

# **PDSA Cycles**

**Intervention: Introduce a patient information leaflet about kidney disease and the value of UACR measurement as a screening test**

## **A BMJ Quality Report**

Alice Willison, Vicki Tully, Peter Davey, Geraldine Brennan

## **PDSA Cycle 1**

**Aim:** what are you trying to accomplish?

To hand out and receive feedback on kidney disease patient information leaflets from 10 patients in the diabetes follow up clinic on 10/07/15.

**Plan:** what will your test be?

The kidney disease information leaflet has been approved by staff, but now needs patient feedback. I will sit in with the phlebotomist, Val, and hand out the leaflet when patients give the phlebotomist their urine sample. While the patients are having their blood taken, I will ask if they know why they need to bring in a urine sample, if they found the leaflet helpful and ask if there's anything they didn't like about the leaflet. I will write down their comments and take a note of how many patients remember to bring in a sample.

**Prediction:** what do you think will happen as a result of your test?

I think patients will read the leaflet and find it helpful, but have suggestions as to how I can make the leaflet more patient-friendly/understandable. From previous work, it is known that most patients do not know why they need to bring in a urine sample and I predict that this will be seen with these patients.

**Do:** what happened when you carried out your test?

The phlebotomist made it very easy for me to hand out the leaflet and ask the patients questions. I managed to receive feedback from 10 patients, but 2 of these patients could not read the type face (too small). Patients seemed quite unwilling to read the leaflet and it seemed to get in the way of the phlebotomist taking blood. Every patient found the word "microalbuminuria" to be too long, and 1 said the leaflet was "too technical" in general. 8 brought in a urine sample, 8 did not know why they brought in a sample, 1 said kidney problems, 1 said to look for protein. Overall patients did not find the leaflet engaging and 9 patients offered to give it back to me. I also had nothing planned to ask the patients, so I asked each patient different questions and received varied feedback.

**Study:** how did the results of your test compare with predictions?

The patients were disinterested and quite unwilling to read the leaflet, and most did not know why a urine sample was needed. The leaflet was said to be too technical, and patients did not like the word "microalbuminuria".

**Act:** how will you change your previous test in light of what you have learned?

I will make the leaflet easier to understand by removing technical words, and also try to engage patients more by making the leaflet more attractive. For patients who cannot read the type face, I will read out the leaflet to them and then ask for feedback. I will ask the phlebotomist to hand over the leaflet to patients when she takes their urine sample and then ask them questions in the waiting room, while they have spare time and will be more willing to talk to me. I will also plan which questions to ask the patients.

## **PDSA Cycle 2**

**Aim:** what are you trying to accomplish?

To hand out the improved - less technical and more attractive (added pictures) - kidney disease patient information leaflet and receive feedback from 10 patients in the diabetes follow-up clinic on 15/07/15.

**Plan:** what will your test be?

When the patients hand over their urine samples to Val, she will give them a new sample pot and a patient information leaflet – the patients will still receive this if they forget their sample. I will then let them read the leaflet in the waiting room and ask them the following:

- Did you bring in a urine sample and do you know why you bring it in?
- Do you understand more about diabetes and kidney disease after reading the leaflet?
- Are you more motivated to bring in urine samples now you know why?
- Did reading the information raise any concerns?

**Prediction:** what do you think will happen as a result of your test?

I think patients will be unwilling to read the leaflet due to the results of the last PDSA cycle, and the phlebotomist will forget to hand out leaflets to all of the patients. Patients will learn more about kidney disease and find the leaflet simple and easy to understand. Patients will be more motivated to keep bringing in urine samples and a third of patients will forget to bring in a sample.

**Do:** what happened when you carried out your test?

Feedback was given by 14 patients. The phlebotomist handed out a leaflet to every patient, but I only managed to speak to 14 out of 20. 6 brought in a urine sample, and 2 knew that the urine was used to look for “kidney problems” but didn’t know about protein. No patients knew protein was looked for in the urine, and most thought it was for a blood sugar check. Patients were generally very positive about the leaflet and only 1 was not interested in reading it. 13 patients found it helpful, found the language easy to understand, are more motivated to bring in a urine sample next time and had no concerns raised by reading it. I found myself talking to chatty patients for a long time and I missed catching all of the patients who were given a leaflet.

**Study:** how did the results of your test compare with predictions?

Patients were a lot more willing to read the leaflet than I expected, and I think this is because the phlebotomist told them to read the leaflet and said that I was going to be asking questions. They were also highly positive about how helpful the leaflet was, which I was not expecting. Talking to patients while they were bored in the waiting room was a much better technique. I did not think I would find it difficult to talk to all of the patients, but I struggled to stop talking to certain patients who were very interesting and friendly. This was distracting. I predicted a third of patients would bring in a sample but the test showed just under half did.

**Act:** how will you change your previous test in light of what you have learned?

I will continue to ask the phlebotomist to hand out the leaflets and ask the patients questions in the waiting room. I will try to keep the questions specific so that I can talk to everyone who is given a leaflet.

### **PDSA Cycle 3**

**Aim:** what are you trying to accomplish?

To hand out the improved kidney disease patient information leaflet and receive feedback from 10 patients in the diabetes follow-up clinic on 17/07/15.

**Plan:** what will your test be?

When the patients hand over their urine samples to Val, she will give them a new sample pot and a patient information leaflet – the patients will still receive this if they forget their sample. I will then let them read the leaflet in the waiting room and ask them the following:

- Did you bring in a urine sample and do you know why you bring it in?
- Do you understand more about diabetes and kidney disease after reading the leaflet?
- Are you more motivated to bring in urine samples now you know why?
- Did reading the information raise any concerns?

**Prediction:** what do you think will happen as a result of your test?

Patients will find the leaflet helpful, easy to understand and will be willing to read it. 75% of patients will be more motivated to bring in a sample next time. Half of the 10 patients will bring in a urine sample. The phlebotomist will hand out a leaflet to all of the patients.

**Do:** what happened when you carried out your test?

6 patients were interviewed as only one consultant was in the clinic seeing patients. The phlebotomist handed out a leaflet to every patient. 5 patients remembered a urine sample. Every patient found the leaflet helpful, easy to understand and said it raised no concerns. 5 patients were more motivated to bring in a sample next time, 1 said he is always motivated to bring them in. 2 patients knew the urine sample was to check for protein. Patients seemed very satisfied with the information leaflet. Patients seem to want to talk for a long time, and I think this is because the waiting room in the clinic is boring. Did not talk to all of the patients given a leaflet due to long conversations.

**Study:** how did the results of your test compare with predictions?

More patients than predicted remembered a urine sample. Over 75% of patients will be more motivated to bring in a sample next time. The phlebotomist was again reliable and handed out leaflets to all patients. Patients were satisfied with the leaflet, as predicted.

**Act:** how will you change your previous test in light of what you have learned?

Again, I did not talk to everyone given a leaflet because I found myself having long conversations with patients. I will need to address this by sticking to the four questions I set out to ask. All other aspects of test will be kept the same.

## **PDSA Cycle 4**

**Aim:** what are you trying to accomplish?

To hand out the improved kidney disease patient information leaflet and receive feedback from 10 patients in the diabetes follow-up clinic on 20/07/15.

**Plan:** what will your test be?

When the patients hand over their urine samples to Val, she will give them a new sample pot and a patient information leaflet – the patients will still receive this if they forget their sample. I will then let them read the leaflet in the waiting room and ask them the following:

- Did you bring in a urine sample and do you know why you bring it in?
- Do you understand more about diabetes and kidney disease after reading the leaflet?
- Are you more motivated to bring in urine samples now you know why?
- Did reading the information raise any concerns?

**Prediction:** what do you think will happen as a result of your test?

Patients will find the leaflet helpful, easy to understand and will be willing to read it. 85% of patients will be more motivated to bring in a sample next time. 75% of the 10 patients will bring in a urine sample. The phlebotomist will hand out a leaflet to all of the patients.

**Do:** what happened when you carried out your test?

I noticed the phlebotomist has started to tell patients why they need to bring in a sample before she gives them the leaflet – she has made an effort to improve her knowledge of this subject. She forgot to hand out 1 leaflet and didn't hand 1 out to a man that she explained to have a poor understanding of English. I tried to keep the interview short and only ask the four questions, but this was very difficult. 11 patients were interviewed, out of which 8 brought in a sample (73%). 10 patients found the leaflet helpful and were more motivated to bring in a sample. 1 already knew about kidney disease. All patients said it was easy to understand, and had no concerns or suggestions for improvement. 5 patients knew the sample was to do with the kidneys, and 4 knew about protein in

**Study:** how did the results of your test compare with predictions?

I did not think the phlebotomist would become so involved in the project – her attitude is encouraging patients to take more interest in the leaflet, and she never forgets to hand them out. 73%, not 75%, brought in a urine sample but the tests so far suggest approx. 75% of patients remember a sample. Patients again were satisfied with the information in the leaflet, and those who did not know about kidney disease are more motivated to bring in urine samples. I find the leaflet is not helpful for those who already know about kidney disease.

**Act:** how will you change your previous test in light of what you have learned?

I will need to be stricter with patients and myself to keep the interviews short and only ask the four questions. I feel my talkative personality type is problematic for this reason. I will keep all other things the same, and ask the phlebotomist if she thinks it would be possible to permanently keep these leaflets in her phlebotomy room to hand out to patients. It is difficult to give patients new information if they already know about kidney disease and why they bring in a urine sample – I think the leaflet should be kept the same (easy to read with minimal complicated information) for the sake of those patients who do not know about kidney disease.

## **PDSA Cycle 5**

**Aim:** what are you trying to accomplish?

To hand out the improved kidney disease patient information leaflet and receive feedback from 10 patients in the diabetes follow-up clinic on 22/07/15.

**Plan:** what will your test be?

When the patients hand over their urine samples to Val, she will give them a new sample pot and a patient information leaflet – the patients will still receive this if they forget their sample. I will then let them read the leaflet in the waiting room and ask them the following:

- Did you bring in a urine sample and do you know why you bring it in?
- Do you understand more about diabetes and kidney disease after reading the leaflet?
- Are you more motivated to bring in urine samples now you know why?
- Did reading the information raise any concerns?

**Prediction:** what do you think will happen as a result of your test?

Patients will find the leaflet helpful, easy to understand and it will motivate them to bring in a urine sample next time. The phlebotomist will hand out a leaflet to every patient and 75% of patients will bring in a urine sample.

**Do:** what happened when you carried out your test?

The same feedback from the last cycles was given – helpful, more understanding and more motivation. All of the 10 patients spoke approvingly of the leaflet, and feedback shows it is a good information source to hand out to patients. In this clinic, more patients than usual knew that protein was looked for in the urine (40%), but these patients still thought the leaflet is a good idea. 60% of patients brought in a urine sample. The phlebotomist forgot to give a leaflet to 1 patient and didn't give 1 patient a leaflet because she was a medical student and already knew about kidney disease. I gave these patients leaflets and asked for feedback/suggestions for improvement. Again, I found myself struggling to break away from conversations with patients in spite of my trying to do so.

**Study:** how did the results of your test compare with predictions?

More patients than I expected already knew about kidney disease and proteinuria. I understand why the phlebotomist didn't give the medical student a leaflet, but I find feedback from every patient is helpful. Fewer patients than I expected brought in a urine sample – I think the number of patients who bring them in is unpredictable (many forget, some say they were not told to bring one in).

**Act:** how will you change your previous test in light of what you have learned?

I will start my dialogue with patients as "I'm going to ask you four questions..." rather than "I'm going to talk to you about the leaflet..." to try to encourage patients not to have long conversations with me. Hopefully, I will be able to catch all of the patients who are given a leaflet by doing this. I will ask the phlebotomist to give a leaflet to everyone, unless they do not speak good English or cannot read i.e. will not be able to gather information from the leaflet. Translating the leaflet will be considered in the future, but not for the next cycle. Everything else will be kept the same.

## **PDSA Cycle 6**

**Aim:** what are you trying to accomplish?

To hand out the improved kidney disease patient information leaflet and receive feedback from 10 patients in the diabetes follow-up clinic on 22/07/15.

**Plan:** what will your test be?

When the patients hand over their urine samples to Val, she will give them a new sample pot and a patient information leaflet – the patients will still receive this if they forget their sample. I will then let them read the leaflet in the waiting room and ask them the following:

- Did you bring in a urine sample and do you know why you bring it in?
- Do you understand more about diabetes and kidney disease after reading the leaflet?
- Are you more motivated to bring in urine samples now you know why?
- Did reading the information raise any concerns?

**Prediction:** what do you think will happen as a result of your test?

Patients will find the leaflet helpful, easy to understand and it will motivate them to bring in a urine sample next time. The phlebotomist will hand out a leaflet to every patient and 75% of patients will bring in a urine sample.

**Do:** what happened when you carried out your test?

Feedback was given by 11 patients, and 3 patients said they would rather read the leaflet at home. the phlebotomist forgot to give the leaflet to 1 patient. 54% of patients brought in a urine sample and 72% didn't know what the urine sample was used for. 81% felt more motivated to bring in a sample after reading the leaflet and 100% said they think leaflet is helpful. I kept conversations short with patients and having more time to observe and talk to more patients showed me that they either read the leaflet in the waiting room, put it in a bag or pocket to read later or do not show interest in reading it at all. 1 patient said he had not had his urine checked for years and that he would show the leaflet to his doctor and ask for a test – the information was of great benefit to him.

**Study:** how did the results of your test compare with predictions?

A lower percentage of patients brought in a sample than expected. The phlebotomist forgot to hand out a leaflet once, but the prediction of 100% of patients having a leaflet was optimistic. All patients did say the leaflet is helpful, in particular the one man who was very motivated to have a urine sample check having not had one in years. I feel that raising awareness in patients like him show that this work is useful.

**Act:** how will you change your previous test in light of what you have learned?

I will try to encourage patients to read the leaflet in the clinic, rather than at home. All other things will be kept the same.

## **PDSA Cycle 7**

**Aim:** what are you trying to accomplish?

To hand out the improved kidney disease patient information leaflet and receive feedback from 10 patients in the diabetes follow-up clinic on 22/07/15.

**Plan:** what will your test be?

When the patients hand over their urine samples to Val, she will give them a new sample pot and a patient information leaflet – the patients will still receive this if they forget their sample. I will then let them read the leaflet in the waiting room and ask them the following:

- Did you bring in a urine sample and do you know why you bring it in?
- Do you understand more about diabetes and kidney disease after reading the leaflet?
- Are you more motivated to bring in urine samples now you know why?
- Did reading the information raise any concerns?

**Prediction:** what do you think will happen as a result of your test?

Patients will find the leaflet helpful, easy to understand and it will motivate them to bring in a urine sample next time. The phlebotomist will hand out a leaflet to every patient and 75% of patients will bring in a urine sample.

**Do:** what happened when you carried out your test?

The printer stopped working so I gave the phlebotomist 8 leaflets and spoke to 7 patients. The phlebotomist handed a leaflet to everyone apart from one patient who speaks limited English. The clinic was very quiet and another staff member was also asking patients about a research project, which meant I missed out on feedback from one patient. 86% of patients brought in a urine sample, 71% knew why they needed to bring in a sample. 100% said they think the leaflet is helpful, and 1 patient had not had a urine check for a long time – he said he would “stick the leaflet on the fridge” as a memory aid to have a sample tested. 1 patient said she would read it at home, and when I asked if she could read it now she explained that she did not bring her glasses to the clinic.

**Study:** how did the results of your test compare with predictions?

More patients than predicted brought in a sample, and every patient said the leaflet is helpful. When asked, patients say it's always good to have more information. The phlebotomist didn't hand a leaflet to everyone as one patient spoke little English, but this is understandable. More patients than expected brought in a urine sample.

**Act:** how will you change your previous test in light of what you have learned?

I think the leaflet is ready to be handed out constantly to patients, so I will try to have it translated into languages commonly used by patients in the clinic so that everyone can have access to the information. Everything else will be kept the same.

## **PDSA Cycles**

**Original intervention: Introduce a computer protocol for annual testing of UACR, rather than automatic testing whenever a patient brings in a urine sample.**

### **A BMJ Quality Report**

Alice Willison, Vicki Tully, Peter Davey, Geraldine Brennan

**PDSA Cycle 1****Aim:** what are you trying to accomplish?

Present at a team meeting at the diabetes centre to agree on ACR guidelines that will be handed to the lab technician within 2 days.

**Plan:** what will your test be?

Hand out the ACR guidelines to the staff and ask for feedback/approval.

**Prediction:** what do you think will happen as a result of your test?

The ACR guidelines have already been approved by the clinical lead and the clinical supervisor of the project, so I predict there will be no changes to make before the guidelines can be given to the lab technician.

**Do:** what happened when you carried out your test?

The consultants were concerned that patients who have high ACRs will need to be included in the guidelines. It was suggested that an additional few sentences were added to the ACR guidelines regarding patients who have high ACRs and need further testing.

**Study:** how did the results of your test compare with predictions?

The guidelines need to be altered, which I was not expecting. However, only a few sentences are needed before I can hand them to the lab technician.

**Act:** how will you change your previous test in light of what you have learned?

Changes will be made to the ACR guidelines, and I realise that approval from the clinical lead and my project supervisor is not enough to ensure that there will be no additional changes to make.

**PDSA Cycle 2****Aim:** what are you trying to accomplish?

Agree on a method that changes the ACR testing in the lab to annual review instead of automatic.

**Plan:** what will your test be?

I have created the guidelines requested by the lab technician and had them approved by the clinical lead at the diabetes centre and my project supervisor. These will now be sent to her colleague for approval.

**Prediction:** what do you think will happen as a result of your test?

The lab technician will send these guidelines to the lab lead and the changes will be made accordingly – ACRs will be set to annual review for all patients, except for those in the renal clinic, and patients with elevated ACRs will be able to have further testing done.

**Do:** what happened when you carried out your test?

The guidelines were accepted to be a good idea by the lab technician and the lab lead, but it is not possible to carry out all of the requested changes: “how are the clinicians in the clinic going to decide which follow up samples are to be done, and which not, given that the patient hands in the urine sample at the time of phlebotomy, and tests are entered before the patient sees the clinician?”. The clinician involved in the correspondence then suggested that this is better suited to work being done elsewhere in the clinic. It was suggested that this is further discussed in a meeting with the relevant team members from each department.

**Study:** how did the results of your test compare with predictions?

The ACR guidelines were accepted to be a good idea, but the prediction of these changes being made was not met because of the time delay between patients coming to clinic to meet the consultant and the return of the ACR. It seems there is no electronic fix for this issue, which I had previously thought there to be.

**Act:** how will you change your previous test in light of what you have learned?

The guidelines will be kept for future reference, and a different approach to changing the ACR to annual review must be found. A meeting will be held with the relevant team members from the lab, the diabetes clinic consultants and the quality improvement department to find a solution to the problem.