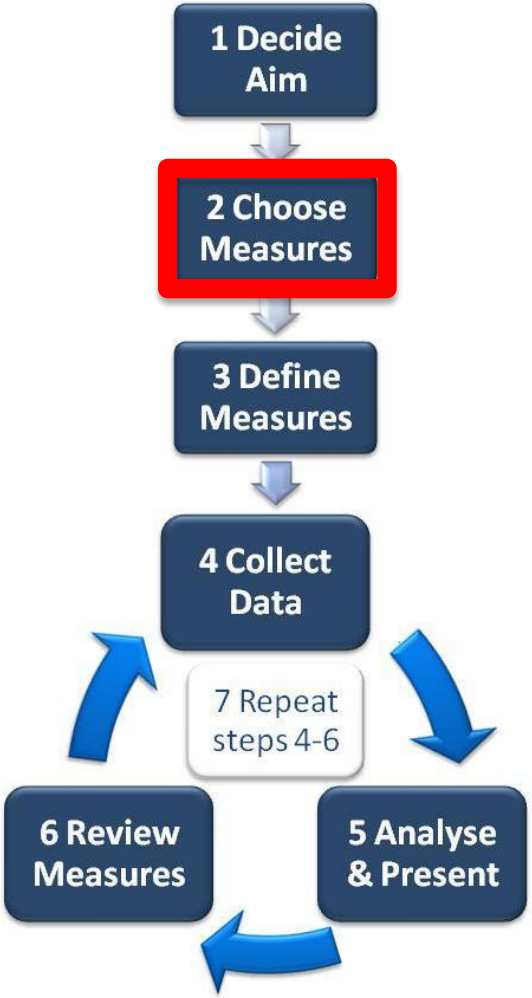

There are two tools to help you choose measures

- Process Mapping
- Driver Diagrams

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Step 2 - Choose measures

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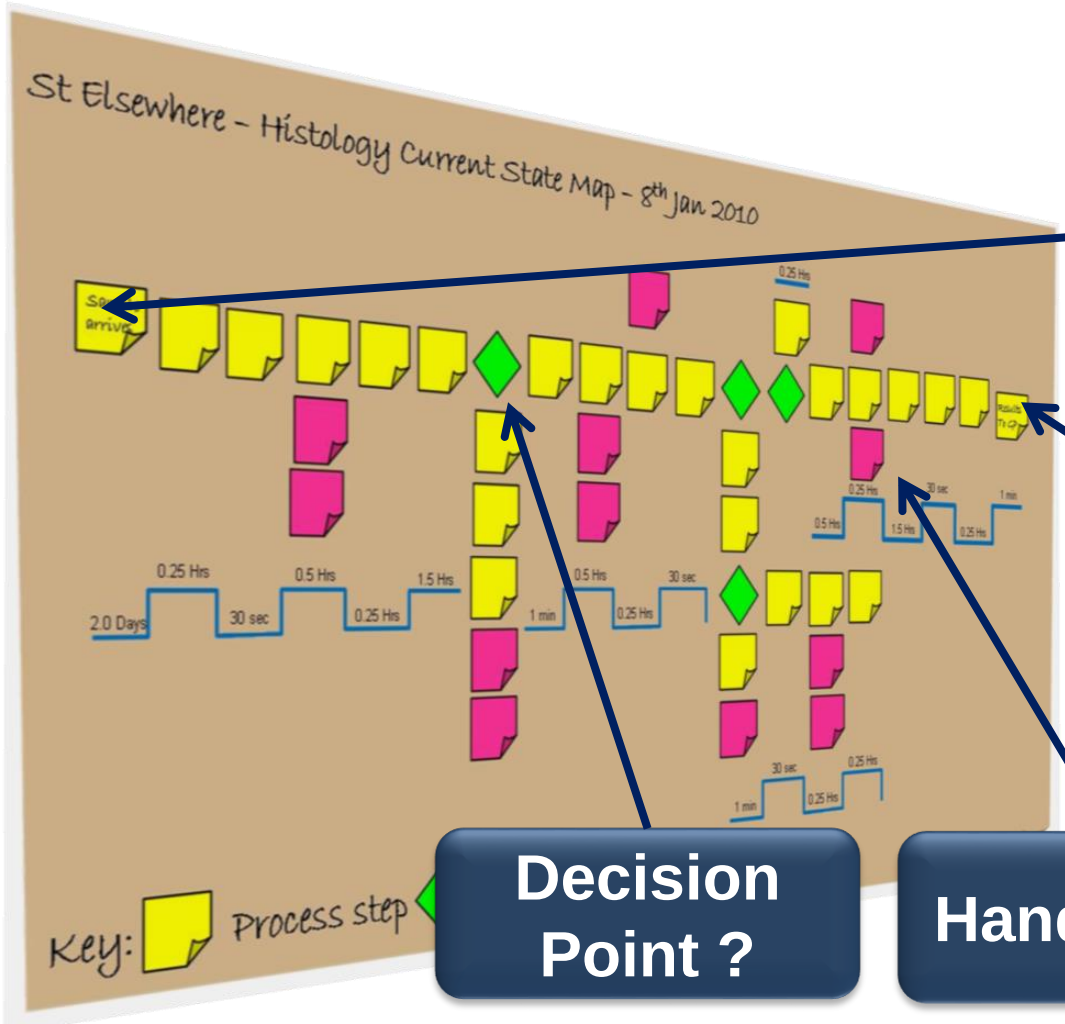

Start ?

End ?

Decision Point ?

Handover ?

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Step 2 - Choose measures

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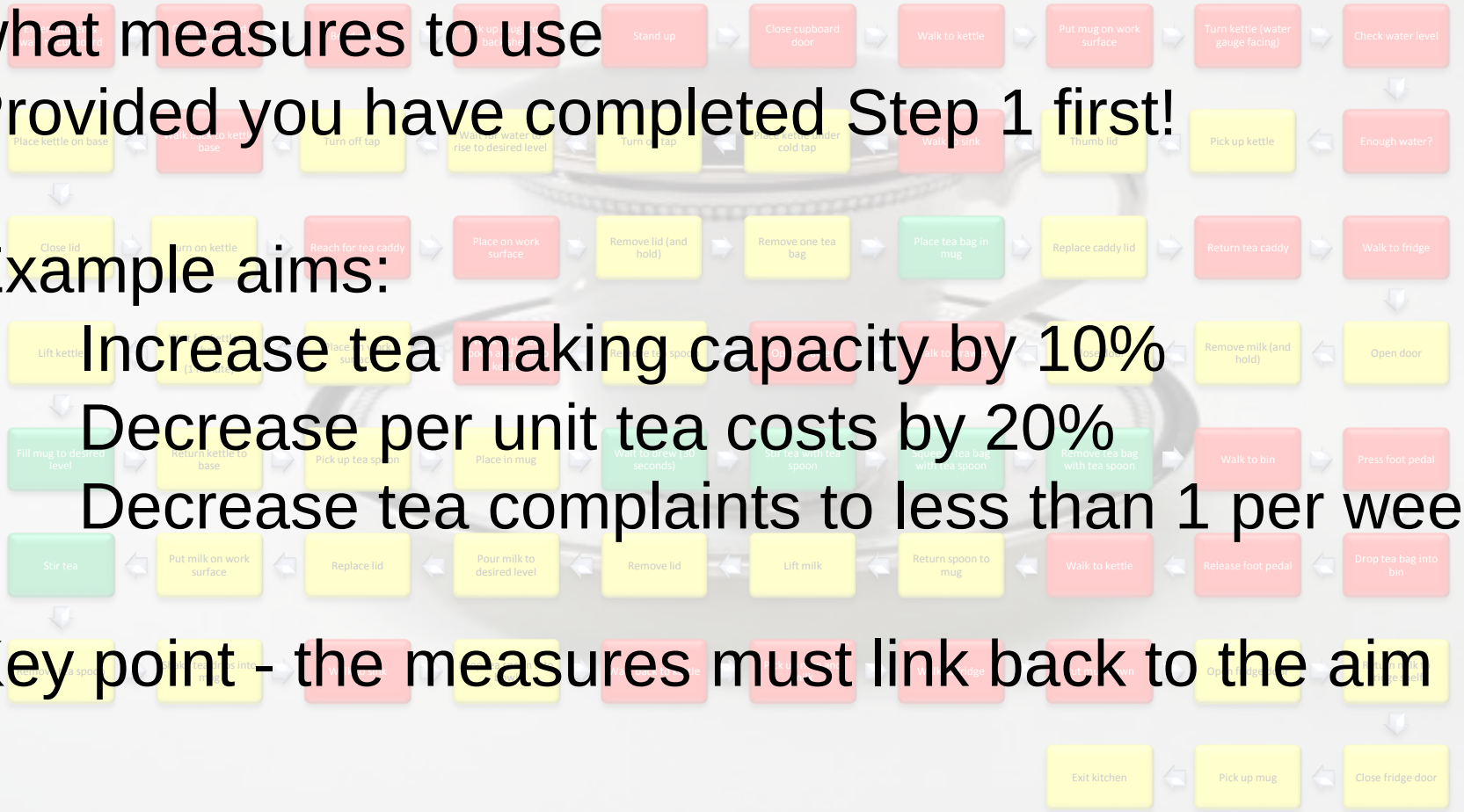
You could use this map as a reference point to decide what measures to use

Provided you have completed Step 1 first!

Example aims:

- Increase tea making capacity by 10%
- Decrease per unit tea costs by 20%
- Decrease tea complaints to less than 1 per week

Key point - the measures must link back to the aim



Step 2 - Choose measures

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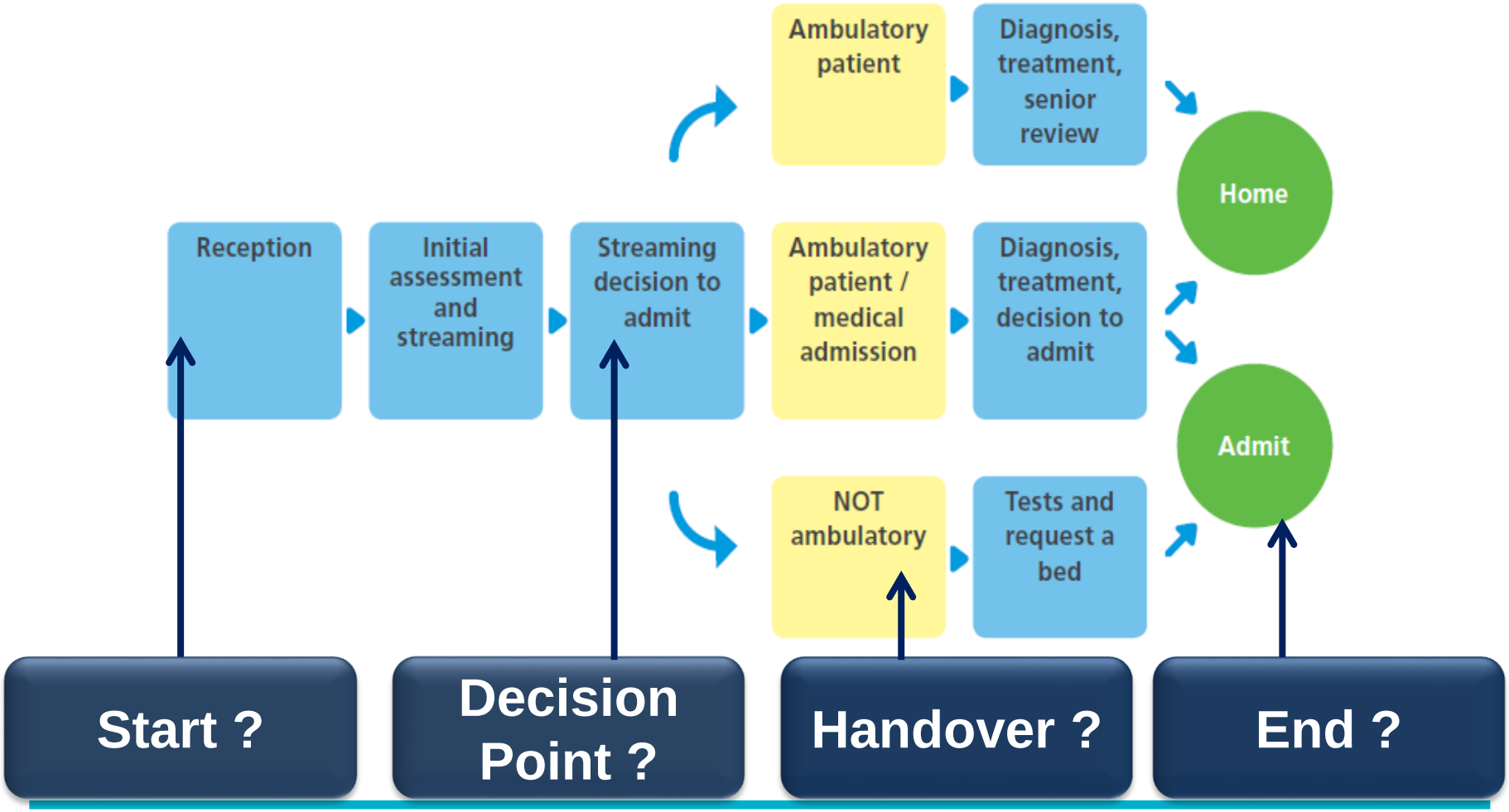

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An AEC example

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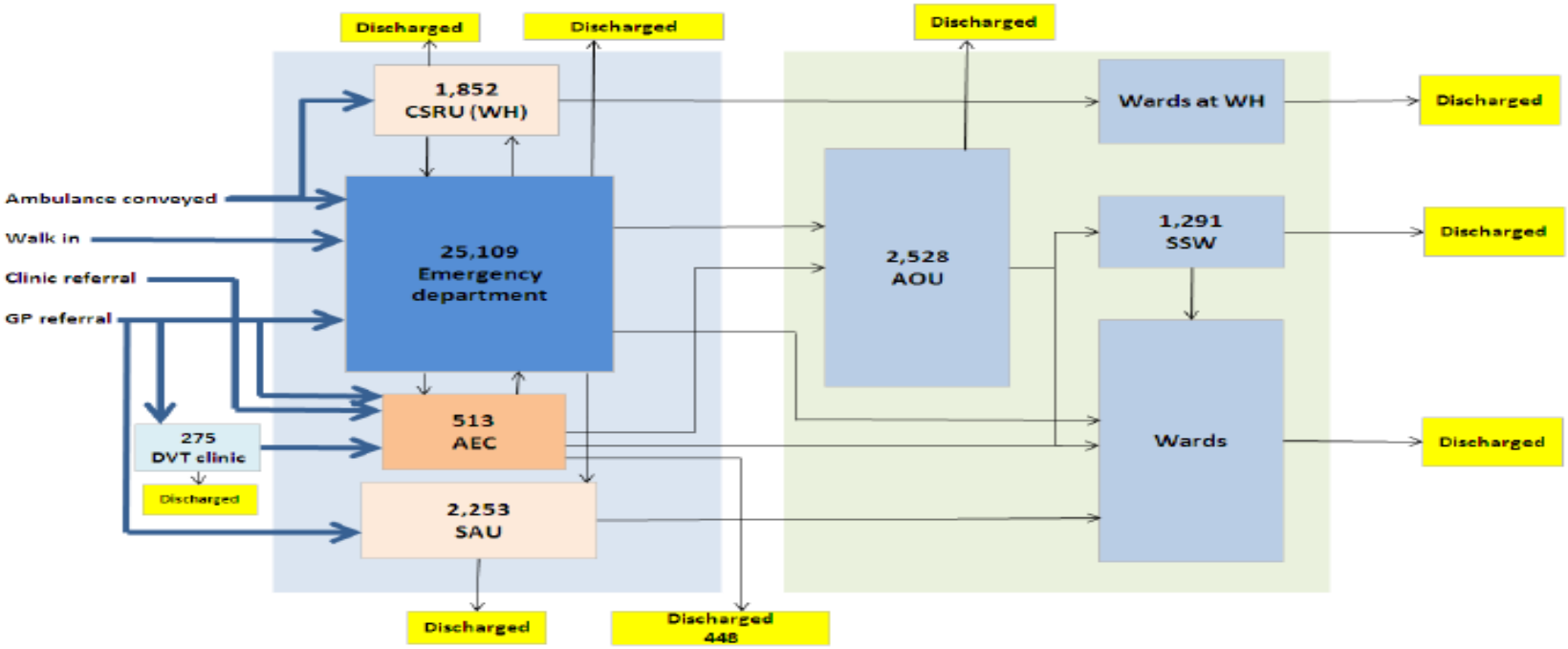
Patient flow at Stoke Mandeville after AEC

1st December 2014 – 31st March 2015



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From the BADS handbook

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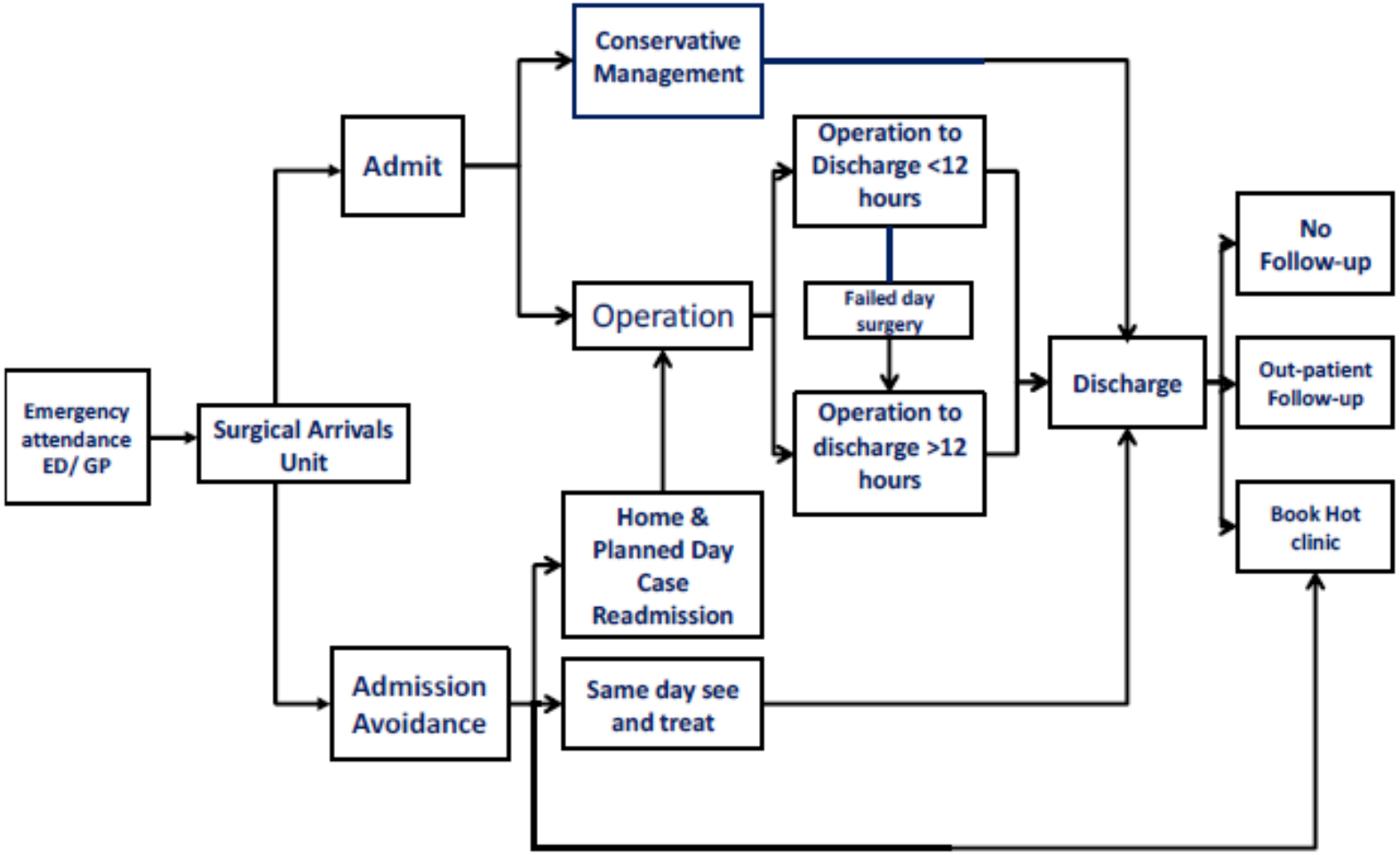

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Exercise: Start to work up your flow diagram

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Using the picture of flow shown in the BADS AEC Handbook as a guide/starting point start to sketch out your own emergency flows for surgical patients

You have 30 minutes

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Exercise: Start to work up your flow diagram

NHS Ambulatory Emergency Care Network

- What are the service entry points? Where do patient s come from?
- How many patients are admitted? How many are not?
- What are their pathways through the hospital and to discharge?
- Current organizational objectives and aims for SAEC service – which patients are you focused on
- Show the names of the units involved and the numbers of patients for each connecting flow arrow

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Tea break

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Back here for an 11:45 prompt start

We expect **ALL SITES** to finish off their Flow Diagram between now and the next national event on **27th June 2017**

You need to bring them along to display to each other on the wall of the conference room - There is a prize!

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Step 2 - Choose measures

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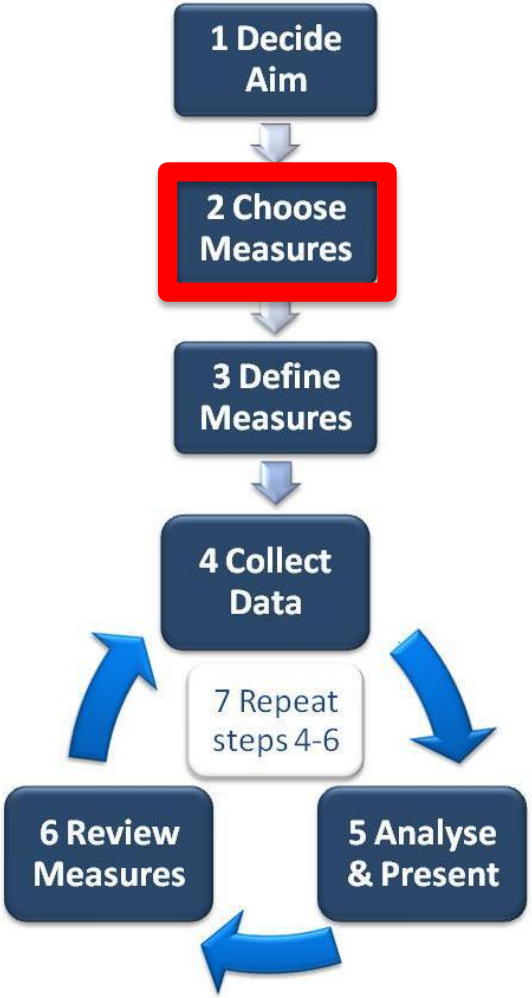

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Spoilt for choice?

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Driver Diagrams

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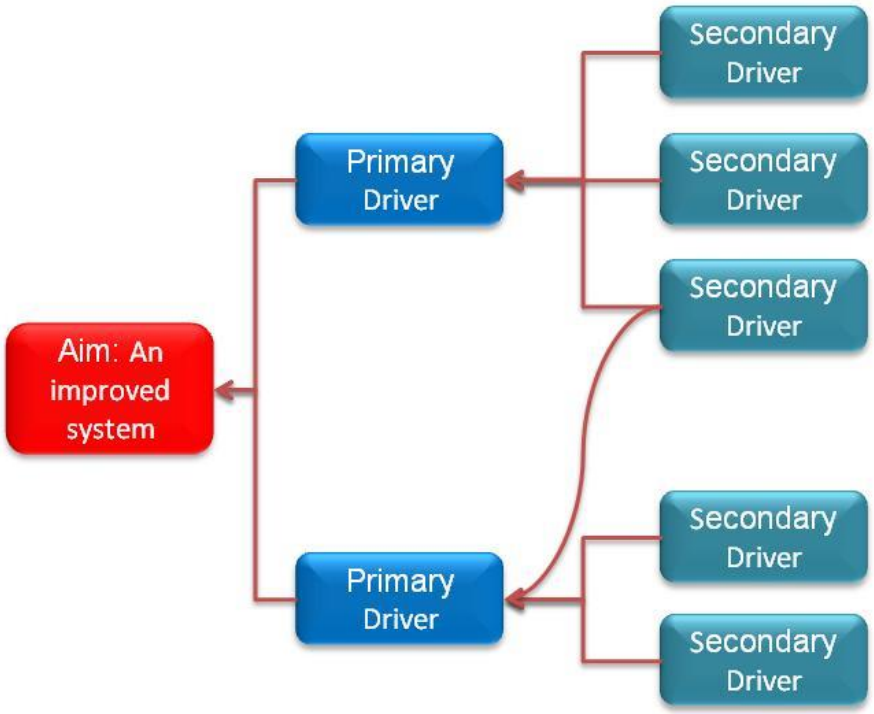
Schematic view of a system on the left we depict **outcome** and as we move right we drill down into the network of **causes** that **drive** the outcome, from ‘primary’ to ‘secondary’ **drivers**



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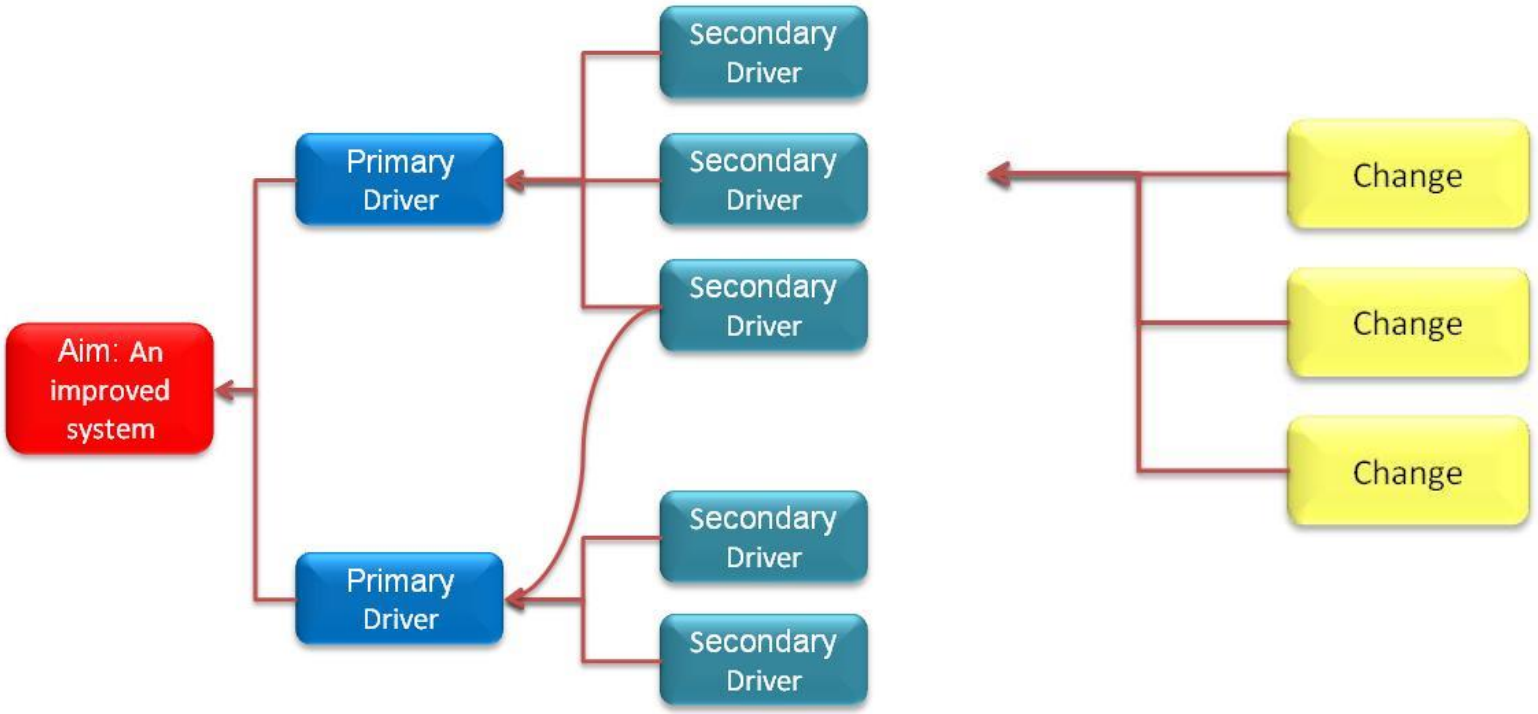
Driver Diagrams

Ambulatory Emergency Care Network

On the right we depict **ideas for system changes** that might ultimately impact the **outcome**. So, it represents our **theory** about how to **modify** the system to **change** the **outcome**



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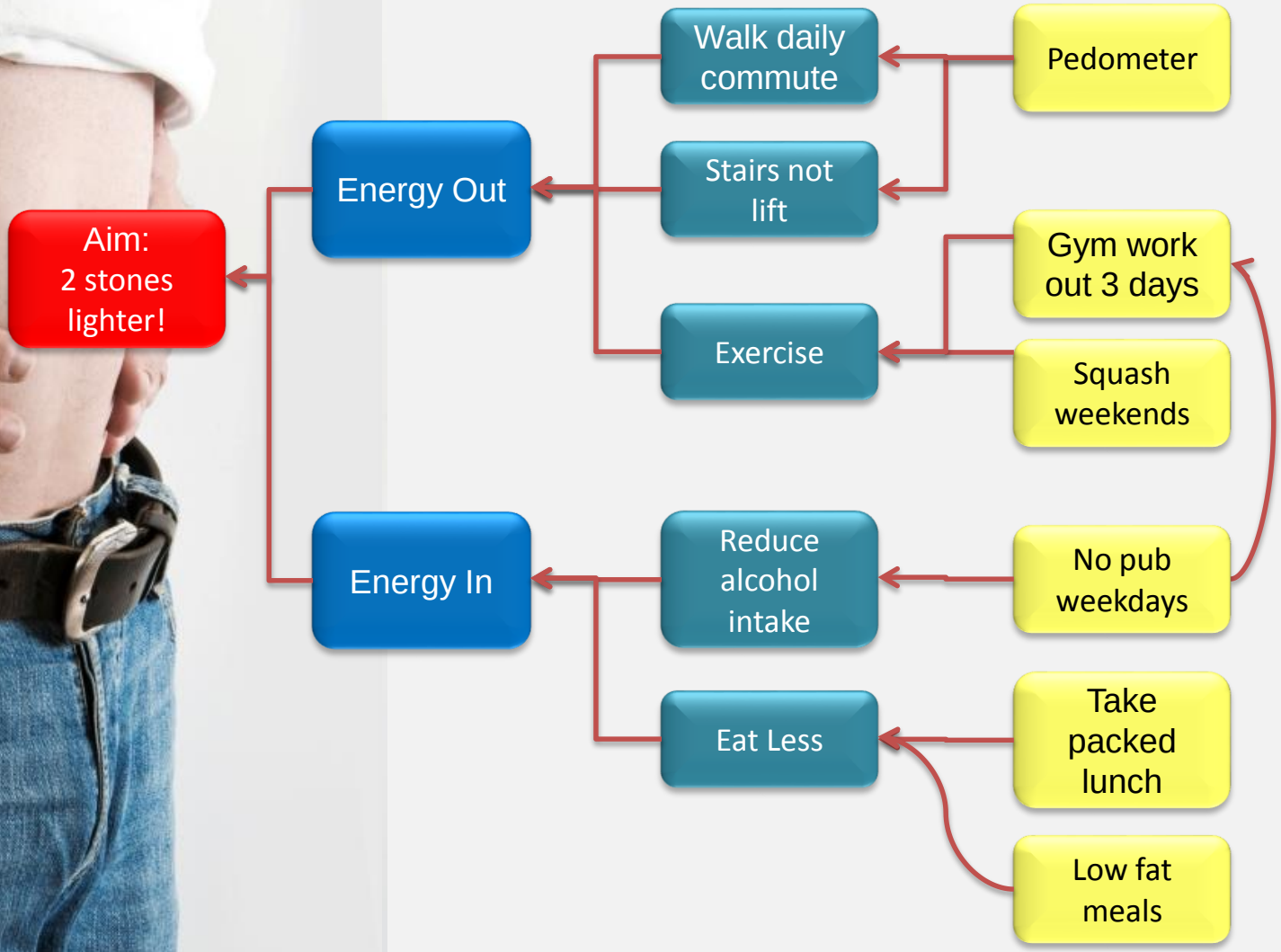
Driver Diagrams - weight loss



Driver Diagrams - AEC example

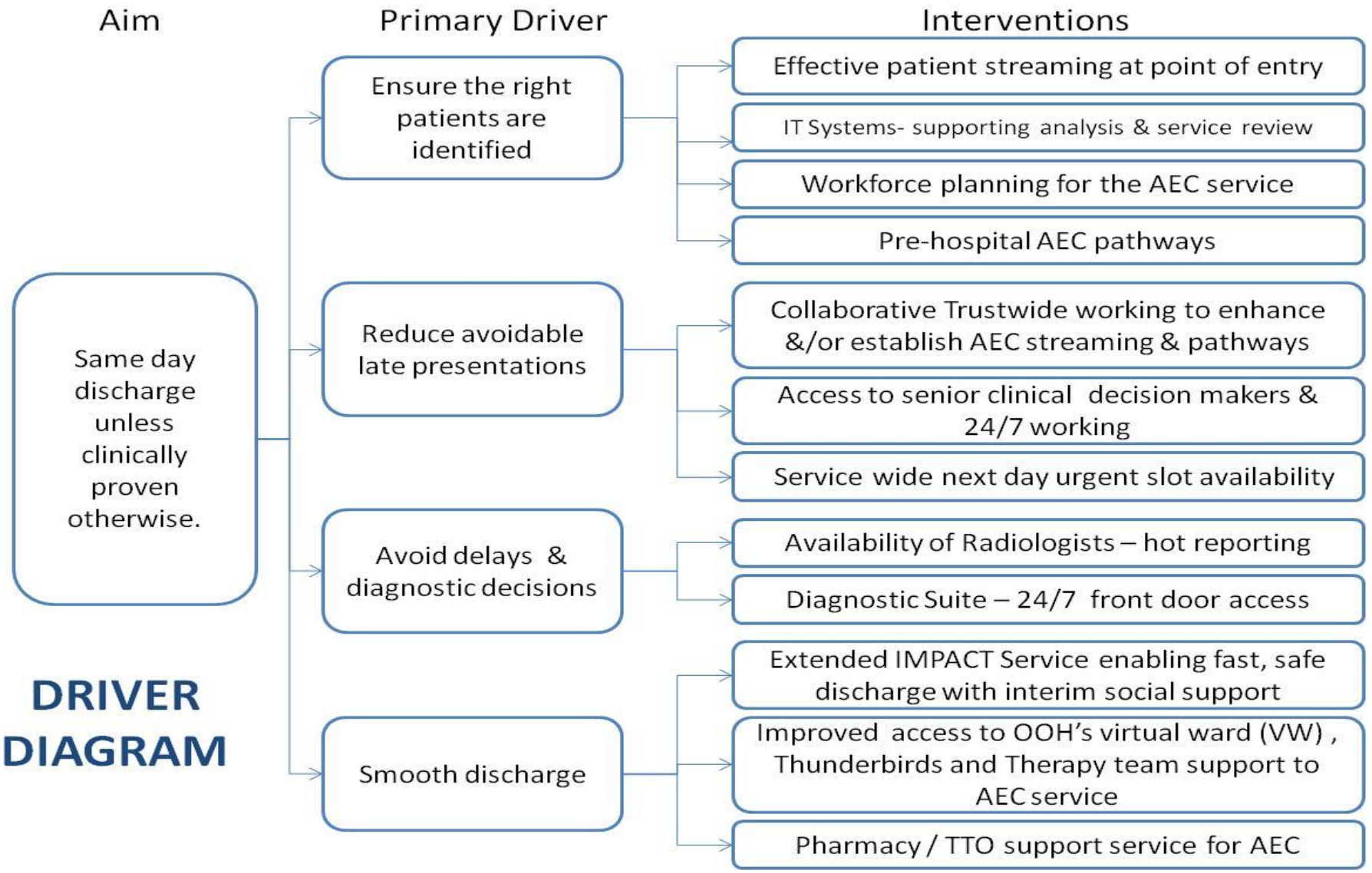
Aim	Driver	Intervention
O1 To prevent ambulatory patients being admitted to hospital overnight O2	Ensure the right patients are identified	Analyse activity daily
		Ensure staff are trained in AEC
		Undertake board rounds in ED P2
		Advertise AEC stream
	Reduce avoidable late presentations	Advertise service operating times
		Create next day urgent slots
	Avoid delays in diagnostics / decisions P1	Rapid access to diagnostics P3
		Immediate access to senior clinician
	Smooth discharge	Easy access to take home meds

O1 Overall admission count
O2 Number of emergency bed days used

P1 time taken for diagnosis / treatment
P2 No of board rounds in ED
P3 time to access senior clinician

B
B1 re-admissions
B2 patient experience

Driver Diagrams - AEC example



Exercise: Create your driver diagram

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Thinking about your project, create a driver diagram and use it to link your aim back to changes which you plan to make – and then think how you will measure them

Drivers Tip - Use the following categories as prompts

- Equipment, People, Processes
- Materials, Communication

Try brainstorming and then cluster your ideas

You have 30 minutes

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Lunch

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Back here for a 13:15 prompt start

We expect **ALL SITES** to finish off their Driver Diagram between now and the next national event on **27th June 2017**

You need to bring them along to display to each other on the wall of the conference room - There is a prize

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Step 3 - Define Measures

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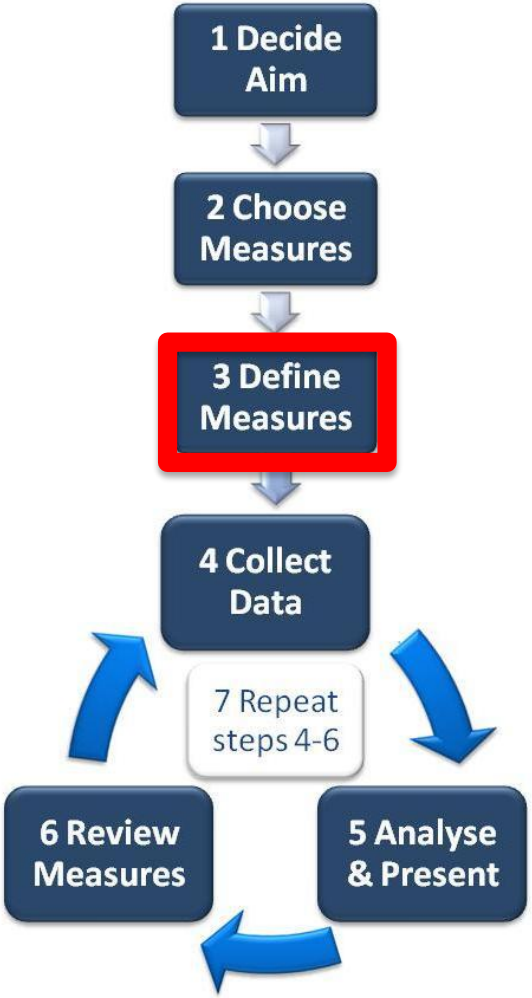

- Each of your project teams will need you to do some work on choosing the best measures which will work best for your circumstances, and show the impact of your changes
- But what should we collect across the SAEC Network?

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Data template for us all to use

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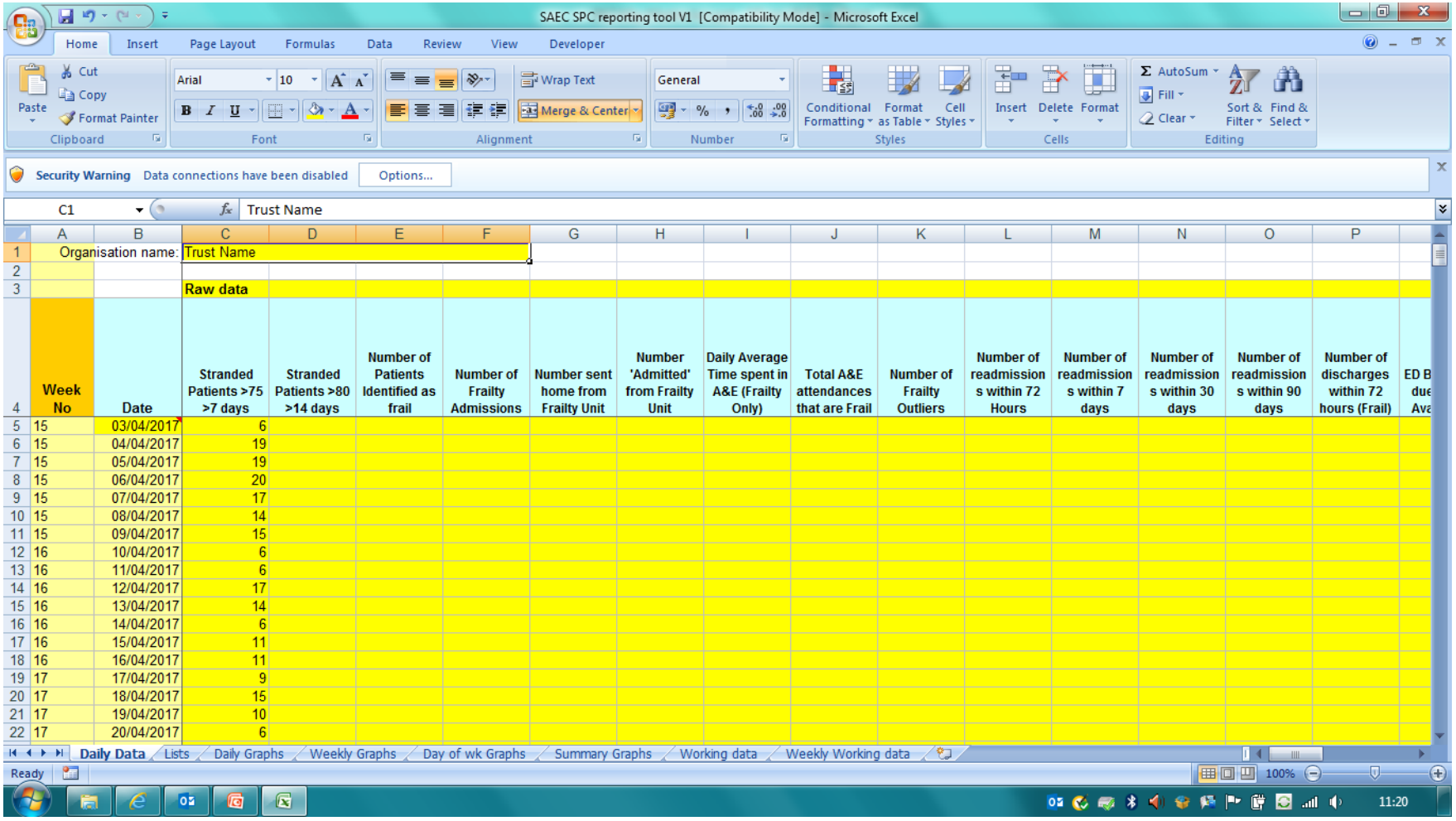

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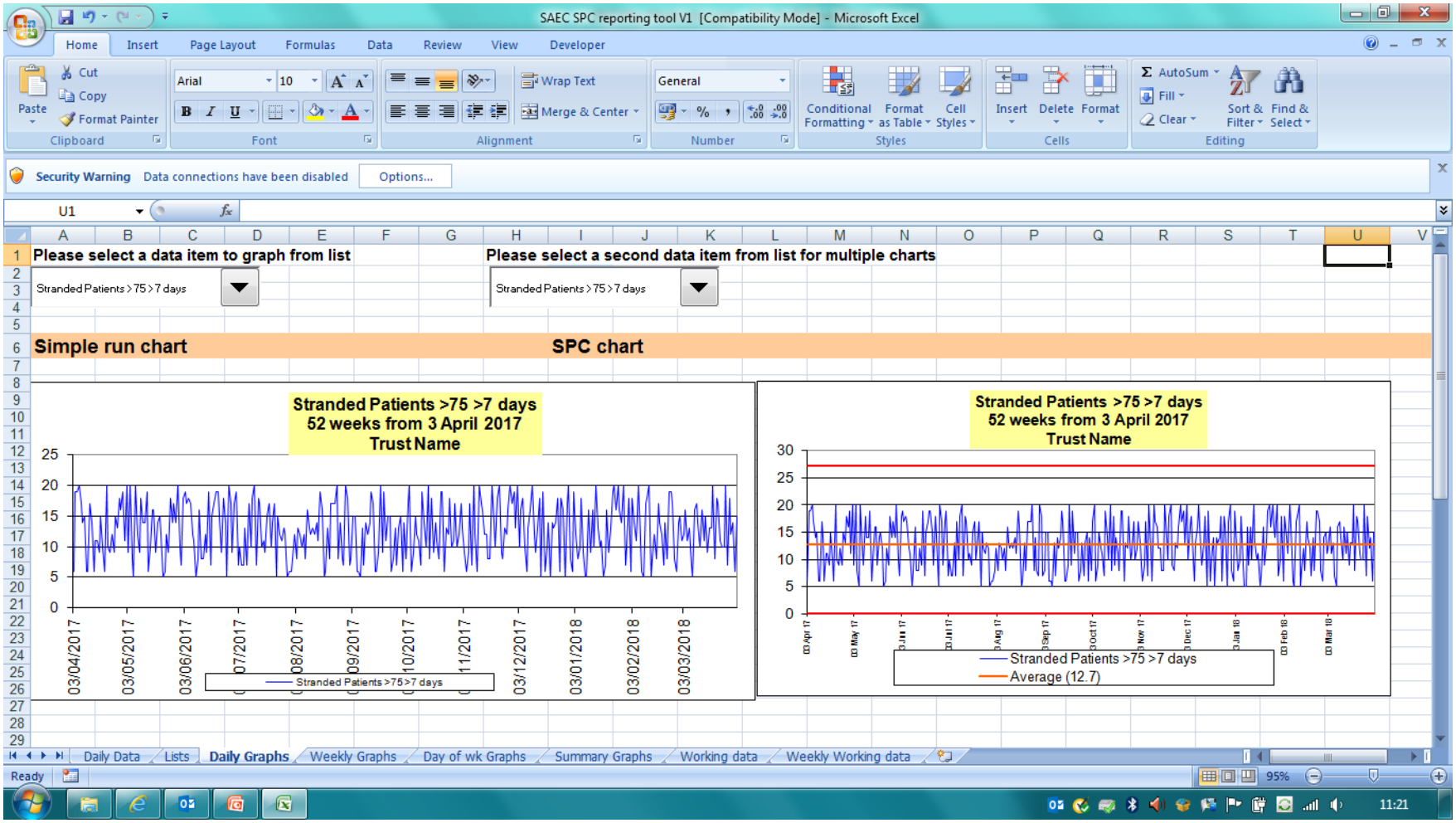

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Exercise: What should we all collect?

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Look at the list provided - write your site's name at the top

Read through and discuss the suggested measures as a team – what will be hard to do? Easy to do?

Tick the ones which you agree are useful for you to collect across the SAEC Network

Add in any other ideas or add in any notes

You have 30 minutes

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Next step

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Any questions? Observations?

We will pick the most common/obvious measures and put them in the template

We will send the template to you and we then need you to keep the daily data running and send it back to us later in the programme – certainly before the third national event in mid October

You can add your **OWN LOCAL ONES** for **YOUR PROJECT**

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Step 3 - Define Measures

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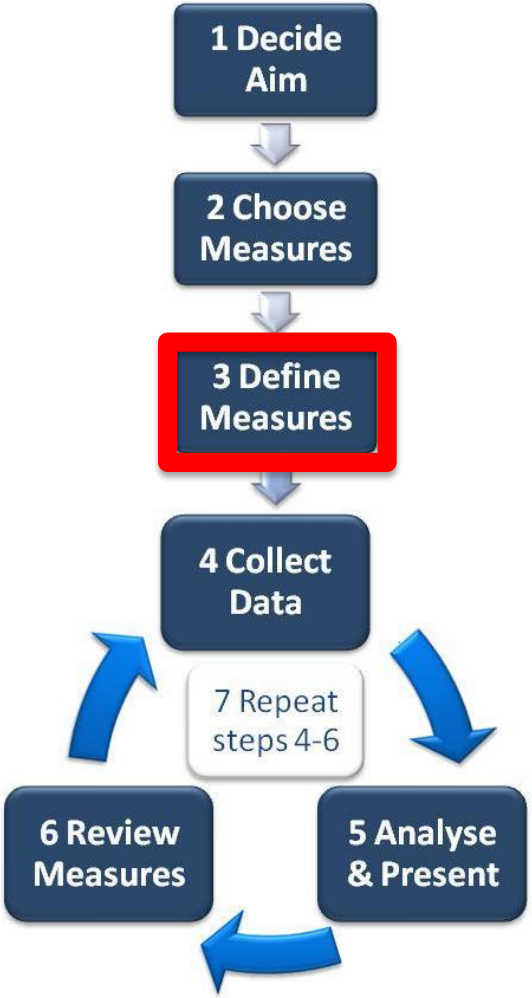

- First operational definition of a description, in quantifiable terms, of what to measure and the steps to follow to measure it consistently

- Is everyone involved in your project measuring the same thing?

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Advice on creating definitions

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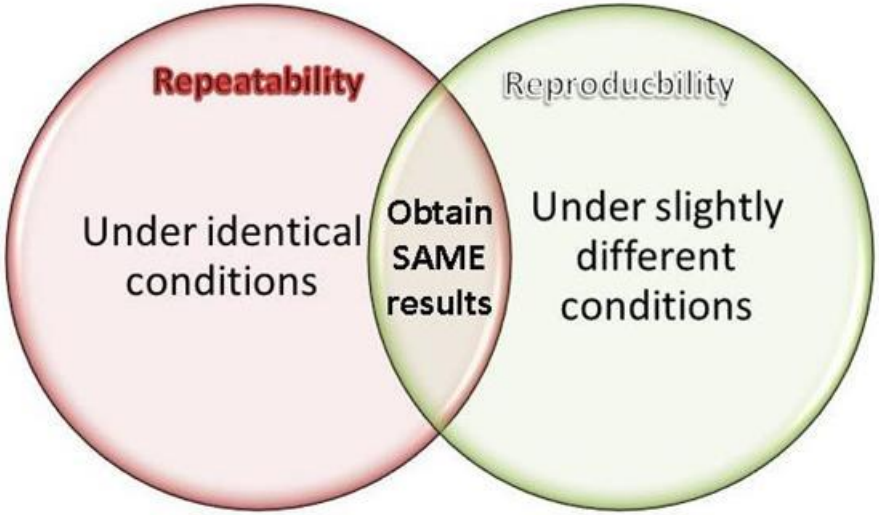

Repeatability

Can you, who created the definition, understand it and repeat it?

Reproducibility

After repeatability, try seeing if the definition that you have created can be reproduced by other people?

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Exercise - Measures Checklist

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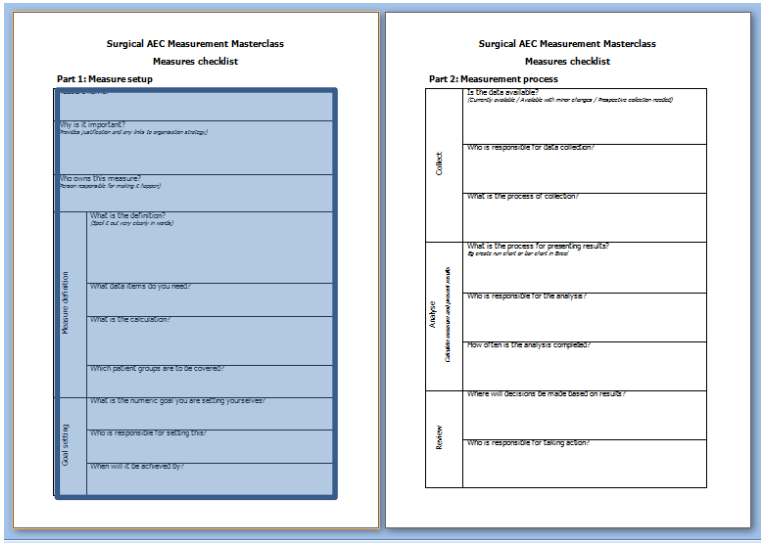
- The Measures Checklist
- Complete part one of the measures checklist form provided - for a measure that you are using or are planning to use
- **You have 10 minutes**



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Step 4 - Collect Data

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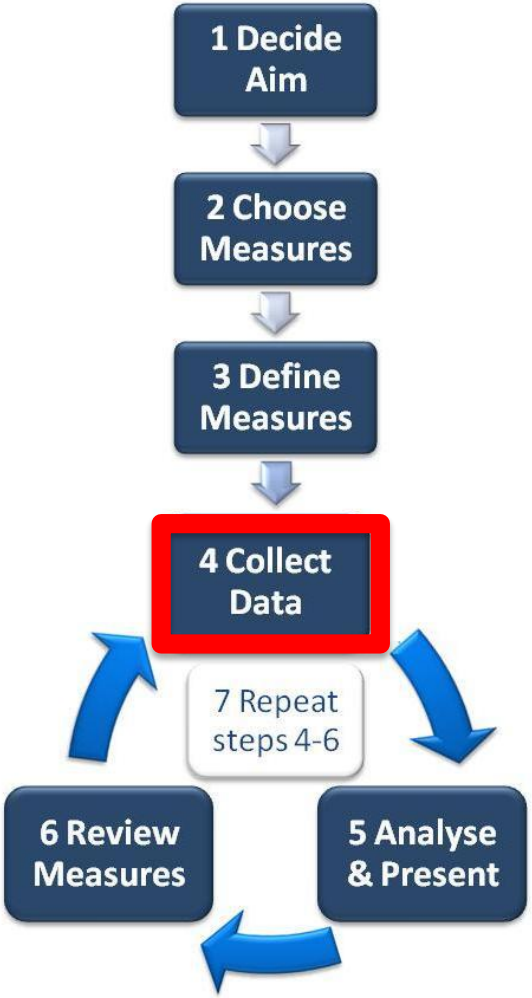

There are some practical considerations - it needs to be quick/easy and not become a job in itself

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Step 4 - Collect Data

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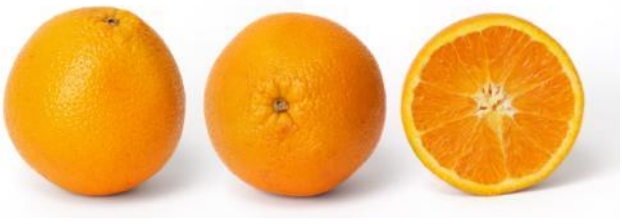
- What to collect - all patients or a sample?
- Who should collect the data - what role(s)?
- When - was the data taken? Real time or historic
- Where - is the data from?
- How - was the data taken? (What process?)
- Units - for example, minutes or hours or days



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Step 5 - Analyse & Present

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Having thoughtfully chosen our measures and carefully collected our data, we now need to present it and analyse it …….. but how? And who to? And how often? At what forum?

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Variation

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Variation is all around us. Every SAEC service, each patient, each improvement and each project is different.

The reality of the world - who has got the average number of children?

How comfy is your chair?

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Statistical Process Control

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There will be a webinar later in the year on SPC

It will cover differentiating between special and common causes of variation

And why it is important to do so

For today, we will just have a little look at some simple concepts around Step 5 “Analyse & Present”

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What does this data tell us?

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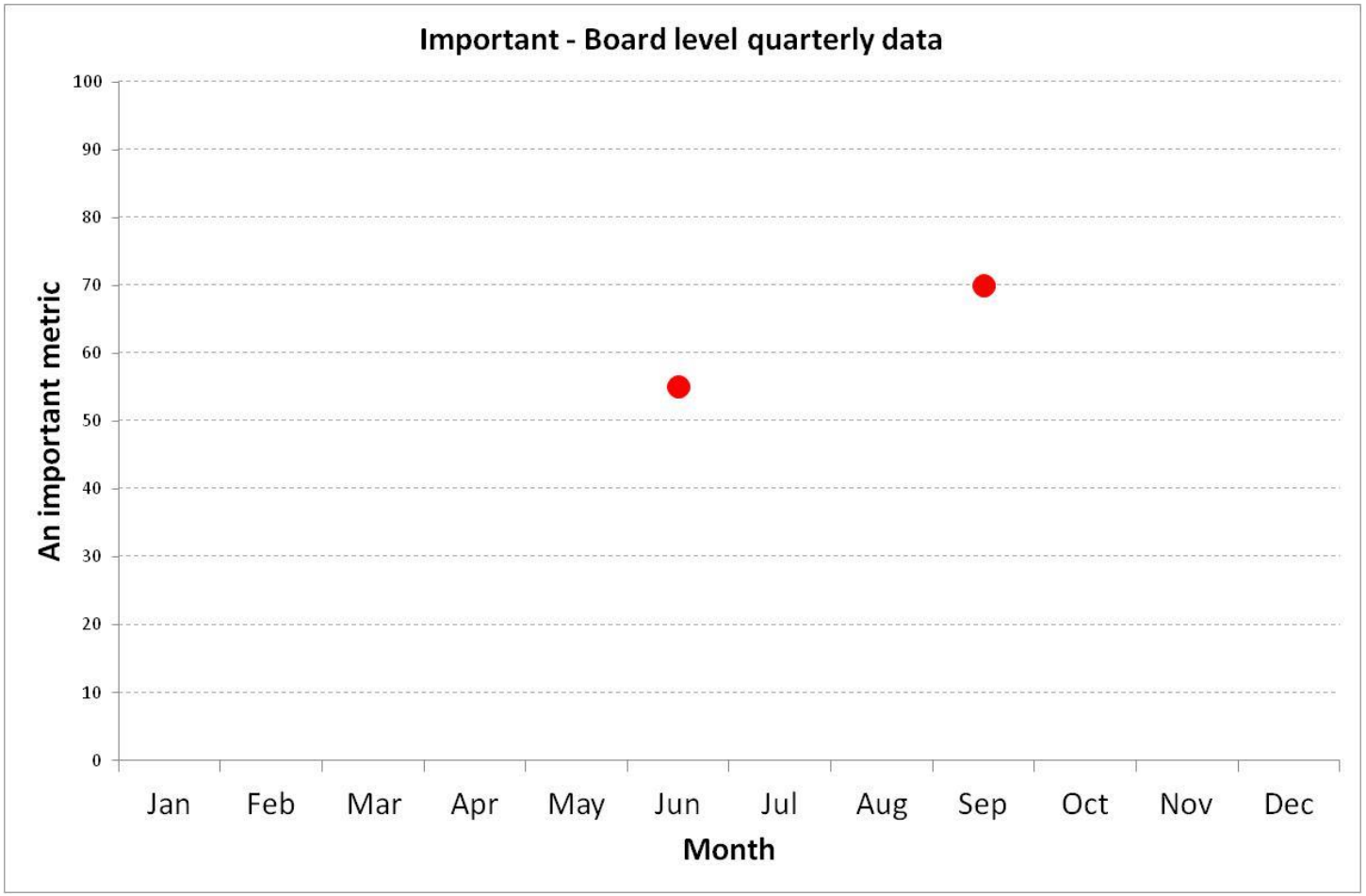

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Are we assuming this?

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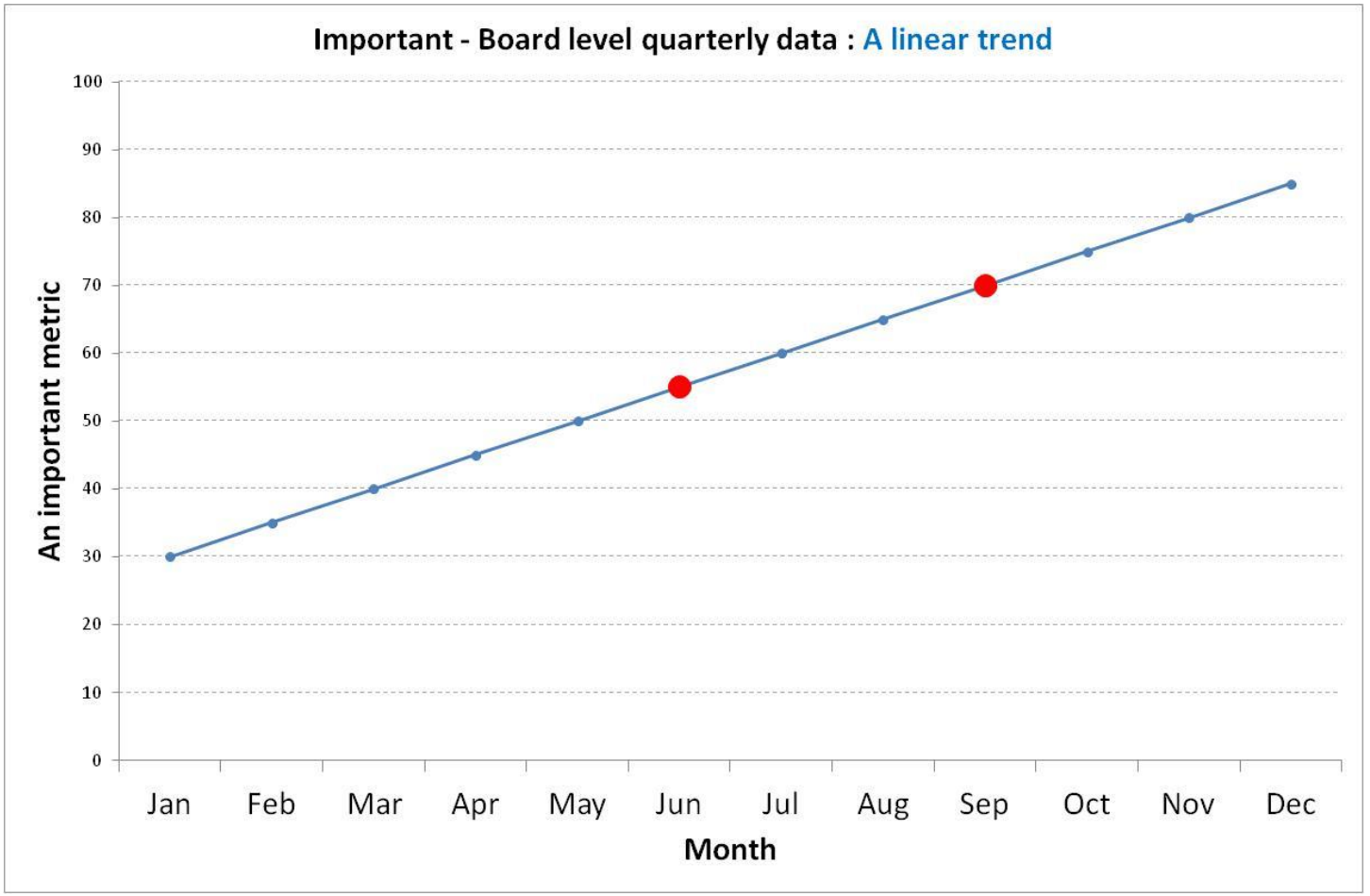

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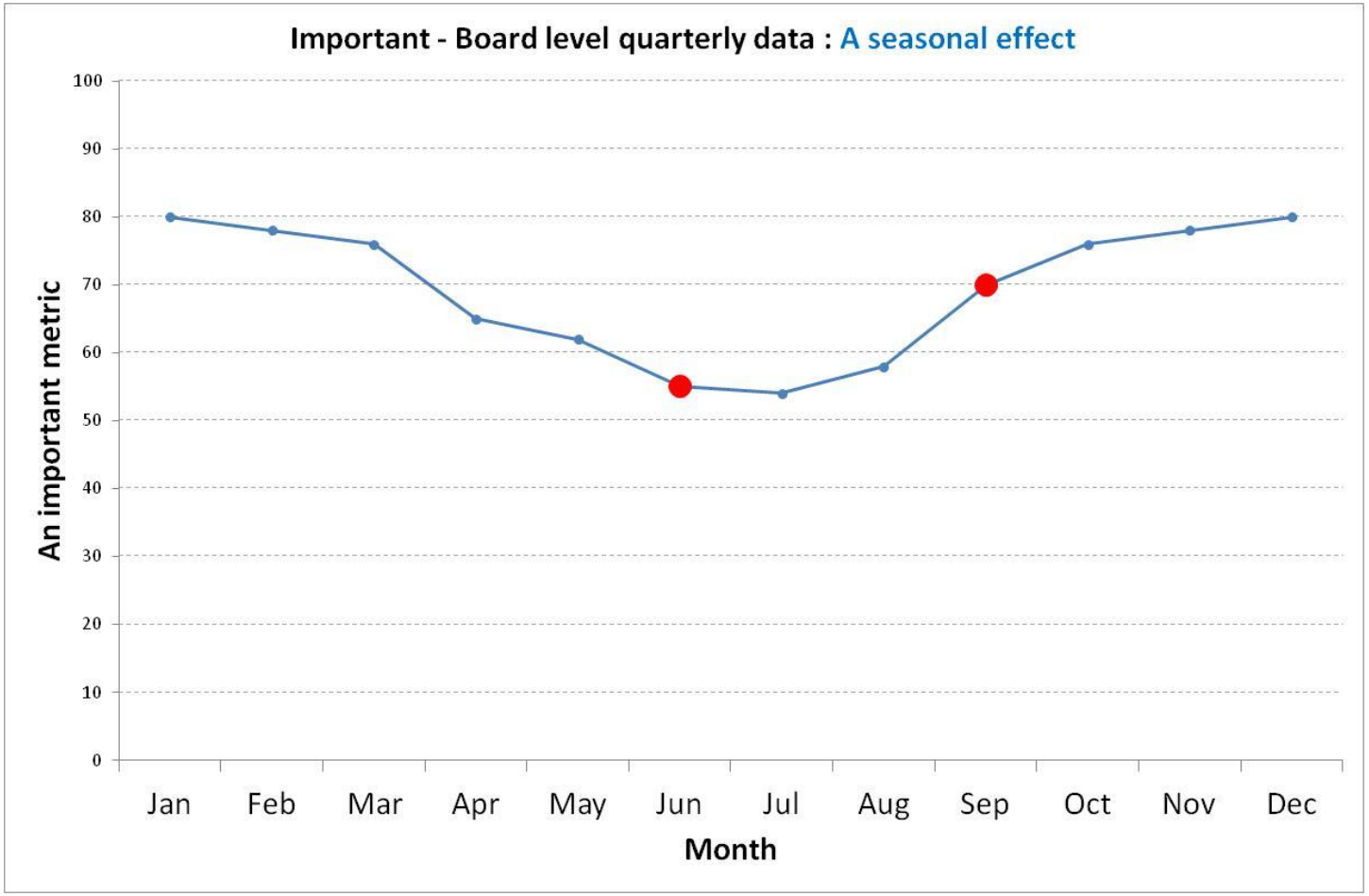

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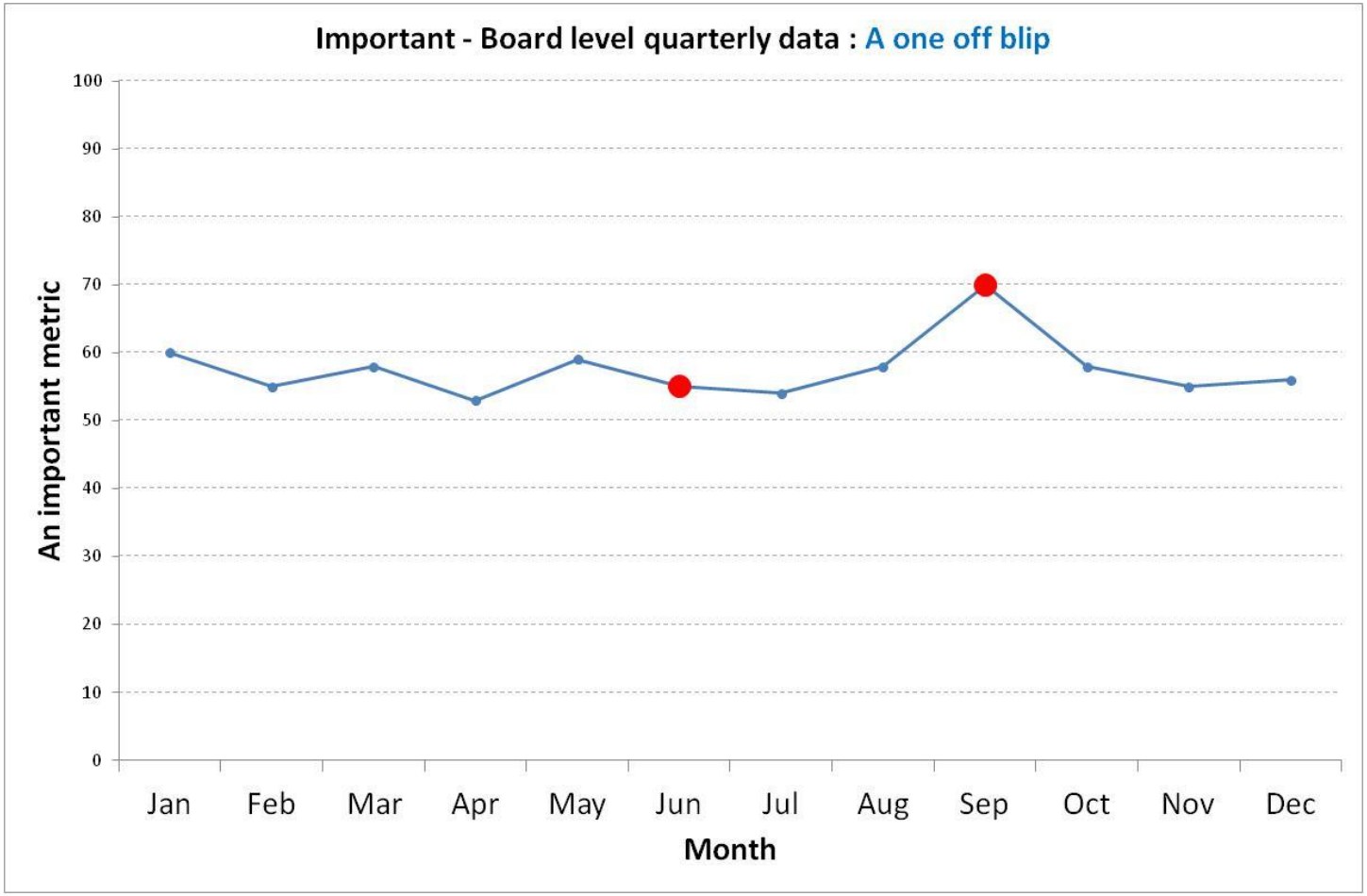

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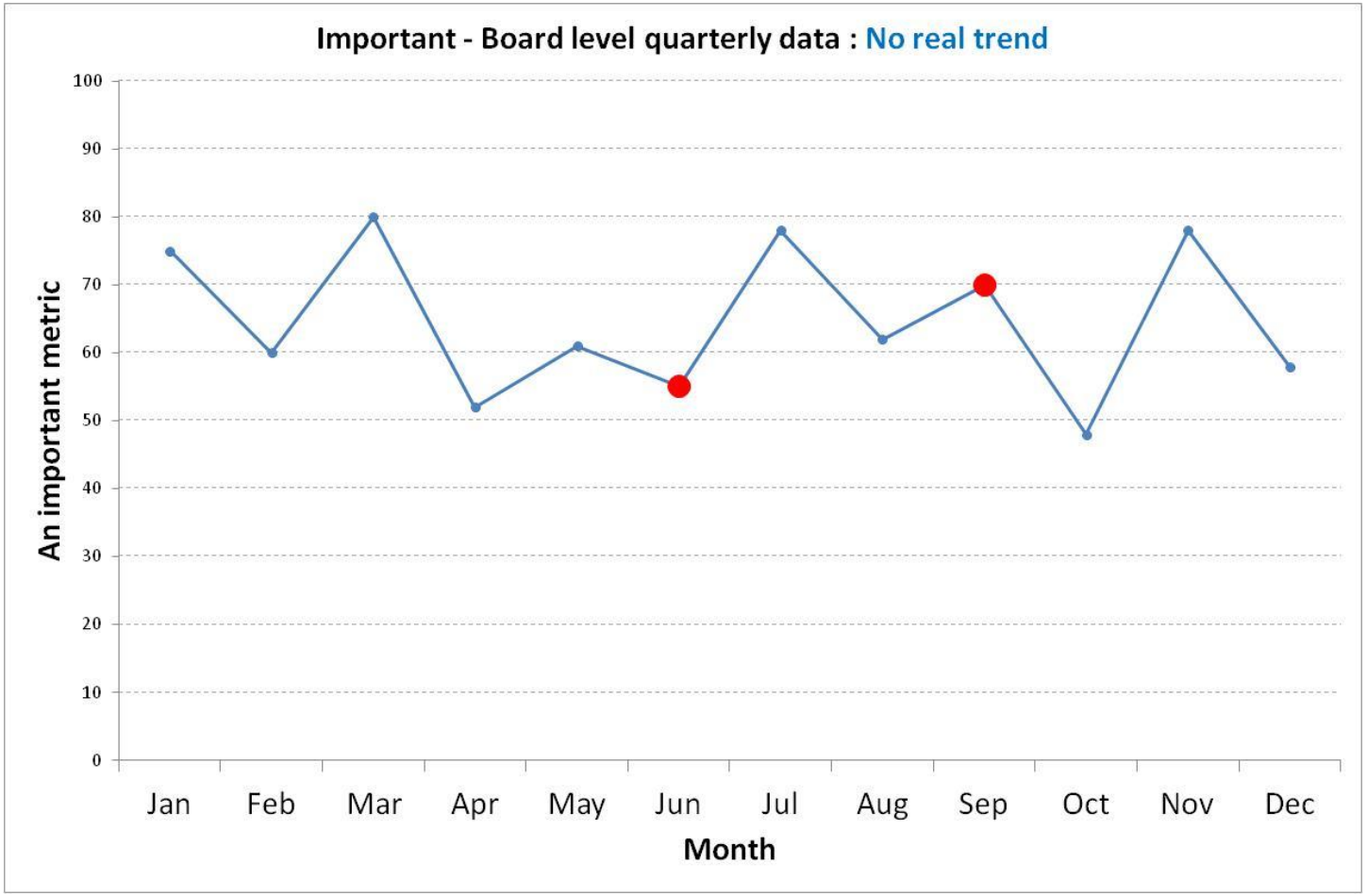

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What do these data tell us?

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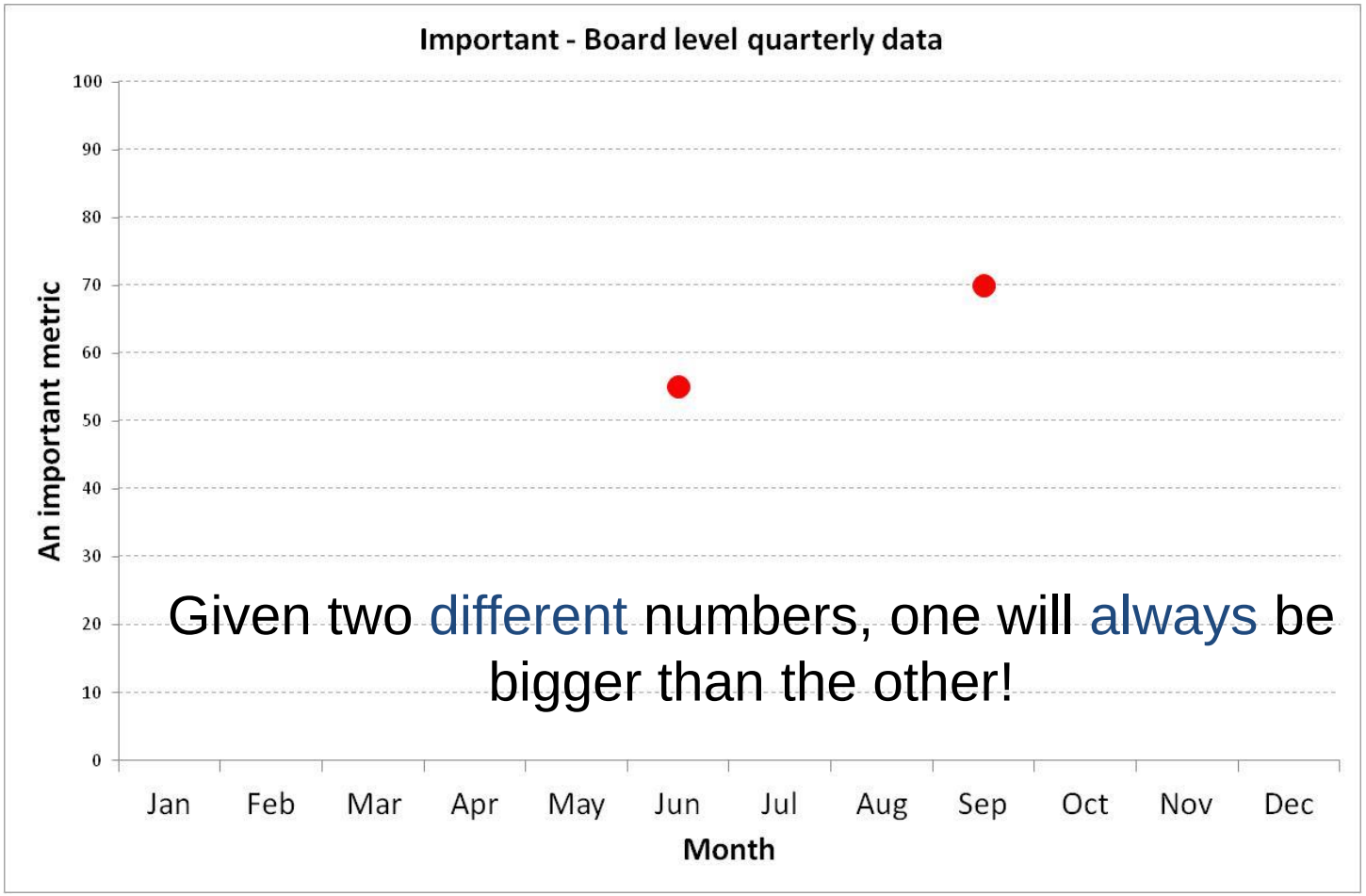

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The average is not enough

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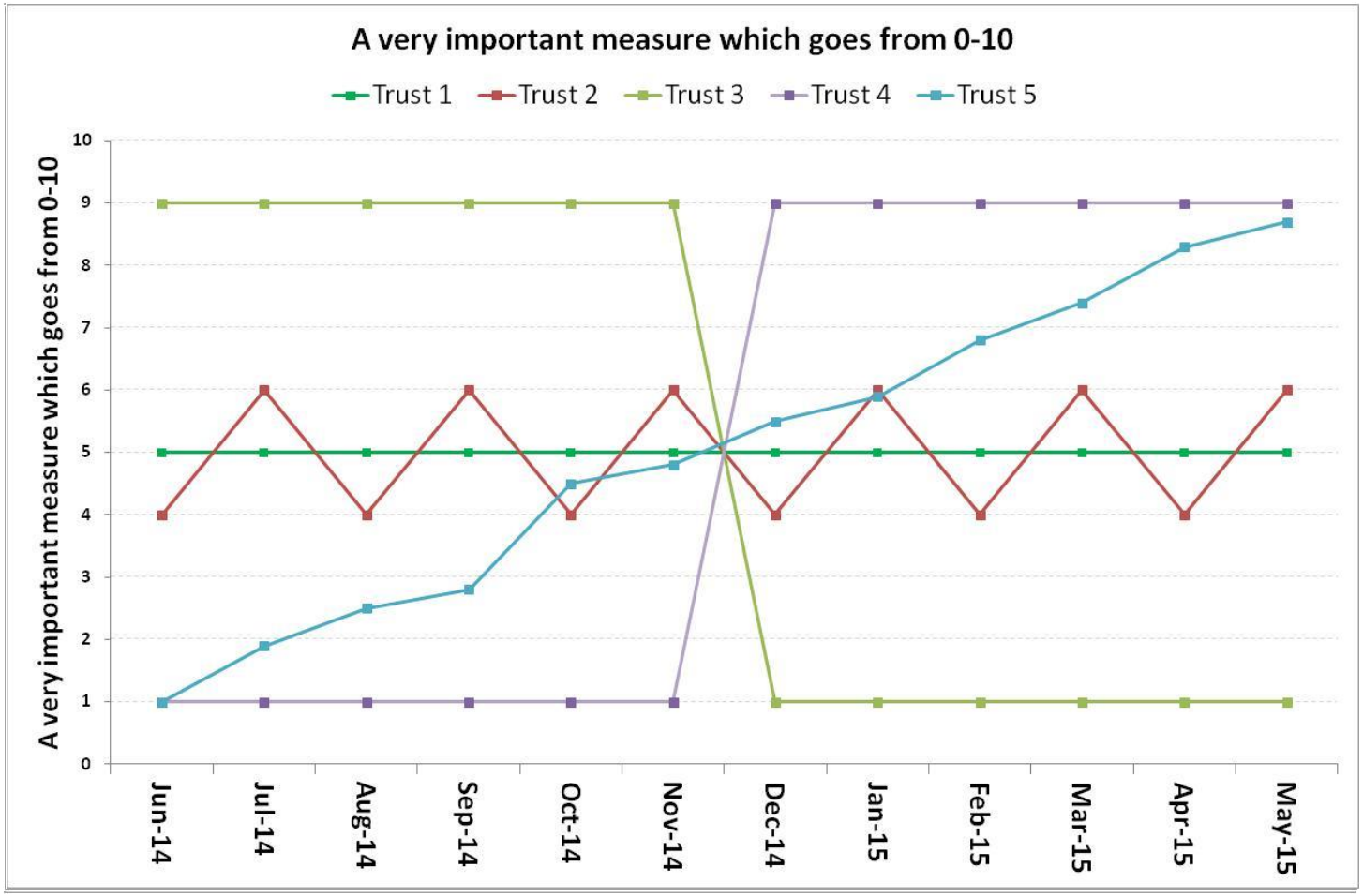

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The Myth of Trends

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Well, I can't see any pattern in this data but I did see Elvis' face in my cornflakes this morning

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Statistical Process Control

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- So - we will be doing an SPC webinar

- And today, we will look at four easy ways to spot real statistically significant patterns in your data - which require no complex maths or statistics!

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Ways to spot special causes

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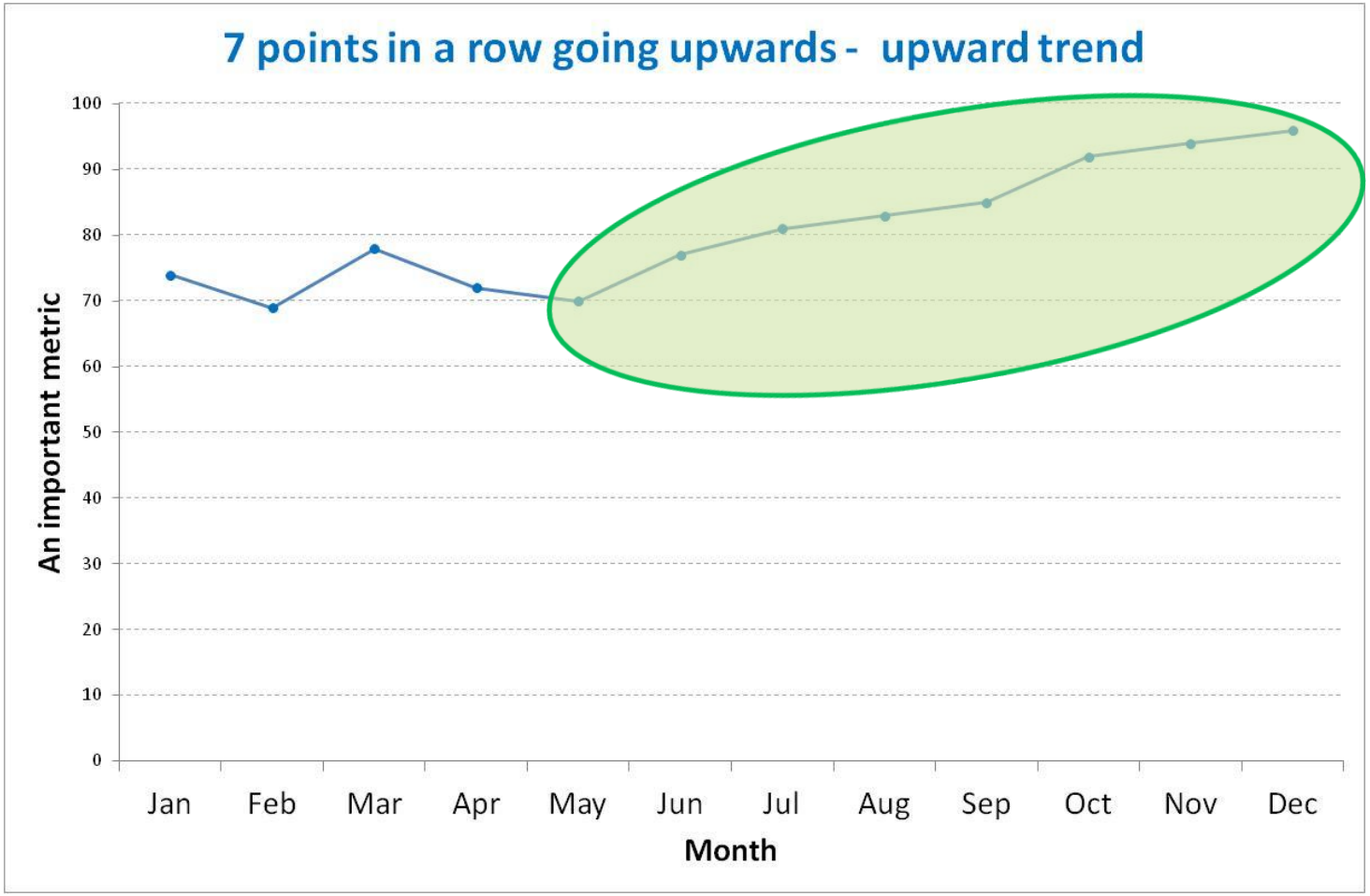

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Ways to spot special causes

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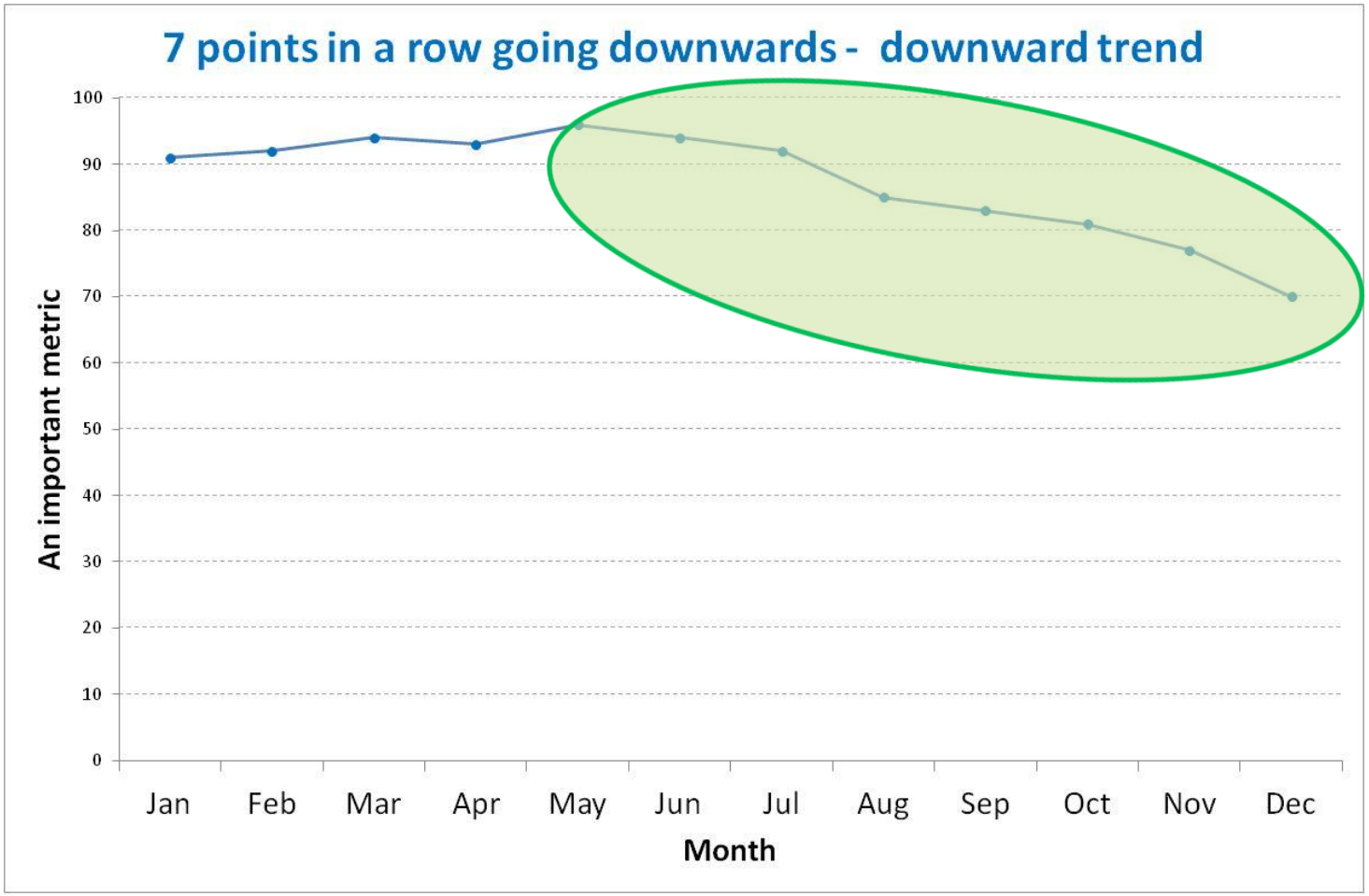

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Ways to spot special causes

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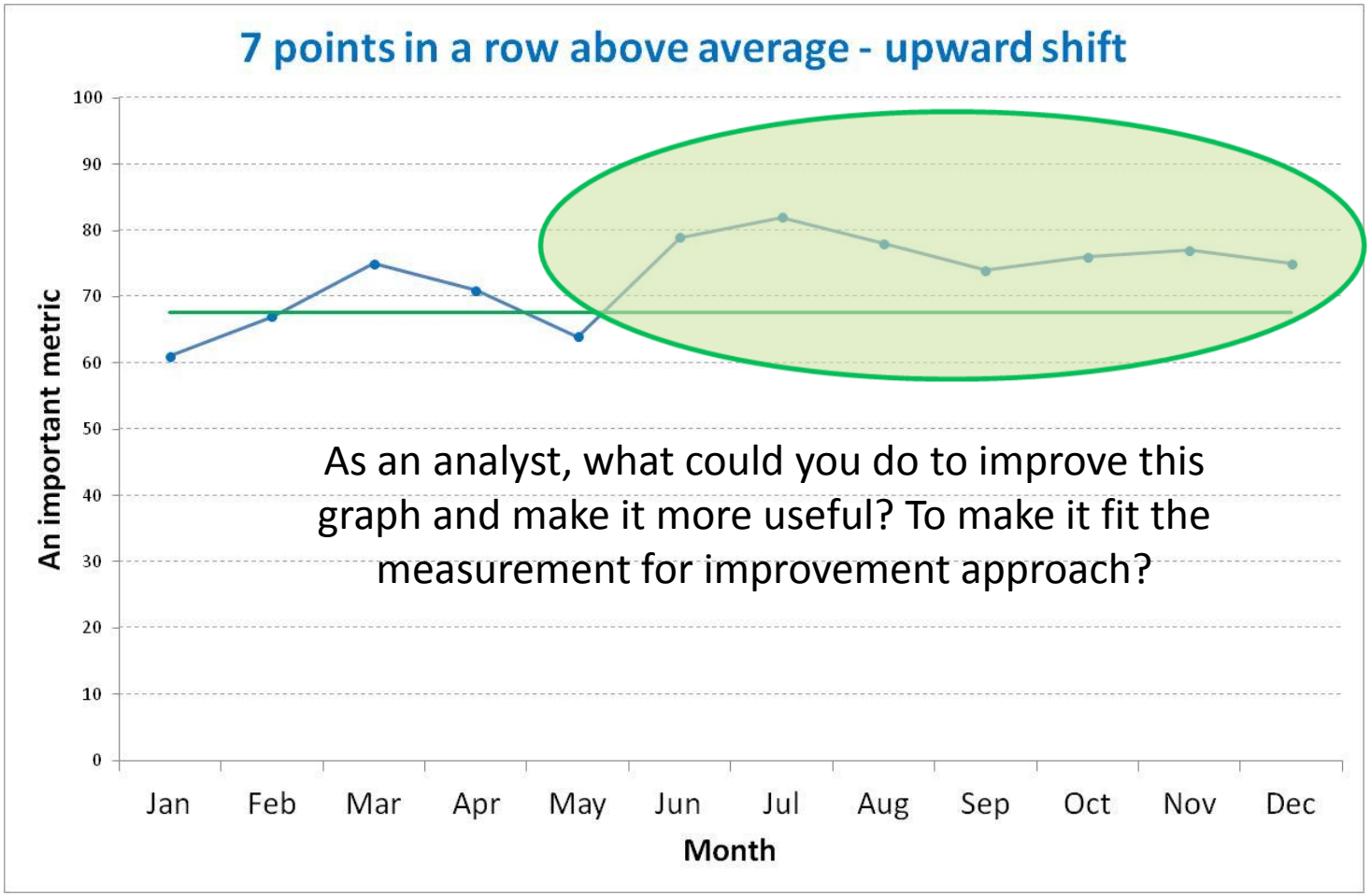

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Ways to spot special causes

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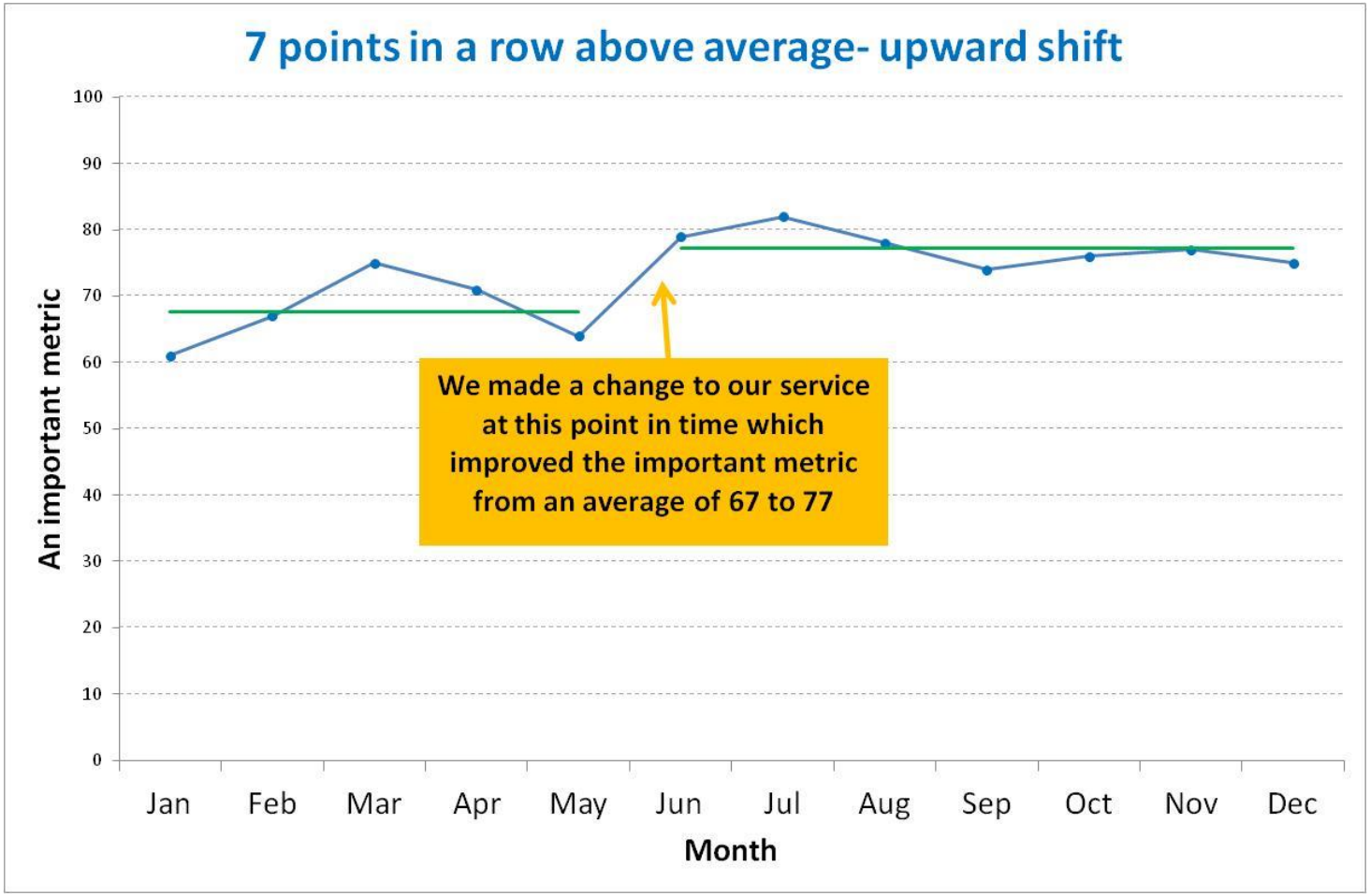

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Ways to spot special causes

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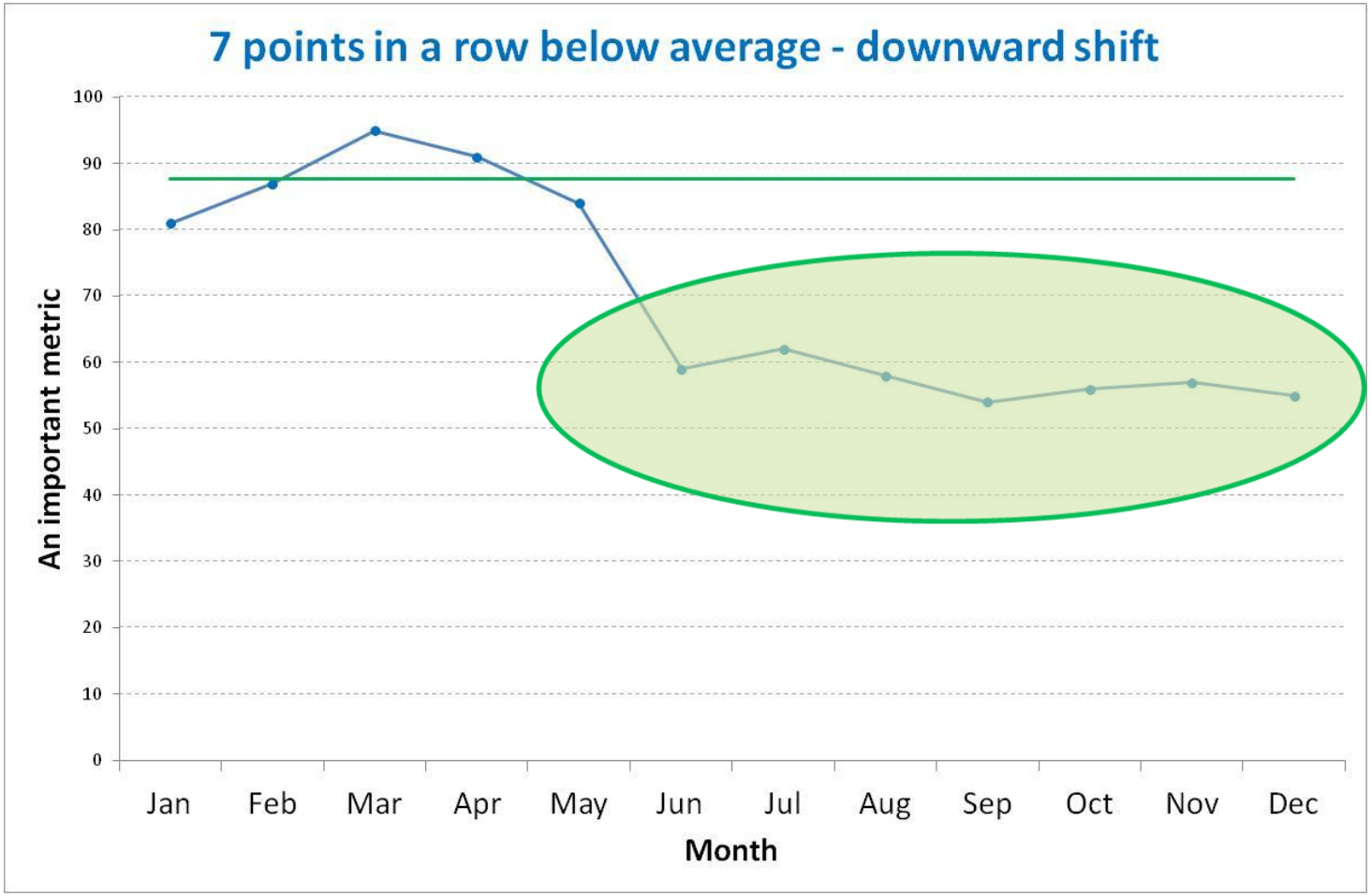

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And you can show impact

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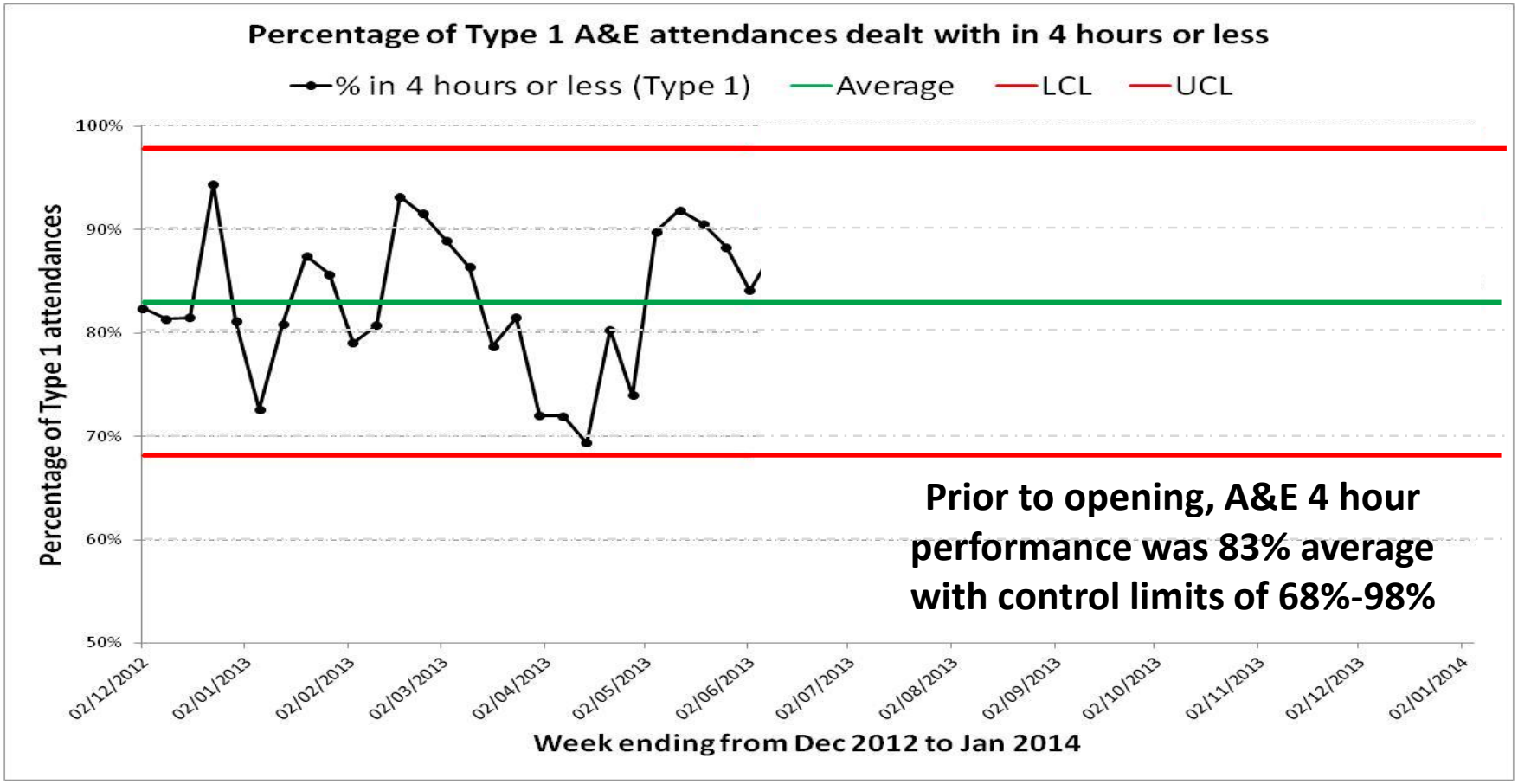

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And you can show impact

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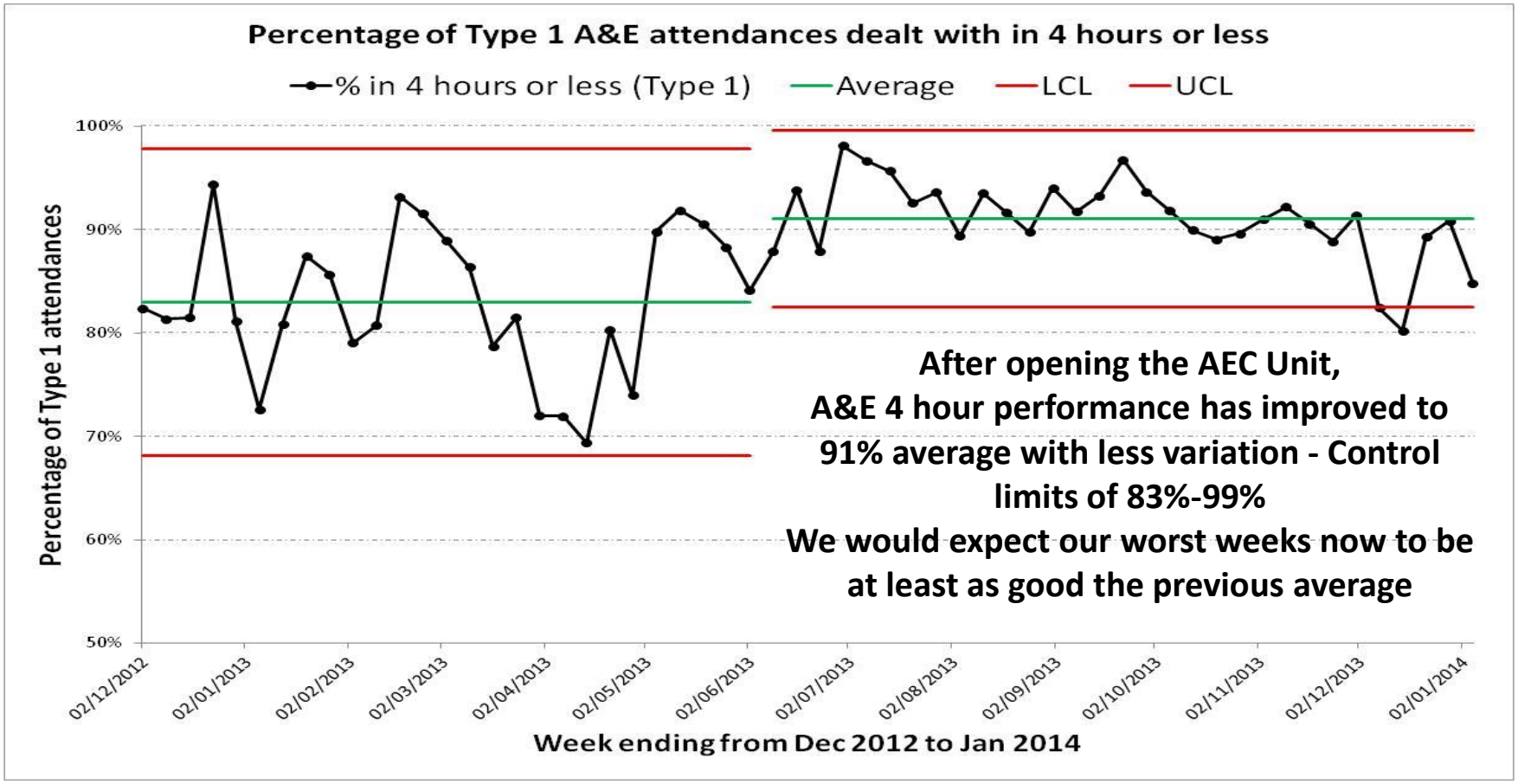

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A chance for you to shine

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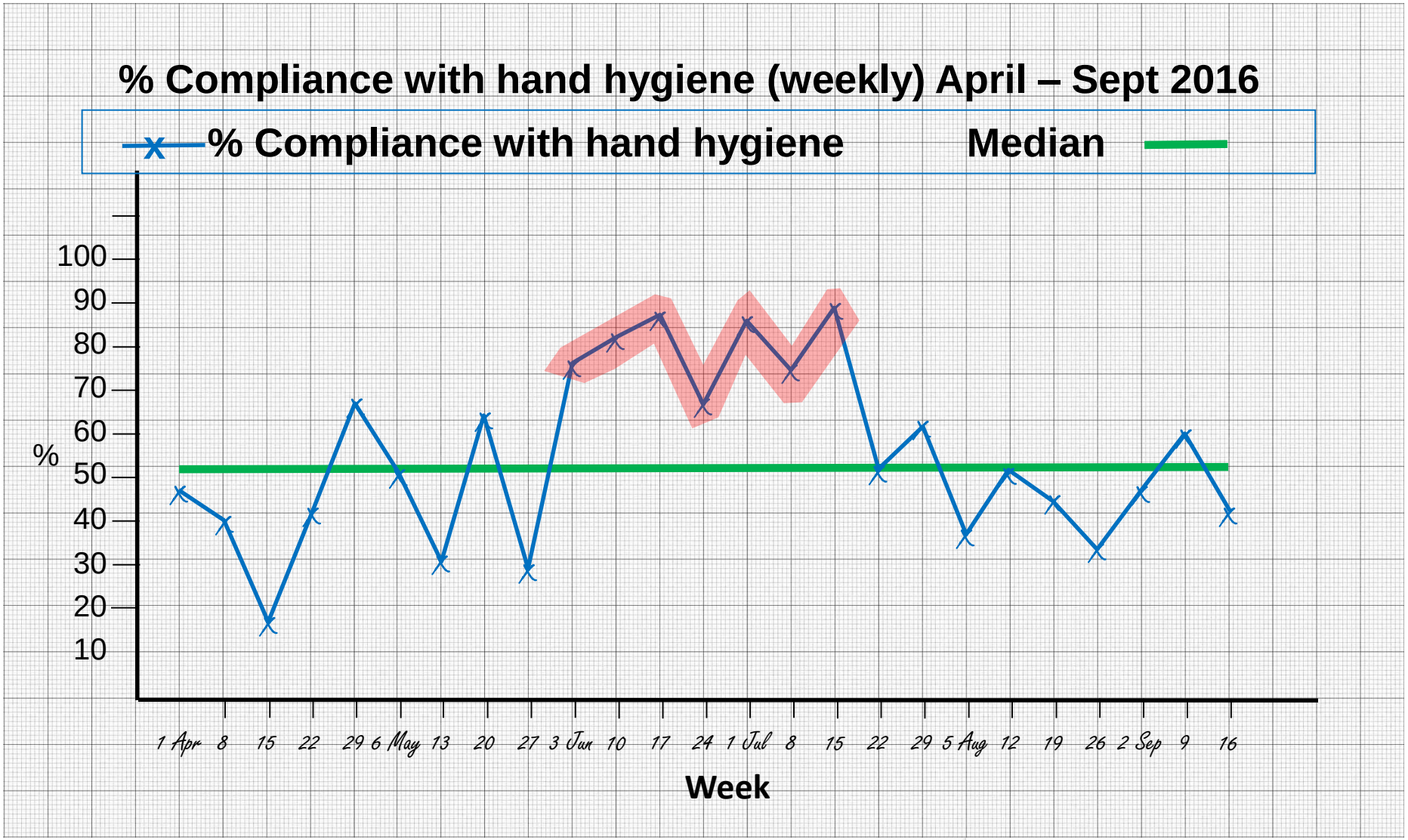

There are more rules...

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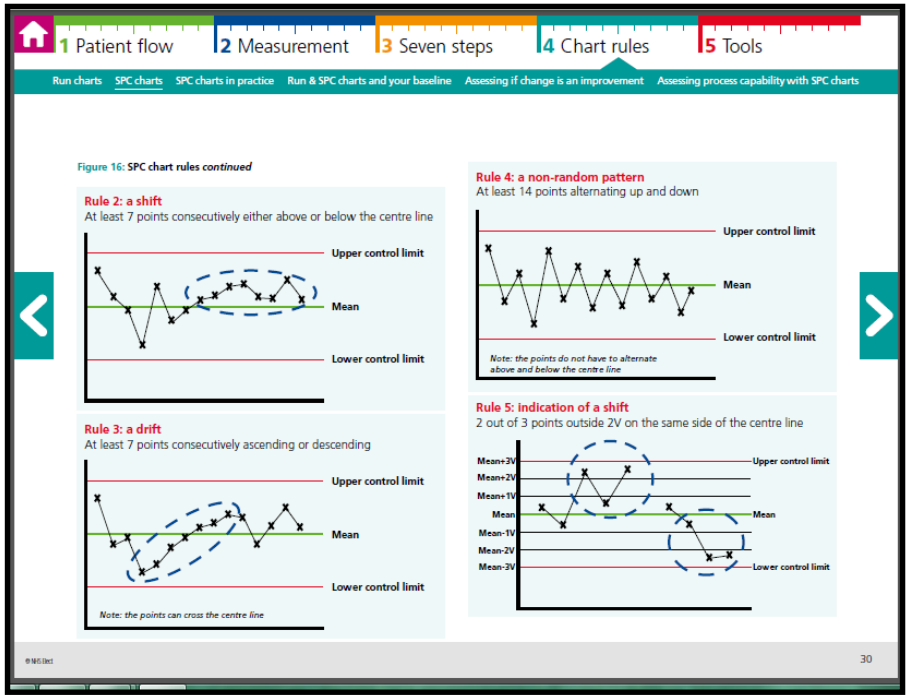
There are many rules to interpret SPC charts and the power of using specialist software is that these rules are flagged for you so you don't need to remember them.

The NHS Elect Guide to Measurement for Improvement lists more than we cover today - so get yourself a copy from the website



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Step 6 - Review Measures

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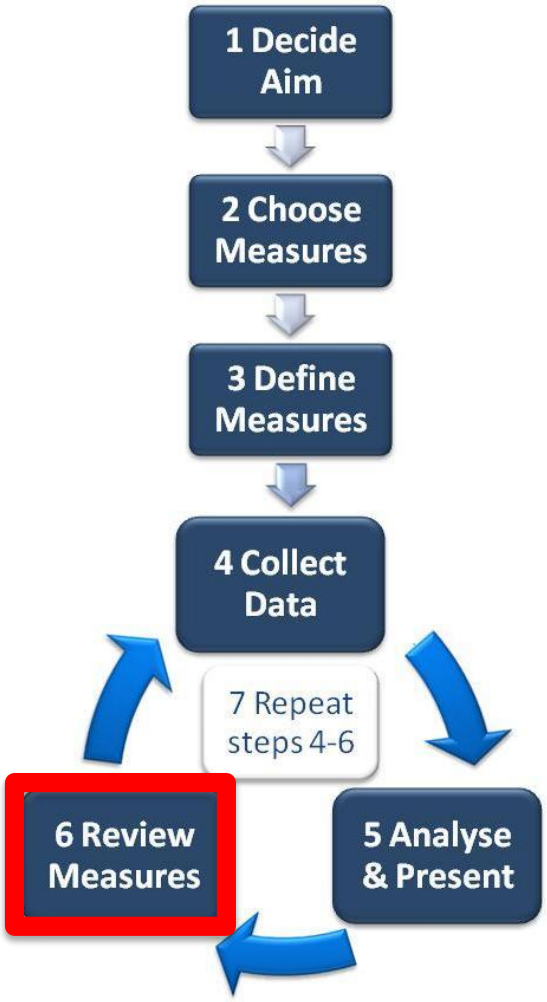

How, when and where you review your measures is another takeaway challenge from today

How a waste of time collecting and analysing your data if you don't take action on the results

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And finally - Step 7

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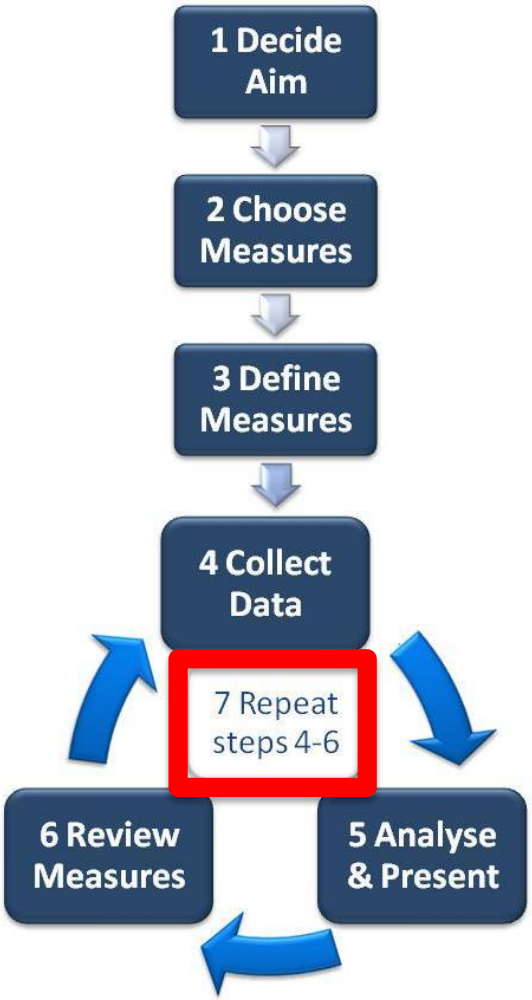

You may not get it right first time!

You may need several iterative attempts through steps 4, 5 and 6

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Exercise - Measures Checklist

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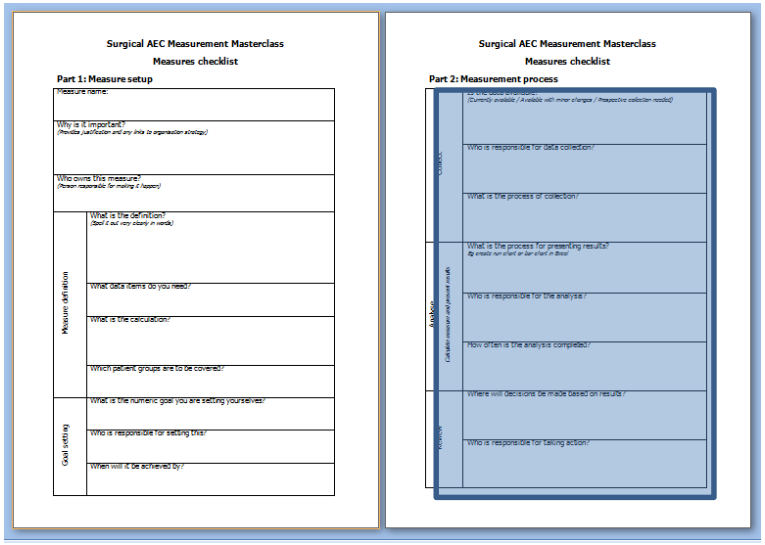
- The Measures Checklist
- Complete part two of the measures checklist
- form provided - for a measure that you are using or are planning to use
- **You have 10 minutes**



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AEC Measurement Team

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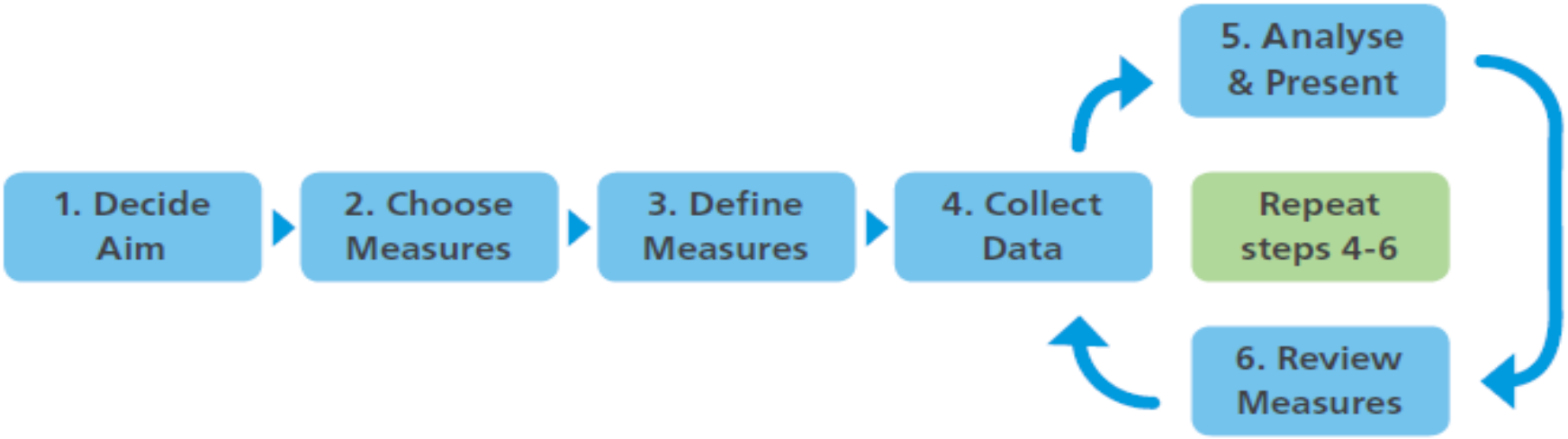
Using it's experience of working alongside every site in the AEC Network, the AEC Measurement Team can offer help and advice on every step of your measurement journey - working alongside the programme team to support project leads to use data effectively in their project



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Advice and help which we can offer

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- **Support to select a balanced set of measures which reflect your aim and that will enable you to monitor progress and demonstrate the impact of your improvement work**

- **Sorting out the details of what data you will need and how to ensure that it is collected consistently**

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Advice and help which we can offer

Ambulatory Emergency Care Network

- **The best way to present your data including Statistical Process Control**
- **Some simple but powerful and statistically robust rules for analysing your data**
- **A critical friend to help review what your data is telling you and how you can use that information to drive improvement**

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Data template

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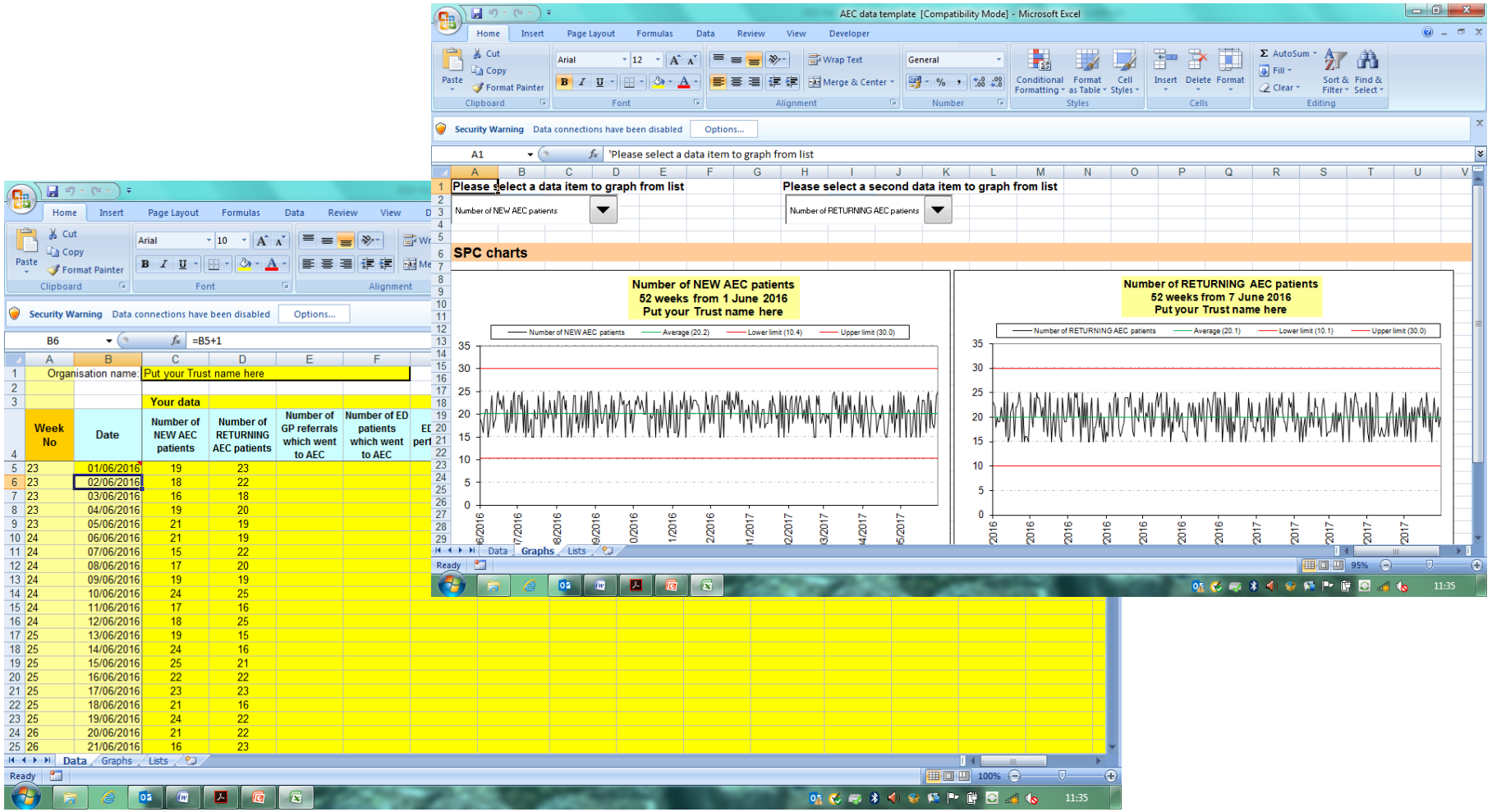

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Contact details

Ambulatory Emergency Care Network

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- **Andy Mitchell**
- **Andyataec@nhselect.org.uk**

- **Carolyn Robertson**
- **CarolynatAEC@nhselect.org.uk**

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Your homework - Part 1

Ambulatory Emergency Care Network

Preparation for the national event in June 2017

We want you to bring a poster map based on the BADs AEC booklet -showing your hospital's current emergency surgery flows for a year. Look on the website for some good examples from elsewhere

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Your homework - Part 2

Ambulatory Emergency Care Network

Preparation for the national event in June 2017

We also want you to bring along a completed driver diagram with a list of the measures which you plan to use

These will need to be displayed on your 'bragging board' at the next event so that everyone can see them

There is a prize for the best flow diagram/driver diagram

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Feedback

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Things to think about

- What have you learned from today?
- How do you plan to use it back in the work place?
- How will you cascade your knowledge to others in your team so that they benefit too?
- What is do you need to go and do

Feedback forms

- 10 minutes for completion

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Ambulatory Emergency Care Network

Measurement for Improvement

Mike Holmes BSc(Hons) FSS

sam

The Royal College of Emergency Medicine

Royal College of Nursing

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