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improvement foundation

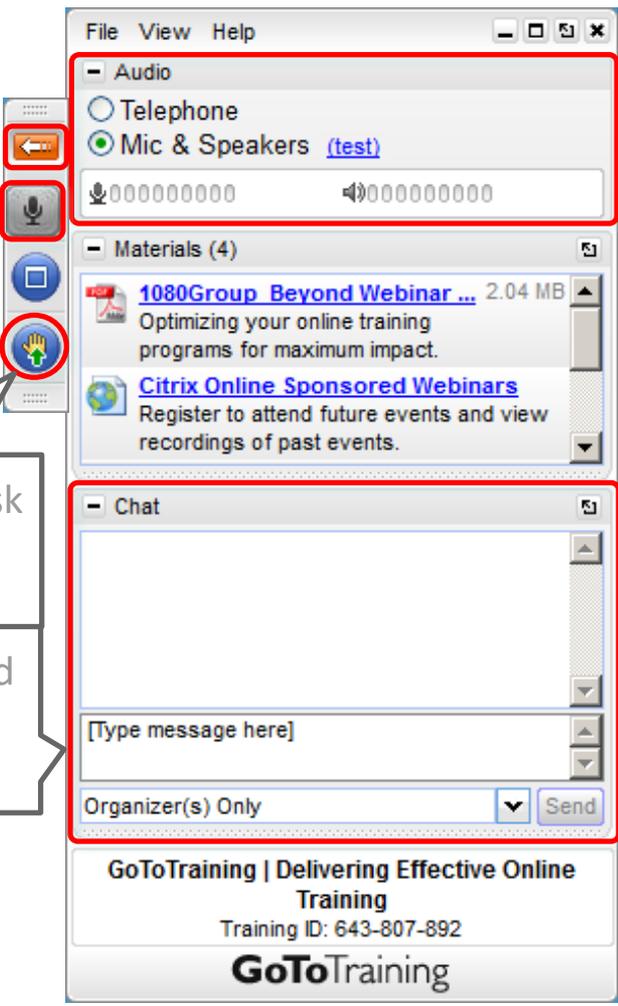
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# The Model for Improvement – an Introduction

Melissa Williams

# Go to training

Open and hide your control panel



Join audio:

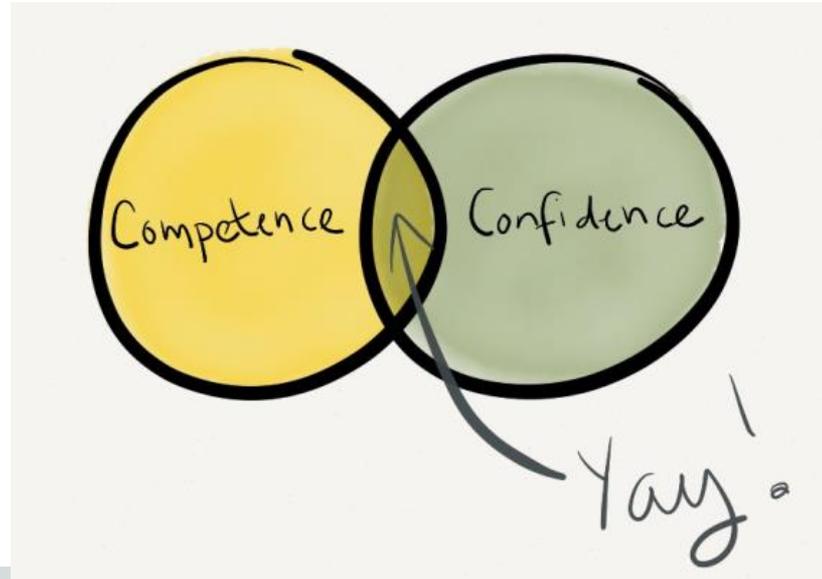
- Choose "Mic & Speakers" to use VoIP or you can
- Choose "Telephone" and dial using the information provided

Raise your hand to ask a question  
or

Submit questions and comments via the Chat panel

## Learning Outcomes

- Describe the use and application of the Model for Improvement and explain the related PDSA cycles
- Discuss the application of each part of the Model for Improvement with a specific example
- Explain how to apply the Model for Improvement in your practice to your quality improvement objectives



# Making changes



Imagine that a health service is considering making a significant change to a system or process.

What might be the impact of implementing wholesale change without testing?

# What is the Model For Improvement (MFI)?

- A simple tool to test and implement change
- It achieves rapid results by breaking down change into small steps
- It can be used by anyone in any industry

# Why test before implementing?



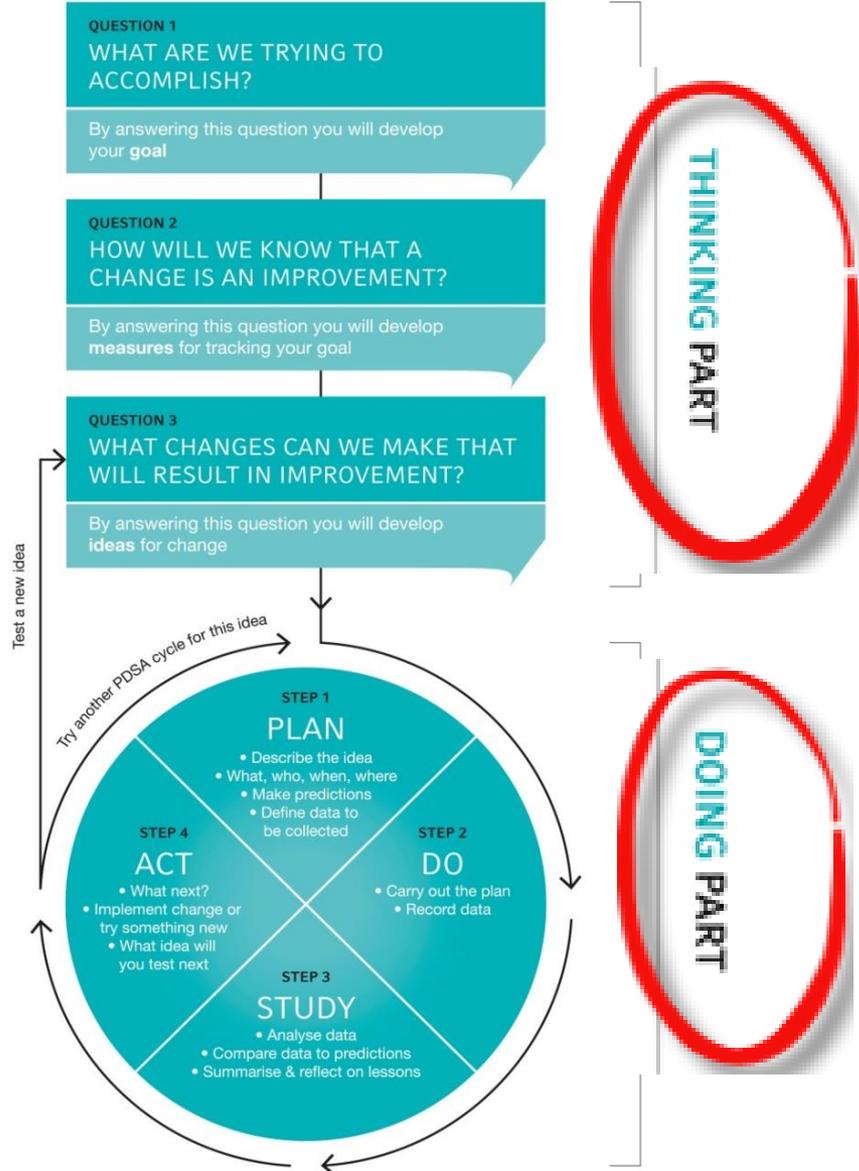
# Real examples of the application of the MFI

- **Reducing hypothermia in infants undergoing MRI scanning.**
  - Decreased the occurrence of hypothermia in NICU infants undergoing MFR scanning from 65% to 18%
- Dalal, P., Porath, J., Parekh, U., Dhar, P., Wang, M., Hulse, M., . . . Mcquillan, P. (2016). A quality improvement project to reduce hypothermia in infants undergoing MRI scanning. *Pediatric Radiology*, 46(8), 1187-1198.
- **Improving Prevention of Mother-To-Child Transmission of HIV and Related Services in Eastern Rwanda**
  - Strengthening Health Systems
  - Developing and Improving Non-targeted Services
  - 77% found using PDSA cycles to be helpful in making improvements, 70% said they would continue to use them

Lim, Y., Kim, J. Y., Rich, M., Stulac, S., Niyonzima, J. B., Fawzi, M. C. S., ... & Farmer, P. E. (2010). Improving prevention of mother-to-child transmission of HIV care and related services in eastern Rwanda. *PLoS medicine*, 7(7), e1000302.

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# MODEL FOR IMPROVEMENT



# The 'thinking' part – the 3 fundamental questions

QUESTION 1

WHAT ARE WE TRYING TO ACCOMPLISH?

By answering this question you will develop your **goal**

QUESTION 2

HOW WILL WE KNOW THAT A CHANGE IS AN IMPROVEMENT?

By answering this question you will develop **measures** for tracking your goal

QUESTION 3

WHAT CHANGES CAN WE MAKE THAT WILL RESULT IN IMPROVEMENT?

By answering this question you will develop **ideas** for change

THINKING PART

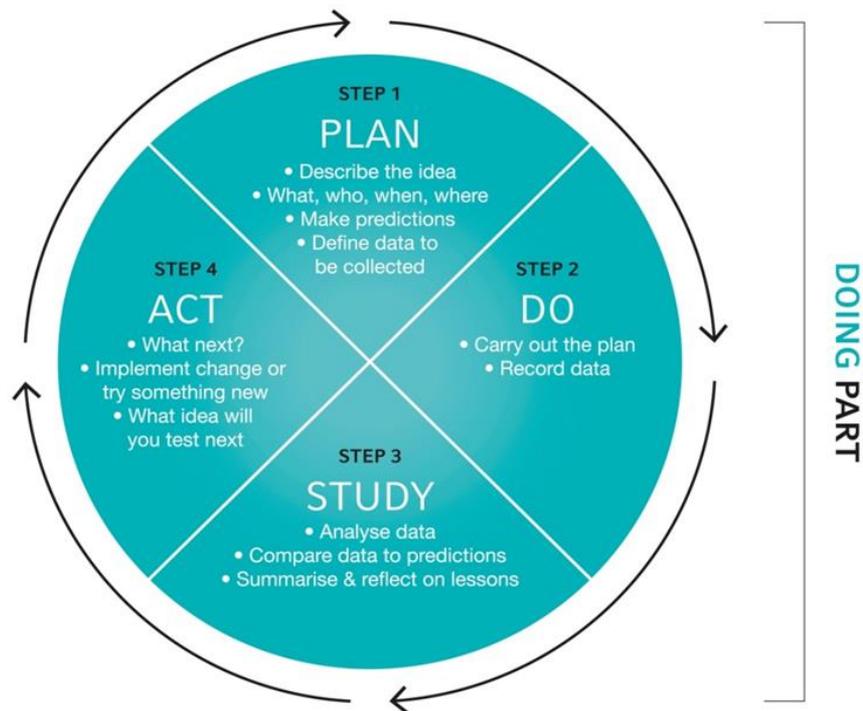
QUESTION 3

WHAT CHANGES CAN WE MAKE THAT WILL RESULT IN IMPROVEMENT?

By answering this question you will develop ideas for change

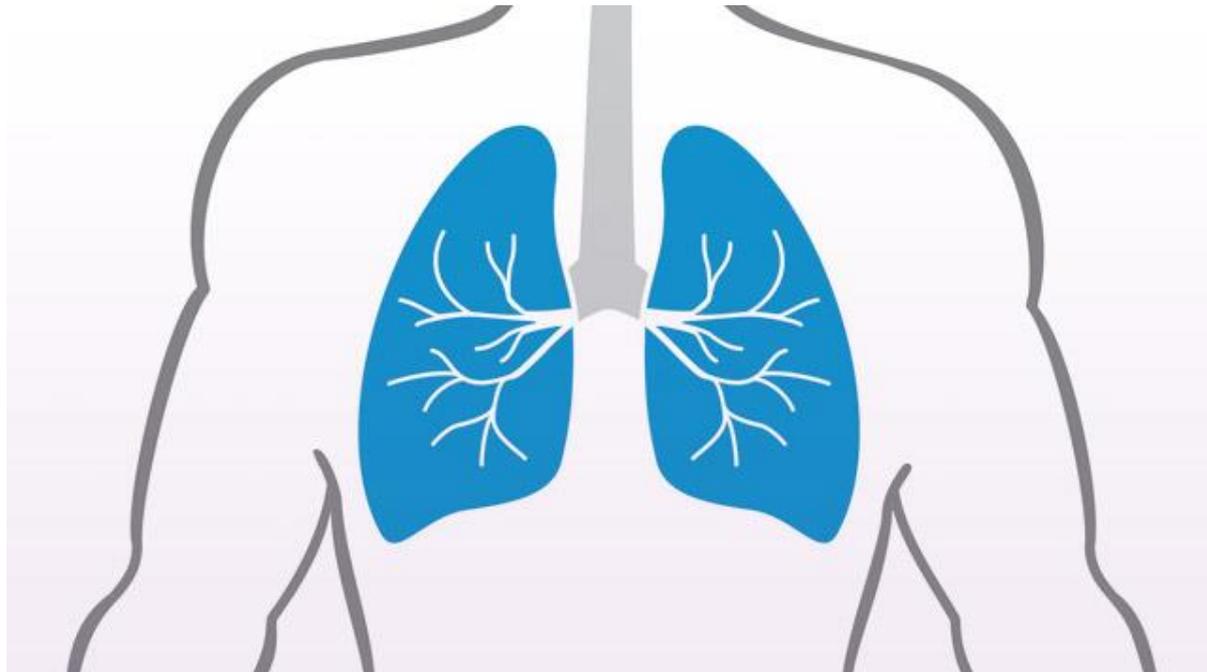


The 'doing' part  
– PDSA cycles



# General Practice example...

## COPD Management



# How does the MFI relate to Chronic Disease management?

## Heavenly Road Surgery

- 4 FTE GPs
- 2 FTE PNs
- 2 FTE Receptionists
- 1 PM
- Approx. 6200 patients
- Suburban area
- Very busy



# The Three Fundamental Questions

## QUESTION 1

WHAT ARE WE TRYING TO ACCOMPLISH?

By answering this question you will develop your **goal**

## QUESTION 2

HOW WILL WE KNOW THAT A CHANGE IS AN IMPROVEMENT?

By answering this question you will develop **measures** for tracking your goal

## QUESTION 3

WHAT CHANGES CAN WE MAKE THAT WILL RESULT IN IMPROVEMENT?

By answering this question you will develop **ideas** for change

THINKING PART

## But first.....

### Define the issue/problem

- Assess relevant data
- Opinions vs. facts?
- Agree on a definition
- Clearly state the problem to be addressed



# Define the Problem:

Low percentage of patients with COPD with a current GPMP

- Who?
- Poor data quality?
- Poor processes and systems in place?
- Lack of awareness raising / opportunistic conversations / endorsement by practice staff?
- Lack of proactive encouragement/recall?
- Lack of Practice Nurse capacity?

## Question 1

# GOAL

### QUESTION 1

WHAT ARE WE TRYING TO  
ACCOMPLISH?

By answering this question you will develop  
your **goal**

# How do you draft a good goal?

Consider the following questions:

- Exactly what are you trying to accomplish?
- Can you assess progress towards meeting your goal?
- Will the team agree this is feasible?
- What is your timeframe?



## A good goal



- Is focused on the system-level of the problem presented
- Includes direction of change (increase or decrease)
- Includes at least one specific characteristic such as magnitude (% change) or time frame

*“The more specific the aim, the more likely the improvement”*  
(Don Berwick)

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## QUESTION 1

# WHAT ARE WE TRYING TO ACCOMPLISH?

# GOAL

By answering this question you will develop your **goal**

### GOAL SETTING

- S SPECIFIC
- M MEASURABLE
- A ATTAINABLE
- R RELEVANT
- T TIME-BOUND

## Heavenly Road Surgery

50% of COPD patients to have a GPMP claimed (within the previous 18 months) by October 2019

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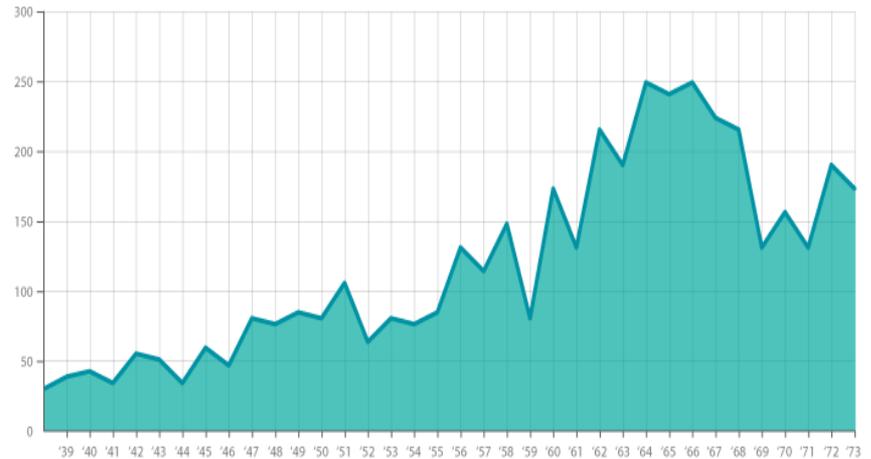
## QUESTION 2

# HOW WILL WE KNOW THAT A CHANGE IS AN IMPROVEMENT?

## MEASURES

By answering this question you will develop **measures** for tracking your goal

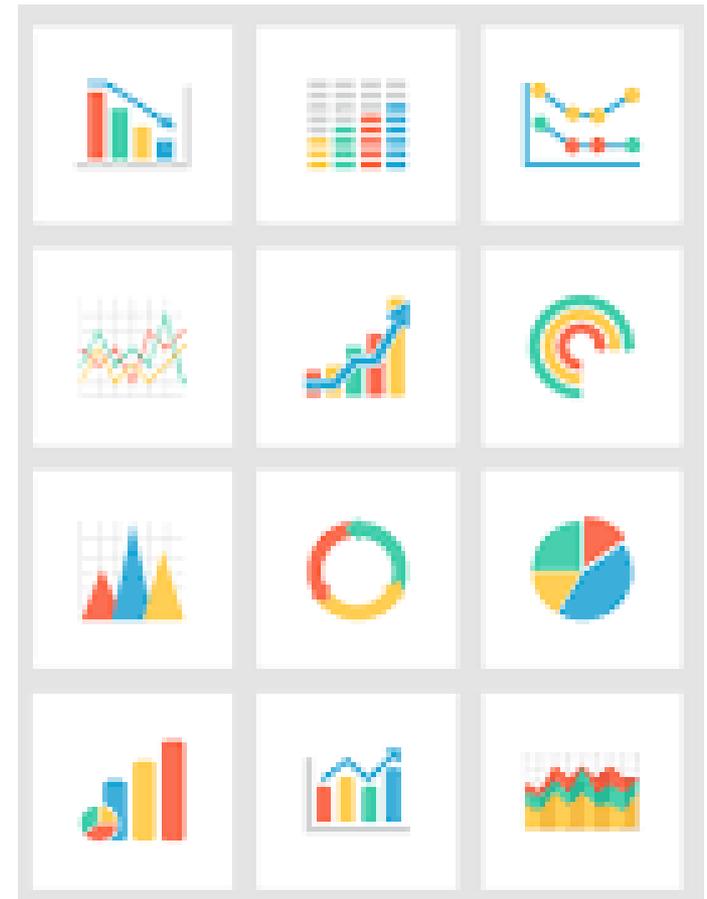
Baseline



# What types of data could you use to measure for improvement?



# Types of Data



## Effective measures

- Relevant to the goal
- Readily available so data can be analyzed over time
  - Capture a key process or outcome



## QUESTION 2

HOW WILL WE KNOW THAT A  
CHANGE IS AN IMPROVEMENT?

## MEASURES

By answering this question you will develop  
**measures** for tracking your goal

## Heavenly Road Surgery

- A: The **number** of patients with recorded in the clinical software with a COPD code (the register)
- B: The **number** of COPD patients on the register who have had a GPMP claimed in the previous 18 months
- C: B divided by A will produce the **proportion** of COPD patients on the register who have had a GPMP claimed within the previous 18 months.

## QUESTION 3

## WHAT CHANGES CAN WE MAKE THAT WILL RESULT IN IMPROVEMENT?

IDEAS

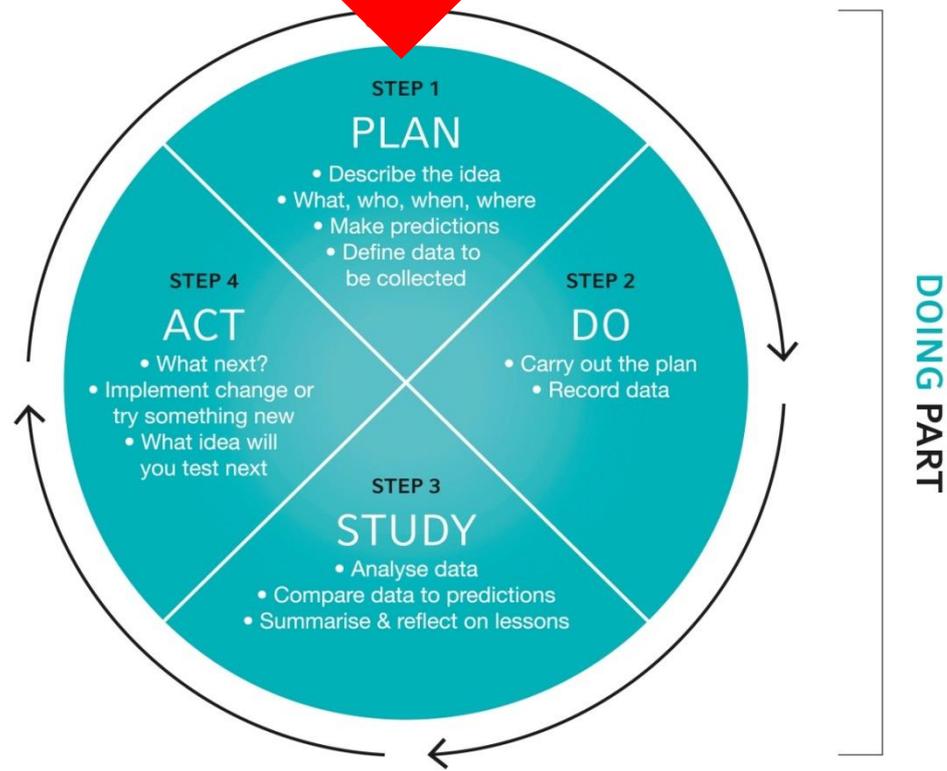
By answering this question you will develop **ideas** for change

- Identify patients with COPD, who do not have a record of a current GPMP
- SMS patients with COPD, and without a GPMP, to come in for an appointment
- Send a letter to patients identified with COPD, without a GPMP, to come for an appointment
- In the clinical software, flag patients with COPD diagnosis, without a GPMP, and opportunistically implement a GPMP at next visit, or set a future appointment
- Review and improve recall and reminder system for GPMPs (and GPMP reviews?)
- Review and improve workflow and educate staff
- Conduct an annual audit of patients with COPD, without a GPMP

# PDSA Cycles

**QUESTION 3**  
**WHAT CHANGES CAN WE MAKE THAT WILL RESULT IN IMPROVEMENT?**

By answering this question you will develop **ideas** for change



# Heavenly Road Surgery

- Identify patients with COPD, who do not have a record of a current GPMP
- SMS patients with COPD, and without a GPMP, to come in for an appointment
- **Send a letter to patients identified with COPD, without a GPMP, to come for an appointment**
- In the clinical software, flag patients with COPD diagnosis, without a GPMP, and opportunistically implement a GPMP at next visit, or set a future appointment
- Review and improve recall and reminder system for GPMPs (and GPMP reviews?)
- Review and improve workflow and educate staff
- Conduct an annual audit of patients with COPD, without a GPMP



## *Plan*

1. Mary will design a letter with a call to action (contacting to make an appointment) by a specific date, and
2. Post to 20 of Dr Sample's patients with COPD and where a GPMP had not been claimed in the past 18 months
3. This will occur on Tuesday, 20 August 2019 and Mary will use Dr Smith's office (doesn't work on Tuesdays)
4. We predict that we will have a 30% response rate by the due date.
5. We will provide a list these patients to reception and note how many calls have been received and how many appointments are made.

**Plan**

Mary will design a letter...

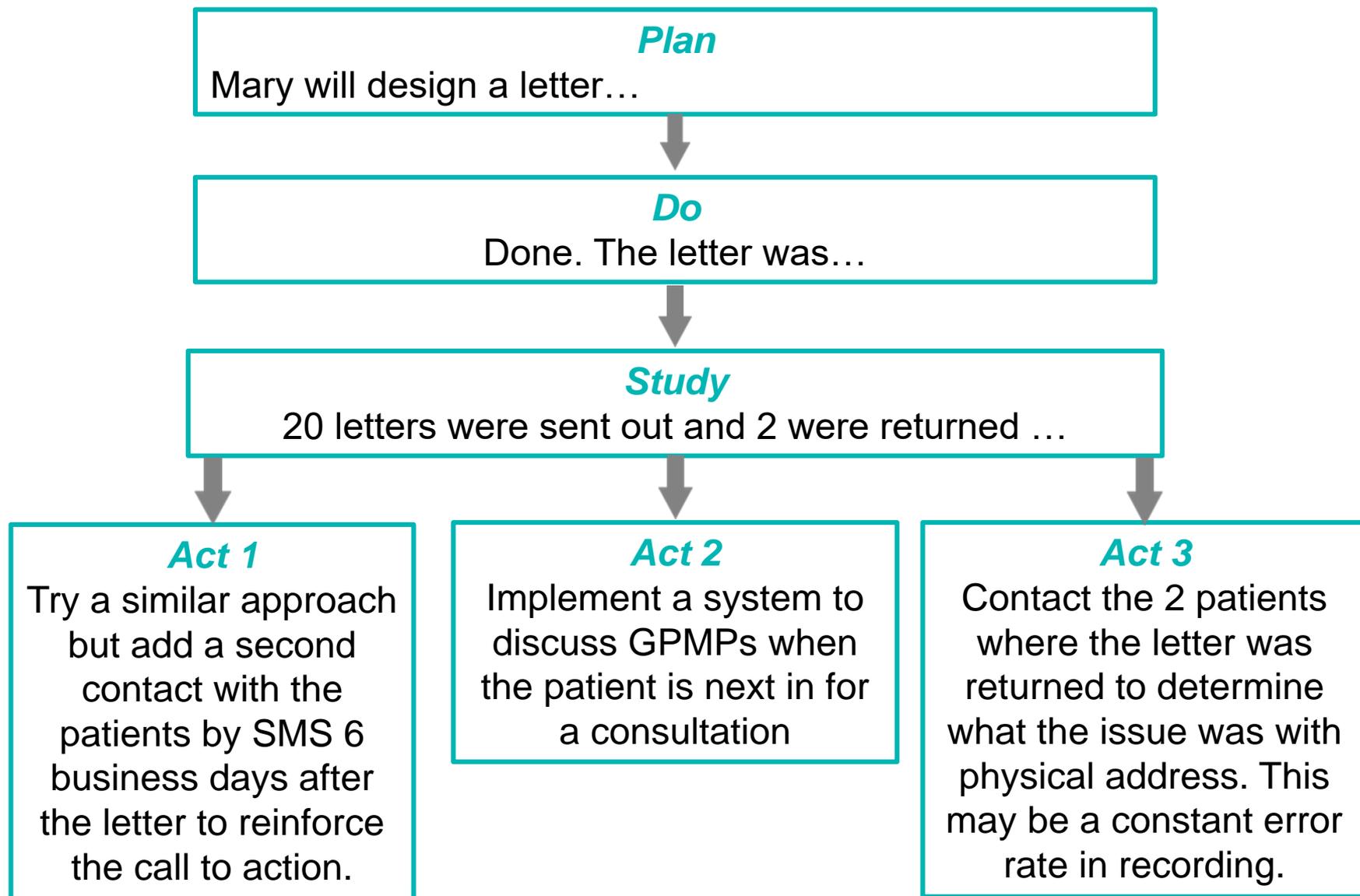
**Do**

Done. The letter was drafted on 20/8/2019 as planned, but Dr Sample did not check it until 21/8/19 and therefore it was a day late. This slightly compressed the call to action timeframe.

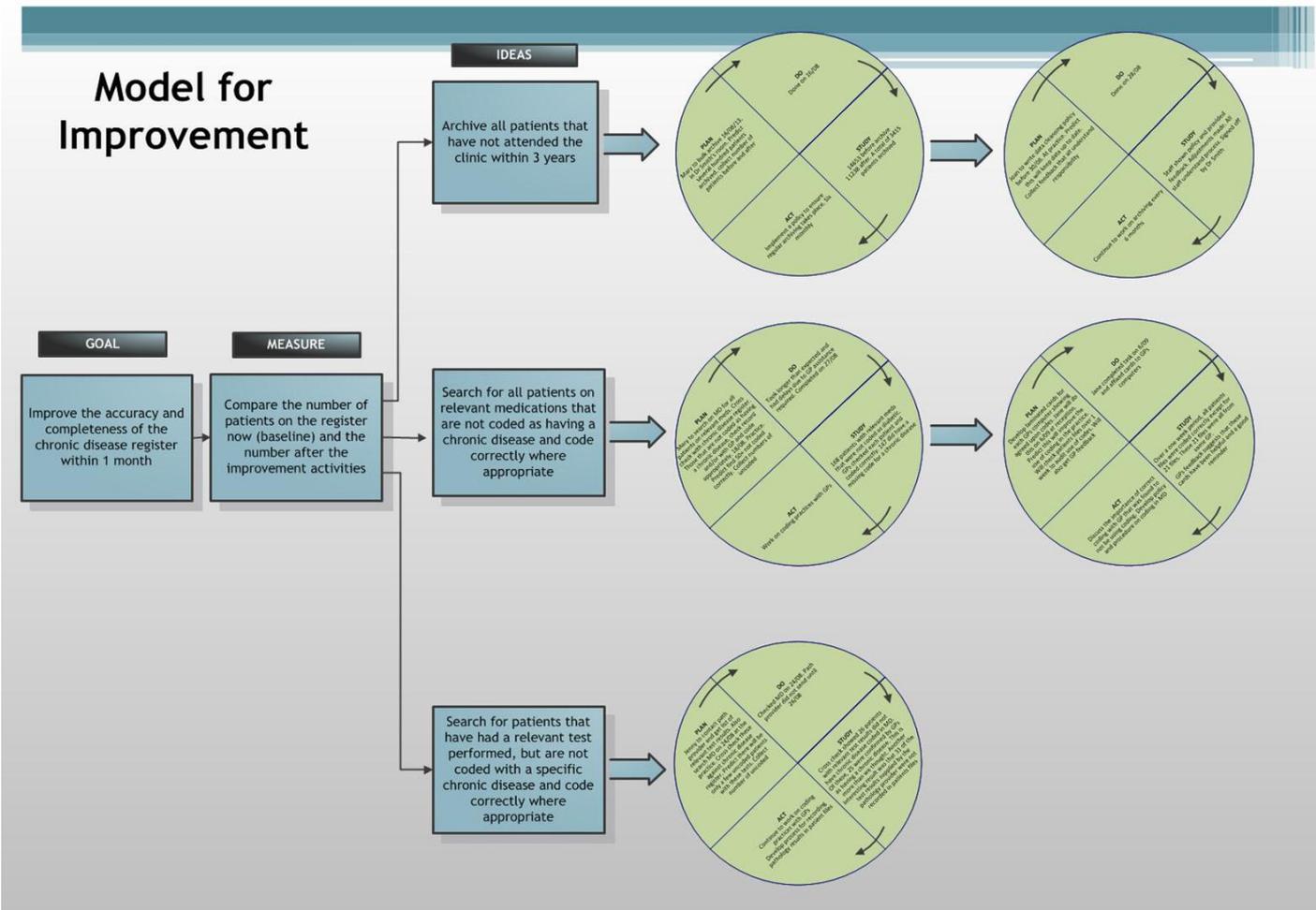
**Study**

20 letters were sent out and 2 were returned undelivered (10% address error rate). Of the 18 letters that were delivered, 3 people called and all made an appointment (15% successful response). The error rate in the physical address recorded was unexpected and the response rate was much lower than we thought.

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# PDSA cycles



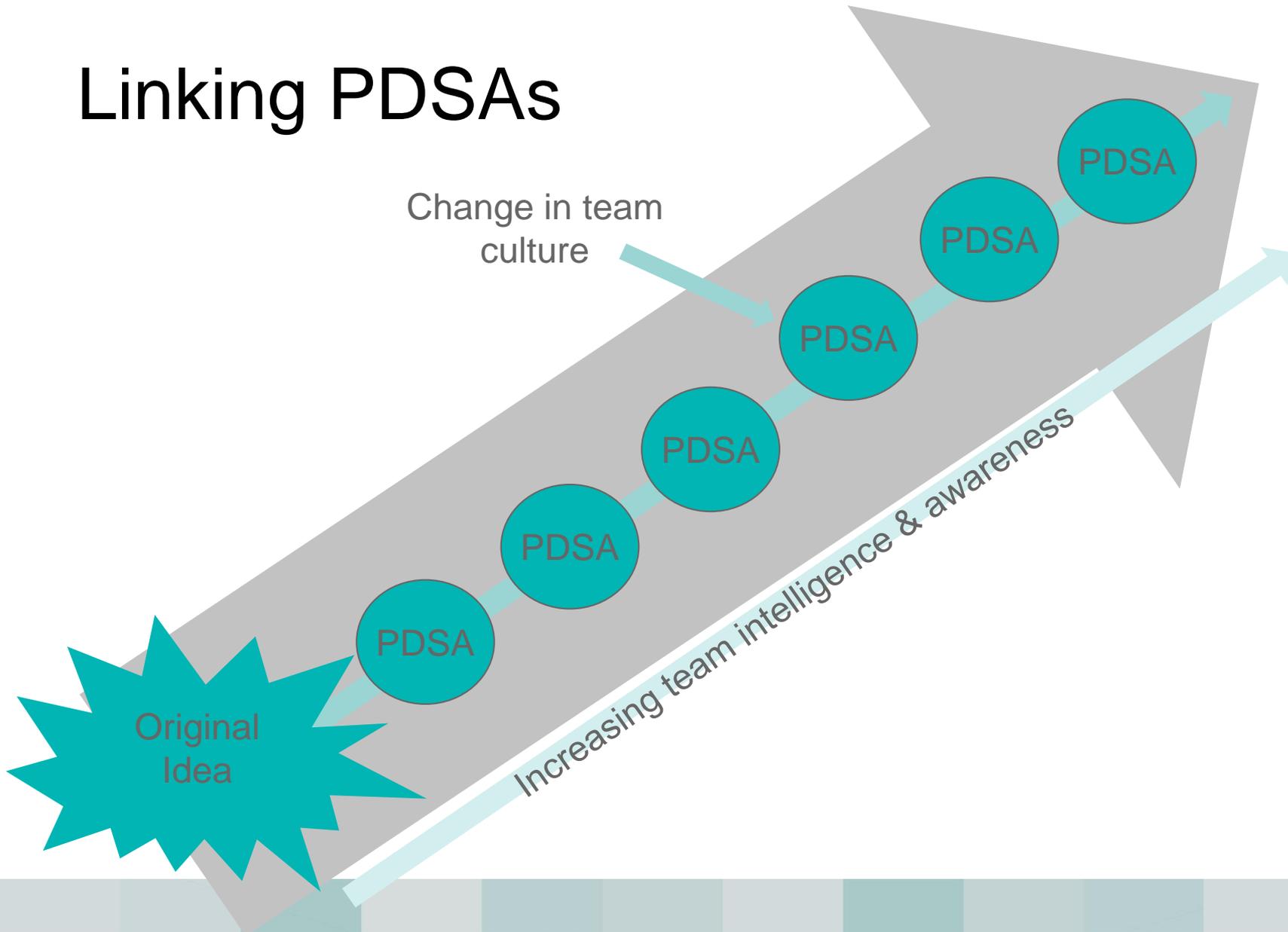


# Testing change in small steps

- Sampling a test group, for example:
  - 1 doctor;
  - Small number of patients; and/or
  - A particular day / time of day
- Then expand the test, for example:
  - Another 1-2 doctors;
  - A larger group of patients; and/or
  - Another day / time of day
- Once success has been evidenced repeatedly over a variety of conditions then implement the change more broadly



# Linking PDSAs



# PDSA Tree



## Mfi Template

### The Model for Improvement Guide

The Model for Improvement is a tool for developing, testing and implementing change.

The Model consists of two parts that are of equal importance:

1. The **'thinking part'** consists of Three Fundamental Questions that are essential for guiding your improvement work.
2. The **'doing'/'testing'** part is made up of Plan, Do, Study, Act (PDSA) cycles that will help you test and implement change.

This guide will take you through the following steps:

<b>Step 1:</b>	The Three Fundamental Questions
<b>Step 2:</b>	PDSA Cycle

#### Step 1: The Three Fundamental Questions

<b>1. What are we trying <u>accomplish</u>?</b>
By answering this question, you will develop your GOAL for improvement
50% of COPD patients to have a GPMP claimed (within the previous 18 months) by October 2019
<b>2. How will we know that a change is an improvement?</b>
By answering this question, you will develop your MEASURES to track the achievement of your goal
A: The <b>number</b> of patients with recorded in the clinical software with a COPD code (the register) B: The <b>number</b> of COPD patients on the register who have had a GPMP claimed in the previous 18 months C: B divided by A will produce the <b>proportion</b> of COPD patients on the register who have had a GPMP claimed within the previous 18 months.
<b>3. What changes can we make that will lead to an improvement? – list your small steps/ideas</b>
By answering this question, you will develop the IDEAS that you can test to achieve your goal
<b>Ideas:</b> <ul style="list-style-type: none"> <li>Identify patients with COPD, who do not have a record of a current GPMP</li> <li>SMS patients with COPD, and without a GPMP, to come in for an appointment</li> <li><b>Send a letter to patients identified with COPD, without a GPMP, to come for an appointment</b></li> <li>In the clinical software, flag patients with COPD diagnosis, without a GPMP, and opportunistically implement a GPMP at next visit, or set a future appointment</li> <li>Review and improve recall and reminder system for GPMPs (and GPMP reviews?)</li> <li>Review and improve workflow and educate staff</li> </ul>

# Mfl Template and Example

Idea: Describe the idea you are testing - refer to the 3rd Fundamental Question				
Send a letter to patients identified with COPD, without a GPMP, to come for an appointment				
PDSA cycle #:	PLAN: What exactly will you do? Include what, who, when, where, predictions and data to be collected.	DO: Was the plan executed? Document any unexpected events or problems	STUDY: Record, analyse and reflect on the results	ACT: What will you take forward from this cycle? (What is your next step/PDSA cycle?)
1	<ol style="list-style-type: none"> <li>Mary will design a letter with a call to action (contacting to make an appointment) by a specific date, and</li> <li>Post to 20 of Dr Sample's patients with COPD and where a GPMP had not been claimed in the past 18 months</li> <li>This will occur on Tuesday, 20 August 2019 and Mary will use Dr Smith's office (doesn't work on Tuesdays)</li> <li>We predict that we will have a 30% response rate by the due date.</li> <li>We will provide a list</li> </ol>	<p>Done. The letter was drafted on 20/8/2019 as planned, but Dr Sample did not check it until 21/8/19 and therefore it was a day late. This slightly compressed the call to action timeframe.</p>	<p>20 letters were sent out and 2 were returned undelivered (10% address error rate). Of the 18 letters that were delivered, 3 people called and all made an appointment (15% successful response). The error rate in the physical address recorded was unexpected and the response rate was much lower than we thought.</p>	<p><b>Act 1</b> Try a similar approach but add a second contact with the patients by SMS 6 business days after the letter to reinforce the call to action.</p> <p><b>Act 2</b> Implement a system to discuss GPMPs when the patient is next in for a consultation</p> <p><b>Act 3</b> Contact the 2 patients where the letter was returned to determine what the issue was with physical address. This may be a constant error rate in recording.</p>

## Tips

- **Prepare:** take time to understand the problem before defining solutions/goals (Q.1)
- Be **specific** (Q.1 and PDSA cycle)
- Don't forget to **measure** (Q.2)
- **Study** the results and act on them (PDSA cycles)
- **Record** what you're doing



# The MFI Improvement Journey

- Define the problem
- What are you trying to achieve?
- How does it fit into the big picture?
- What changes can we make?
- Make changes
- Check the changes
- Spread... Encourage others to change



# Resources

- MFI explained (youtube)

IHI:

<https://www.youtube.com/watch?v=SCYghxtioIY>

IF: [https://www.youtube.com/watch?v=IZAx-69Vn\\_Y](https://www.youtube.com/watch?v=IZAx-69Vn_Y)

- Mfi Template

# Questions?



# Upcoming Webinars

## Measuring for Improvement

- **Tuesday 13<sup>th</sup> August 2019 @ 12.30pm and repeated at 6.30pm**

