

# Rigorous diagnostic toolkit



Outpatients

# Contents

- Introduction
- 1. Health service data
- 2. Brainstorming
- 3. Process Mapping
- 4. Sampling Tool
- 5. Involving Patients and carers

# Introduction

This toolkit has been prepared to help teams to complete the rigorous diagnostic phase of the Patient Flow Collaborative- Outpatients (PFC-II). The aim of the activities is to identify the key constraints and issues impacting patient flow through outpatients. Once the tools have been completed, the PFC-II teams will be able to prioritise which innovations are required to produce significant improvement.

The rigorous diagnostics tools include:

- health service data
- brainstorming
- process mapping
- sampling tools
- patient and carer involvement

# How to use this toolkit

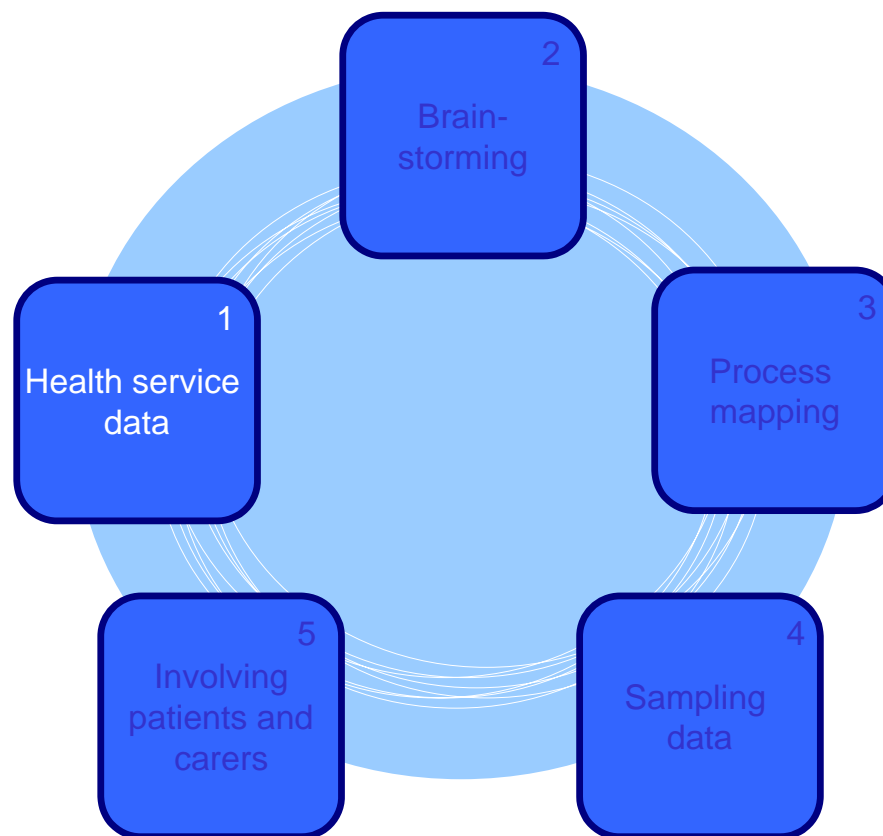
It is recommended that activities be completed in sequence. This will enable the data from one activity to inform the next activity. By the completion of the five tools, each team will have rigorous outpatient data that will inform your improvement work. Please note, data from the rigorous diagnostics will be presented at Learning Session One and will help to develop the health services action plan.

## Overview

Activity	Who should be involved?	How long should it take?
<p><b>1. Health service data</b> is the data that will be collected by each participating health service. There is a defined data set that is to be collected by each health service and submitted to the PFCII – Outpatients team. From this data program measures will be provided to each site showing the improvements that have been made.</p>	<ul style="list-style-type: none"> <li>▪ health service project team</li> <li>▪ it support</li> <li>▪ clinical and clerical staff working in the applicable outpatient clinic(s)</li> </ul>	<p>If using the PFC II – Outpatients database, each patient entered should take approximately 30 seconds per patient, on average this will account for 1 hour per week, for four weeks.</p> <p>Depending on existing IT infrastructure, once the report is written to extract the data, the time to run such a report should be minimal.</p>
<p><b>2. Brainstorming</b> is a commonly-used method of problem-solving involving all stakeholders. Brainstorming can be used to problem solve, generate new ideas, define issues and manage change.</p>	<ul style="list-style-type: none"> <li>▪ project facilitator and clinical lead</li> <li>▪ clinical and clerical staff working in the applicable outpatient clinic(s)</li> <li>▪ staff providing services to outpatient clinics</li> <li>▪ individuals who refer patient to or receive referrals from, outpatient clinic(s)</li> </ul>	<p>Depending on the number of individuals you have involved in brainstorming session, most of the time spent on this activity will be in organising individuals to attend. The actual session should only be 1 or 2 hours duration.</p>
<p><b>3. Process mapping</b> is a method for depicting a process, material or information flow in a diagrammatic form.</p>	<ul style="list-style-type: none"> <li>▪ project facilitator and clinical lead</li> <li>▪ clinical and clerical staff working in the applicable outpatient clinic(s)</li> <li>▪ staff providing services to outpatient clinics</li> <li>▪ individuals who refer patient to or receive referrals from, outpatient clinic(s)</li> </ul>	<p>Depending on the number of individuals you have involved in process mapping session, most of the time spent on this activity will be organising individuals to attend. The actual session should only account for half a day.</p>

Activity	Who should be involved?	How long should it take?
<p><b>4.Sampling data</b> is used to show delays in patient processes. The tally chart is completed in real time and is able to show the number of incidents in each category.</p>	<ul style="list-style-type: none"> <li>▪ project facilitator and clinical lead</li> <li>▪ clinical and clerical staff working in the applicable outpatient clinic(s)</li> <li>▪ staff that provide services to outpatient clinics</li> <li>▪ individuals who refer patient to or receive referrals from outpatients</li> </ul>	<p>The number of staff involved in this process will be determined by the scope of the diagnostic work (e.g. the number of clinics to be investigated). The tally sheet only takes a moment to complete for each patient. Time is needed to collate and analyse the tally sheets. Depending on the number of sheets used, this could take 2-3 hours.</p>
<p><b>5.Involving patients and carers</b> exercise is used to help sites match their expectations with patient and community expectations. A template is provided to assist with interviewing patients and carers.</p>	<ul style="list-style-type: none"> <li>▪ project facilitator</li> <li>▪ clinical and clerical staff working in the applicable outpatient clinic(s)</li> </ul>	<p>Each patient or carer interview should take no more than 15 minutes. The overall time taken on this activity will depend on how many interviews are needed to obtain a cross section of the patient population.</p>

# 1. Health service data



## Data gathering

A critical area underpinning the work of PFC II – Outpatients is the use of patient flow data. Each participating site will submit regular data in order to measure the improvements in patient flow in their outpatient clinics.

## Program Measures

Program measures are the common indicators that all teams will use to support their improvement area. The program measures for the PFC II – Outpatients are:

1. percentage (%) of new patients
2. percentage (%) of follow up patients
3. percentage (%) of daily 'did not attend' (DNA) rate
4. percentage (%) of patients discharged from outpatient services
5. percentage (%) of patients discharged from outpatient services to primary health services
6. time between initial referral and appointment date
7. patient time waiting for outpatient services.

## Data collection

The PFC-II Team with support from the Expert Working Group has designed an electronic data collection tool to assist teams to collect patient flow data on their outpatient services. Sample data is collected during the diagnostic phase as well as each action period.

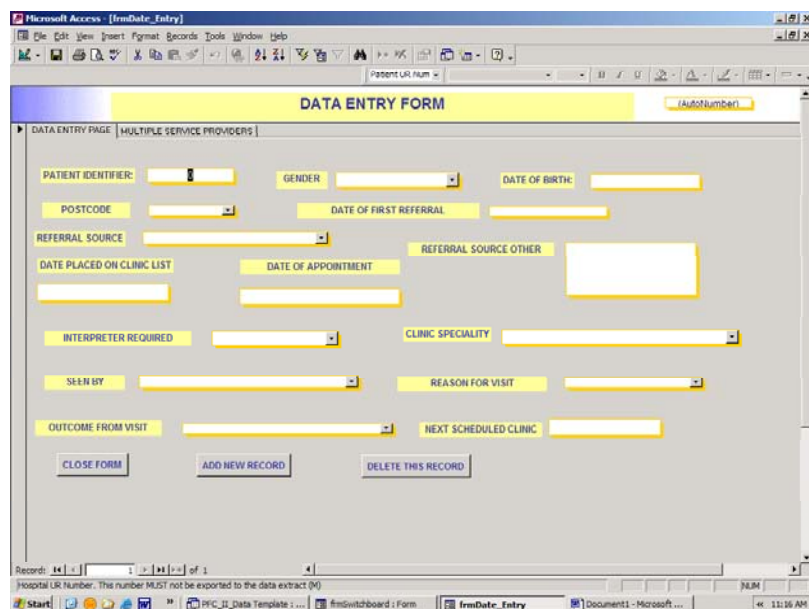


Illustration of data collection tool

## Baseline data

Teams are required to collect baseline data during the diagnostic phase, covering the minimum data set.

## The minimum data set

### Patient level data

- patient unit record number (de-identified)
- gender
- date of birth
- postcode.

### Event details

- date of first referral
- referral source
- date placed on clinic list
- appointment date
- clinic speciality
- interpreter required
- reason for visit
- visit outcome
- next scheduled visit.

## Custom measures

Hospital teams may add additional measures to the minimum data set in order to collect data on local services and practices. The data collection tool can be tailored to include the custom measures.

## Data reports

The PFC-II Team will prepare a report using the submitted data from teams. The reports will include the program measures, and will use the following charts:

### Time series chart

The traditional time series chart (otherwise referred to as 'run' or 'line' charts) enables a series of values to be tracked and displayed over a period of time. The PFC-II Team will utilise time series charts to detect significant changes in patient movements through outpatient clinics.

### Column chart

The standard column chart will be utilised by the PFC-II Team to display measures in which aggregated or averaged data will be used. For example, presenting the average/number by day of week or time of day.

### Statistical process control (SPC) charts

Where appropriate, SPC charts will be used to measure process variation. The charts can help to identify variation and determine whether a process is stable. The SPC chart can help to identify when collaborative work has led to an improved patient flow and whether this has been sustained.

## Collecting baseline data

Baseline data is collected at the start of the collaborative and provides the starting point for the improvement effort.

Select two or three clinics for baseline data collection. Selection should be clinics that will be targeted for improvement. Select a data collection period that will capture data for 30 or more patients. For some clinics this may be a morning session, for others it may be a full-day data collection period. Collect the baseline data for each clinic on a weekly basis using the data collection tool (which collects the minimum data set).

*Example: Hospital Y has chosen orthopaedics, as they will be targeting improvement work in this area. There are clinics on Wednesday, Thursday and Friday. Friday morning has been selected as the data day. Patient data for patients attending the clinic from 9.00-12.00 is recorded using the data collection tool.*

When the data is collected, email the file to the PFC-II Team and the data will be processed and a report prepared with program measures for that clinic. This data will remain confidential and will not be shared within the department or with other organisations.

**Please note:** If a site collects the data from its own information system, this data must be submitted to the PFC-II Team, however in these cases, services are not required to use the data collection tool.

## 2. Brainstorming



## Brainstorming

The objective of brainstorming is to generate ideas, views and perceptions about patient flow in outpatients. It is a useful exercise for identifying problems in a group setting.

Brainstorming can foster ownership and goodwill for the project and encourage staff to work together to produce innovation and change.

For the rigorous diagnostics, brainstorming is used to:

- identify constraints that staff believe are impacting patient flow in outpatients
- identify and test the assumptions that underpin current standards and practices in the outpatients department
- promote staff ownership of the improvement approach, by valuing all suggestions and input.

## Method

Choose a method that suits the team, for example you can:

- ask participants to write down their brainstorm ideas, perception and views
- transcribe and display these on whiteboards, butcher's paper or other media.

## Activity

- Indicate that the key aim of the brainstorm is to identify the constraints that impact patient flow through outpatients departments.
- record participants' ideas, perceptions and views
- ask the group to prioritise or score the areas highlighted in the brainstorming session in order of their 'effect' on patients.

## Process

1. Appoint a facilitator to record ideas on butcher's paper or use post-it notes to record ideas and to stick the notes on a wall.
2. Briefly review and discuss the system to help participants think about the whole system.
4. Give participants time to think.
5. Ask participants to write down their ideas on post-it notes and place them on flip charts or the wall.
6. Request that no one criticises ideas of constraints or discusses areas highlighted until after the brainstorm is finished.
7. Ask the facilitator to feed back areas highlighted in the brainstorm.
8. Request that the group discuss and prioritise issues in order of their effect on the majority of patients.
9. Once the group agrees on their priority order, give them time to reflect before closing the brainstorm.
10. Remind the group that this is part of the rigorous diagnostic process and that all parts will be completed before priority is given to innovation(s), with the highest impact on patient flow.

Constraints tool

Order of constraint	Description of constraint	Effect on majority or minority of total points
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
20		

**Key**  
**Majority** – majority of patients affected  
**Minority** – small number of patients affected

# 3 Process Mapping



## Introduction

Process maps are used to understand and review existing processes and flows, providing an in-depth understanding of the steps within the process.

Process mapping is a simple exercise that is a powerful way to engage multi-disciplinary staff in understanding patient processes and highlighting opportunities for improvement.

Process mapping can encourage staff participation and shared understanding of the processes, costs, timelines and complexities within a patient's journey.

## Process mapping exercise

Plan the mapping exercise by considering the following:

- staff involvement - you will need a few champions who understand that innovation is needed, one or more facilitators and a representative sample of the staff involved in the patient process. Remember, you can process map one-to-one, in small groups and in large groups. Think about the possible outcomes of the mapping exercise as this can help highlight who needs to be involved
- once you know who you will need for the exercise, plan the mapping event well in advance
- invitations need to set the scene and provide a brief explanation as to what the exercise is about and what it is setting out to achieve.

### Organise your event by:

- defining scope, objectives and focus
- briefing key attendees beforehand
- identifying representatives to attend (no more than 25 for one mapping exercise is advised)
- setting a time limit and managing this time efficiently to get the best result for time allowed
- arranging a suitable venue for the activity.

### On the day:

- Give yourself plenty of time to set up for your mapping exercise.
- Organise yourself with the resources you will need:
  - flip charts/butchers paper/roll of wall paper
  - post-it notes
  - marker pens
  - sticky tape/ blu-tack.
- Check that refreshments and lunch are ready as needed and that a phone is handy for answering pagers or other calls. Also ensure you know where the restrooms are located – someone will ask!
- It is beneficial to request a senior staff member to open the mapping exercise as this can help with setting the tone and showing the support of the organisation.
- Start the exercise by providing an overview of how to process map and request a volunteer to record any information that is raised.
- A brief discussion may be needed to emphasise the scope, process and outcome of the exercise. Once this is completed, facilitate the group to build their process map.
- Start by agreeing on the start and finish points of the process. Write these on post-it notes and place them at either ends of the map paper. Ask staff to record all the steps in the process, write these on post-its and place them along the process as you record them.
- The group can change the order or steps along the process until there is consensus about the patient journey.
- Once the map is completed, ask the participants to review what has been created and analyse the patient process.

**Seek to identify:**

- how many steps there are for the patient
- how many times the patient is handed from one person to another (handover)
- estimate the total time for the process by estimating the time taken for each step and then totalling
- estimate the wait time and the task time in each step
- identify queues
- identify value-added steps to the patient, for example sharing information about waiting times with the patient
- identify steps that add value to processes/systems, but not to the patient, for example simplified and linked leave notification processes
- identify steps in the process that are problematic for the patient
- identify steps in the process that are problematic for the staff
- look for batching - this is where work is accumulated before being processed
- identify constraints on experts, staff or equipment
- identify if this process relies on other processes or systems
- identify if other processes and systems relies on this process.

End the mapping exercise by briefly stating what the next stage will be, how the map will assist redesign of patient processes and outlining any subsequent actions that need to take place.

## Process mapping: a walk-through

The walk-through tool is a practical exercise that helps map the patient's journey. The participants walk-through present patient processes in the actual location, mapping each existing step as they progress. The participants can also:

- gather forms, reports or leaflets as they progress through the process
- take photographs to help with the mapping
- highlight risk areas that do not assist with flow of work
- highlight delays due to poor equipment or resources
- record signage, communication methods and staff interaction locations.

## Method

1. Identify where the tool will be used, who will need to be involved, when will it be convenient to carry out the exercise and how staff will be briefed before the exercise.
2. Plan the walk-through by considering the following:
  - briefly describe the process
  - identify start and finish points
  - identify major patient needs
  - discuss how the walk-through will progress with minimal interruption to normal working routines
  - discuss how processes will discontinue if there is a clinical emergency
  - identify who will record the process
  - identify who will gather forms and other items.

## 4. Sampling data



## Sample data tool

The sample data tool is used to show delays to patient processes. This tool is easy to implement and can involve all staff from the clinical service area.

### Process

1. Select a clinical service area to collect data on patient process delays.
2. Nominate a lead staff member for each clinical area to organise the tally charts on patient process delays for their specific area (see the tally chart template on the next page). The lead staff member should engage the clinical staff team in the process by explaining why the data is being collected. Explanation of this exercise is a good way to test assumptions about delays in patient flow.
3. Ask staff to propose ten events that they consider involve delays to the patient's journey in their area.
4. A tally sheet should be prepared, using the staff suggestions for the delay categories.
5. Over one or two weeks, nominate data collection periods where patient delays are recorded. The tally chart should identify the delays for each patient journey through the clinic.
6. The completed tally chart is part of the data that will be used to determine priority areas for improvement.

**Tally chart template**

Delay	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	TOTAL
Inappropriate referral								
No test results with referral								
Additional requests required on review								
Delays in accessing investigations								
Delays in accessing allied health								
Difficulty accessing information								
Interpreter availability								
Workforce availability <ul style="list-style-type: none"> <li>• Medical</li> <li>• Nursing</li> <li>• Allied health</li> </ul>								
<b>TOTAL</b>								

# 5. Involving patients and carers



## Introduction

The PFC-II team requires sites to collect information from patients and carers on their experience within Outpatients. This exercise will help sites match what they think is important with patient and community expectations.

Ideally this approach is used throughout the collaborative to test new workflows or improvements that aim to benefit the patient experience.

## Understanding the patient journey

The following table has been prepared to collect patient feedback on the stages of the patient journey through outpatients. The table can be used during the clinic hours.

<b>Patient journey before outpatients</b>	<b>Notes</b>
Going to see a doctor	
Referral to specialists outpatient service	
What information did you receive from the GP?	
What information did you receive about Outpatients?	
Who made the appointment? How long did you wait for the first appointment?	
Did you need any tests, before attending Outpatients.	
<b>Patient journey in Outpatients</b>	<b>Notes</b>
On the day of your appointment, how long were you waiting to see the specialist?	
After the appointment, where to now? (discharged? Follow-up appointment? Operation?)	

# Acknowledgments

The Patient Flow Collaborative II – Outpatients would like to acknowledge that the content of this toolkit has been developed from work undertaken in the Patient Flow Collaborative, which concluded in June 2005. We would also like to recognise and thank the steering and expert working groups for their input and support in developing this material.