

# Using QI tools to understand your system

## NHS Forth Valley's experience

December 2021

This Urology team used the Last 10 Patients, process mapping and a driver diagram to make sense of a complex pathway and generate change ideas to reduce waiting times and improve clinic flow.

The aim of this case study is to:

- Highlight tools that can be used to understand the system you are seeking to improve.
- Demonstrate how a team from NHS Forth Valley used data and QI tools to:
  - Choose which patient pathway to focus on.
  - Understand what is happening within the pathway that is contributing to long waits.
  - Develop change ideas and make plans to test them.

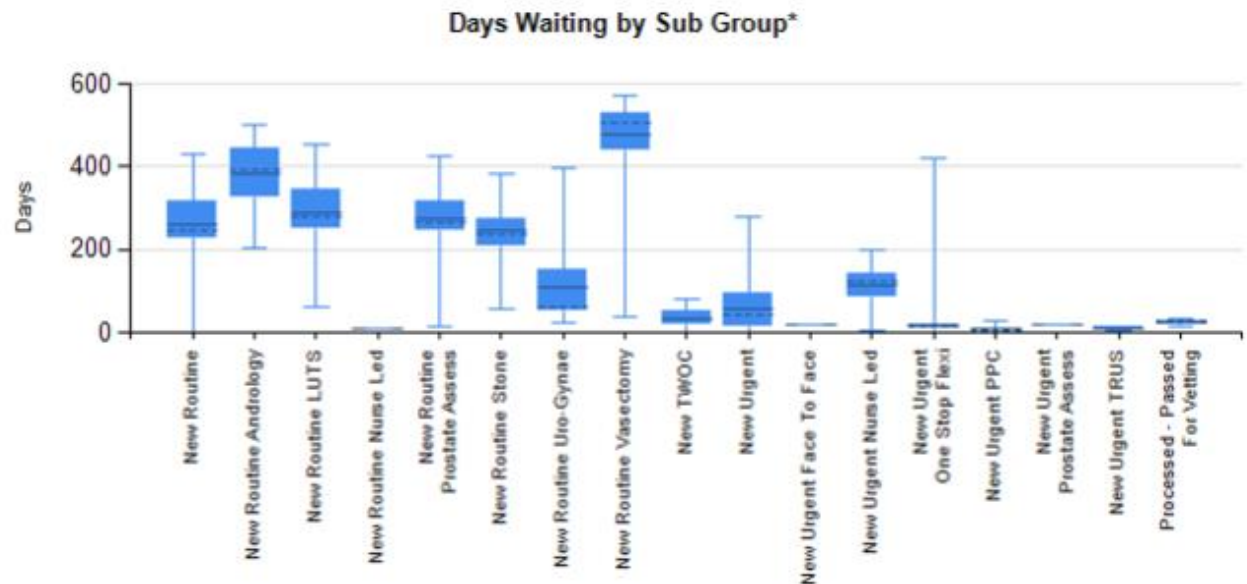


## How to choose a pathway for improvement?

NHS Forth Valley's Urology service is in the process of improving its Trial Without Catheter (TWOC) pathway. The service has multiple patient pathways, so the team began by obtaining data from TrakCare about waiting times and number of referrals for every pathway within the Urology service.

The highest volume of referrals to the Urology service were for new patients requesting a routine vasectomy, but the team felt there were fewer options for change within this pathway, as it's very straightforward and doesn't have much scope for improvement. They instead turned their attention to the Prostate Assessment Clinic (PAC).

Figure 1. Box plot chart of Urology wait times for each pathway



The PAC pathway had one of the longer waiting lists of all the Urology pathways and **the team felt it had more potential for change than Routine Vasectomy**. However, because many patients move on to PAC after first going through the TWOC pathway, **the team decided it needed to improve TWOC first before working to improve PAC**. The team already knew there were issues with TWOC, as many patients referred for it were calling the service because they were expecting to receive an appointment within two weeks of referral and they hadn't.

## Choosing the Last 10 Patients tool to investigate further



### Why the Last 10 Patients?

Data on time points taken from TrakCare showed that the average wait time from referral to appointment was 40-45 days for the TWOC pathway, but the team hoped to reduce this to 14 days.

To **compare patient wait times** for TWOC appointments and **get a better feel for what patients were experiencing** in the clinic, they chose to start with the Last 10 Patients tool to better understand the flow within their system. Learn how to use this tool [here](#).

### Adjusting it to fit the service's needs

The tool will **highlight any significant variations in patients' journey times** and can be used flexibly to fit a service's needs. Some pathways are longer or more complex and have many touchpoints. For example, a patient might have an initial assessment, then return for a biopsy, followed by pathology, ending in referral to another service, for a total of four touchpoints. Because the TWOC pathway only involves referral to Urology, followed by just one appointment for the trial itself, after which the patient is discharged home, the Urology team **kept their Last 10 Patients exercise fairly simple** with only two touchpoints:

1. Date of patient's referral to Urology.
2. Date of TWOC appointment.

In order to have a more robust picture of each patient journey, the team also recorded the following data:

1. How many days it took from referral to appointment date.
2. Outcome of the TWOC appointment.

### The use of the tool required three steps:

1

- First, 10 patients had to be selected. A nurse from the Urology service looked through the clinic diary and chose the 10 most recent patients who had followed the TWOC pathway.

2

- [Then, an Excel spreadsheet was created to record the identified data points.](#)

3

- Finally, all 10 patients' clinical notes were reviewed and the relevant data filled in.

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“Last 10 Patients is a good tool because instead of putting down what you think is happening or what you want to happen, you're seeing what's actually happened.”

Consultant Urological Surgeon – NHS Forth Valley

Figure 2. Last 10 Patients data for TWOC pathway

	A	B	C	D	E	F
1		Date of referral	Date seen	Days to see		Outcome
2	Patient 1	06/08/2021	13/08/2021	7		Successful
3	Patient 2	04/05/2021	12/08/2021	100		Did not want TWOC. Started on Solifenacin.
4	Patient 3	28/06/2021	11/08/2021	44		Failed. Re-catheterised.
5	Patient 4	28/01/2021	25/02/2021	28		Successful
6	Patient 5	10/06/2021	06/08/2021	57		Inappropriate referral. Not for TWOC as per clinic letter.
7	Patient 6	26/06/2021	04/08/2021	39		Unsuccessful. Taught ISC.
8	Patient 7	21/04/2021	02/08/2021	103		Patient did not want TWOC or ISC. Had stopped Tamsulosin, return for TWOC 1/9/21.
9	Patient 8	08/03/2021	21/05/2021	74		Frail patient. Unable to attend the department. Referred for a community TWOC
10	Patient 9	02/07/2021	30/07/2021	28		Inappropriate referral. Catheter to remain in situ as per clinic letter.
11	Patient 10	24/04/2021	28/07/2021	95		Unsuccessful. Previously taught ISC.

This exercise provided several useful pieces of information. The 'outcome' column revealed that **5 out of the 10 patients showed up to the clinic for an appointment but didn't actually need one anymore.** Further discussions with the full team confirmed this was a common occurrence.

It also showed that they hadn't met the target wait time for most patients, and that **three people had waited around 100 days** for their appointments. These turned out to be exceptions and not the norm, but it encouraged the team to consider how this might have happened and how to prevent it in future.

Additionally, although the Last 10 Patients tool is primarily intended to show variation in waiting times, the Urology team found that looking through patients' clinical notes in **detail led to an extensive discussion centred on patient flow through the pathway.** Reviewing the details of what exactly happened to patients in their care helped the clinical team to really engage with the project and think about the experiences of the people behind the numerical data. The team would eventually like to survey patients from both before and after changes were made in order to gauge the impact on the overall patient experience.

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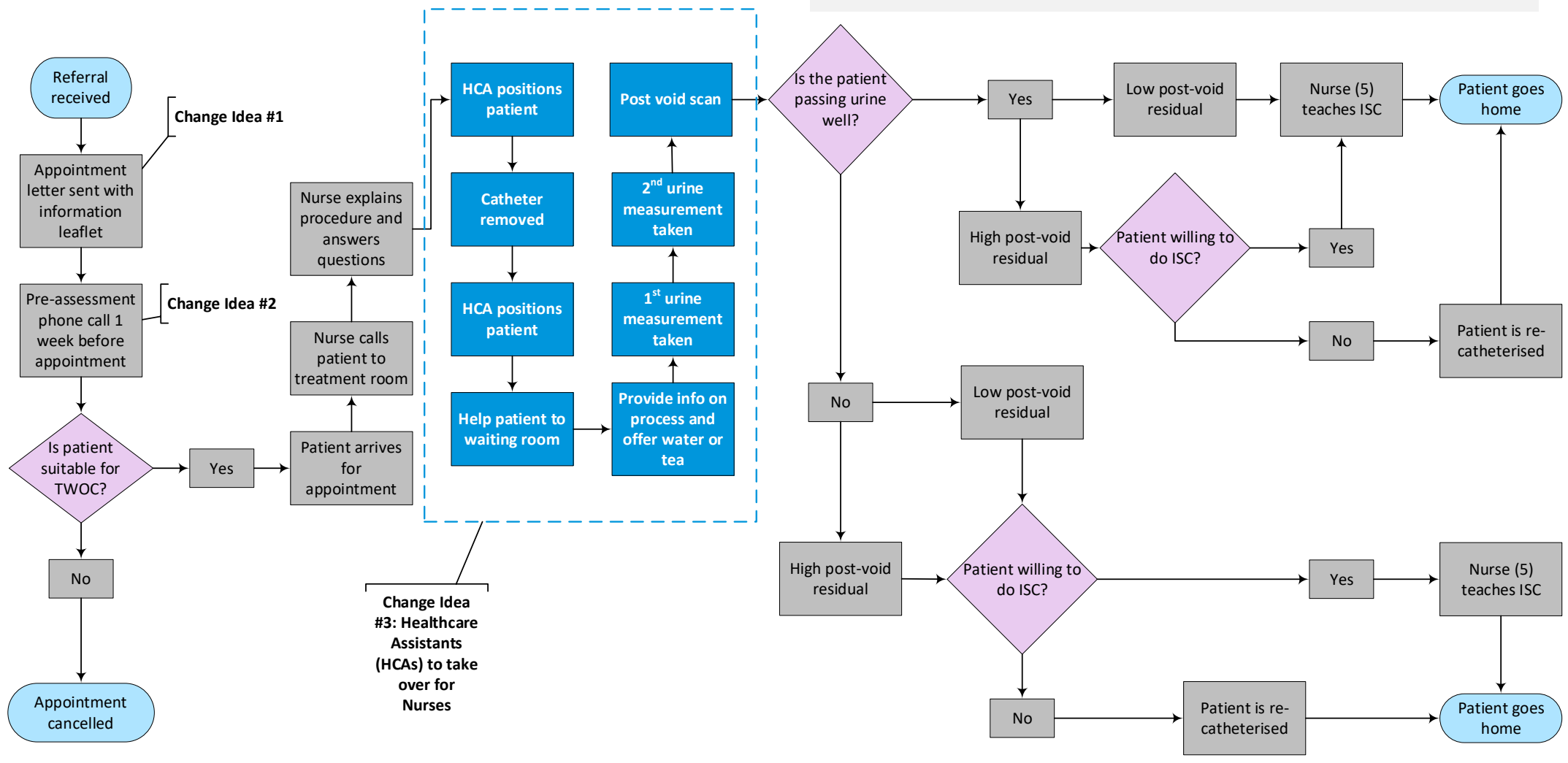
“The nurse who looked through the notes found it time-consuming but manageable for only 10 patients, although when we looked at the data it uncovered some very unexpected findings that prompted us to go back and look at those 10 patients in even more depth.”

**Consultant Urological Surgeon – NHS Forth Valley**

## Process mapping and generating change ideas

To help further explore patient flow within the clinic, the team then decided to do a process map to accompany the Last 10 Patients data. Each step of a TWOC visit was carefully mapped out, allowing the team to see a **visual representation of what they discovered through analysing those 10 patients' notes**. Using what they learned from using these two tools, the team was then able to generate change ideas. Once these change ideas had been agreed upon, another high level process map was created to include the changes.

Figure 3. TWOC process map with relevant change ideas





The Last 10 Patients tool and the process map provided the team with the knowledge required to develop their project aim and change theory. They decided on an aim statement of **“improving the patient pathway and experience in the Prostate Assessment Clinic and Trial Without Catheter by February 2022.”** This aim reflects that the team is focusing not only on waiting times and numerical data, but also on flow within the clinic.

A [driver diagram](#) is a useful tool to help visualise what needs to change in order for the project aim to be achieved. You will find the Urology team’s driver diagram on the next page, with headings along the top that **clearly show the thread connecting the proposed changes to the project aim statement.**

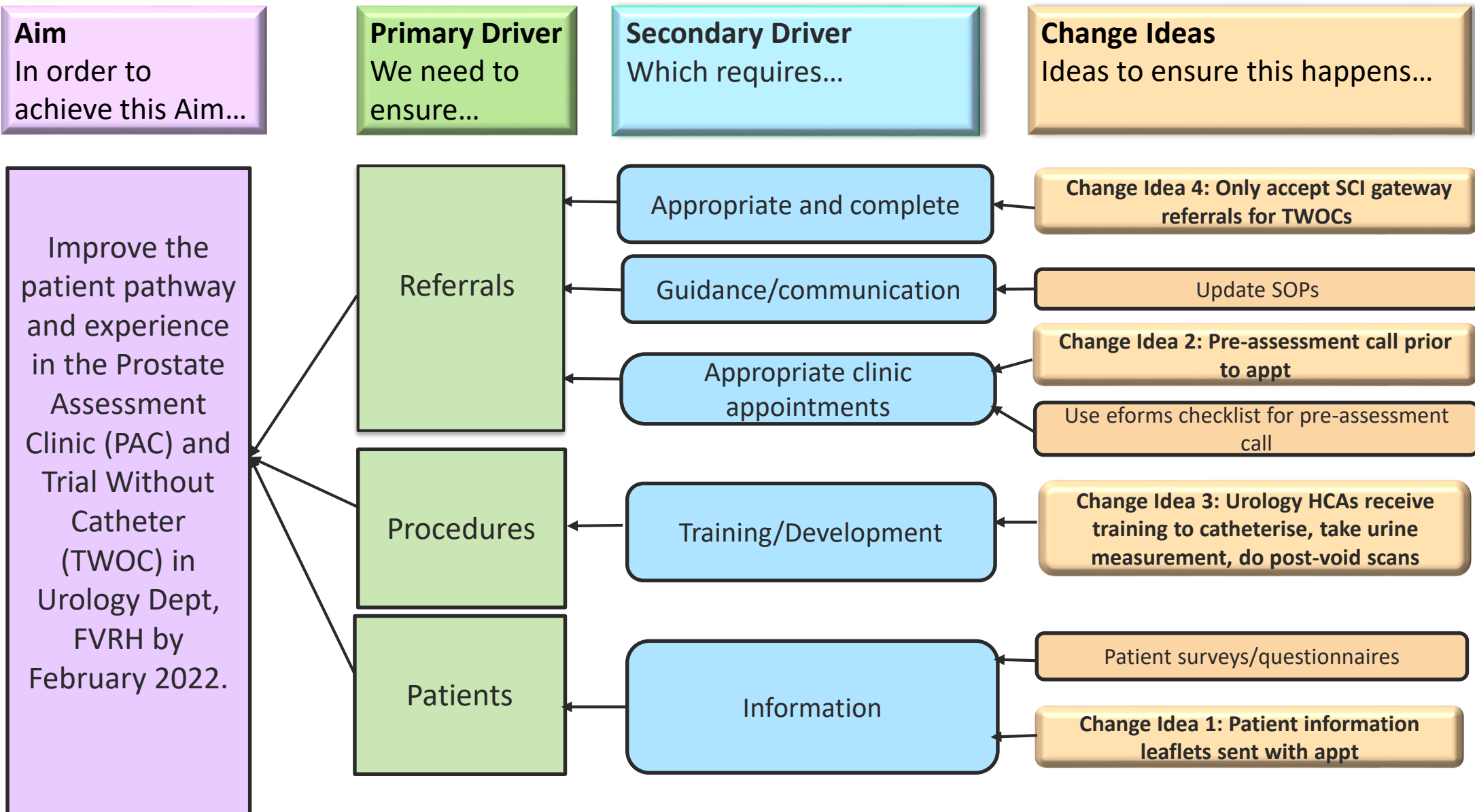


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“The numbers don’t tell the story. When you’re involved in a clinical setting and process, telling the story of what happened to them [the patients] lets you think about what you could have done differently.”

Principle Analyst – NHS Forth Valley

Figure 4. Driver Diagram



## Testing, refining, and implementing change Ideas

The Urology team ultimately **decided to test four change ideas** from the above driver diagram:

### Change ideas 1 and 2

- **Send information leaflet about TWOC with appointment letter and do pre-assessment phone calls prior to TWOC appointment.**
- The team hopes these two changes together will answer some of the questions patients have about TWOC and allow them to decide whether or not they want the appointment, resulting in fewer inappropriate appointments and shorter waiting lists.

### Change idea 3

- **Train Urology healthcare assistants (HCAs) to take over some responsibilities for Urology nurses.**
- HCAs will be trained to remove patients' catheters, take urine measurements, and do post-void scans. This will free up some nurse capacity to take on other tasks more suited to their skill set and hopefully improve patient flow.

### Change idea 4

- **Receive all TWOC referrals through SCI Gateway only.**
- By standardizing the route of referral, the team hopes to further reduce the number of inappropriate referrals and ensure that only patients who need and want a TWOC are brought into the clinic.

## Next steps

The team has already begun to test these change ideas using [Plan-Do-Study-Act cycles](#). This will allow them to **analyse the impact of each change idea separately**, identify the questions they want each test of change to answer, and **decide on measures** that will show whether each change is producing the intended result.