Co-design Partners in Care case study

A pharmacy service on discharge (Bay of Plenty District Health Board)

Context

What's my medicine called? What is it for? When and how do I take it?[1] What changes have been made to my medication while in hospital? These are questions health care professionals frequently assume a patient has answers to before they are discharged into the community, but often they don't.

We are a team of two pharmacists and a pharmacy technician at Bay of Plenty District Health Board (BOP DHB). We wanted to improve patient experience at the point of discharge, as recent evidence highlighted a lack of patient understanding of medication side effects and self-management on discharge.[2]

At present, medication side effect information is shared verbally in an ad-hoc manner by pharmacy, nursing and medical staff. Pharmacists are heavily involved during a patient's admission, but often less so in the discharge process. Paperwork prepared on discharge is directed towards health care professionals and is not designed to be understood by the patient, making it difficult for patients to recall and understand relevant information about their treatment and ongoing care.

Aim

The aim of our project was to work with patients, ward staff at Tauranga Hospital, and staff at hospital and community pharmacies to determine the potential benefits of providing increased pharmacy support at the point of discharge at BOP DHB.

We wanted to improve the quality of information patients receive about their medication, improve communication between health care professionals and patients about their medication, and improve patient understanding and confidence in their medication before going home.

Engage

We created two elevator pitches – one aimed at patients and one at staff. The goal was to engage patients and staff in the wards and the transit lounge at Tauranga Hospital to see if they would be interested in being involved.

We had support from senior leaders, including our project sponsor, the pharmacy manager and the quality and patient safety manager.

[1] Questions that featured in the Health Quality & Safety Commission's Patient Safety Week 2017. URL: www.hqsc.govt.nz/our-programmes/patient-safety-week.
[2] Health Quality & Safety Commission. 2017. *Raising the Bar on the National Patient Experience Survey*. Wellington: Health Quality & Safety Commission. URL: www.hqsc.govt.nz/our-programmes/partners-in-care/publications-and-resources/publication/2927.

Capture

We gathered baseline data from patients/carers about their experience on discharge using the following methods:

1. Individual patient stories/narratives from inpatients at Tauranga Hospital (n=2).
2. The BOP DHB patient experience survey, using keywords 'medication' (n=121) and 'side effect' (n=49).
3. We graphed the patient experience as being either positive or negative to collate patient feelings overall.

- **Patient 1**: An elderly Māori patient who had been readmitted*:*

  'I always bring them in (medicines) but they didn't look at it or anything. What they were giving me was just what they wanted, and it wasn't really all that I was having at home. Yeah there were a few missing. How come I haven't been getting this, the metformin?'

  '… they didn't explain why the medication changes were happening.'

  'It's only been since I've been on this Novo insulin that I seem to be getting low on my sugars. When I was on Protaphane – no problems. I don't know how many times I've been hypo since I've been in here, three times on this Novo insulin. And I didn't get struck (hypoglycaemic) like this, like I get struck in here (in hospital). I just conk out.'

  'My nephew he was mighty at looking after me, but he has gone overseas now. Because he was making sure I had the right tablets at the right time. And he made sure that I took it.'

  'I owe about $60 to my community pharmacy (for blister packing), but I will pay it, no, no, no, tell them I will pay it. I also owe money to my GP, he's $56.'

  'Yes I would like to see that pharmacist again before I go home. Make sure my blister pack is right.'

- **Patient 2**: Discharged from hospital with a prescription for oral vancomycin for *C. difficile* infection. When the patient went to the community pharmacy they were turned away until a temporary supply was organised via the hospital pharmacy, as they did not have this medication in stock. This situation caused a delay in the patient receiving their antibiotics which would have been avoided had the community pharmacy been notified in advance that they needed to order vancomycin stock.

  'I'm not sure whether the pharmacist came to see me at the hospital…'

  '… I wasn't quite aware of everything that was going on.'

  'That was a little hiccup… but it didn't bother me… the (community) pharmacist reassured me that he would see what he could do.'

  'I don't think that medication (vancomycin) was one of the very important ones…'

  This narrative highlights this patient's lack of understanding as this medication was key in their treatment and recovery.

Figure 1: BOP DHB patient experience survey provides an illustration of where patients identified positive and negative experiences in their journey.

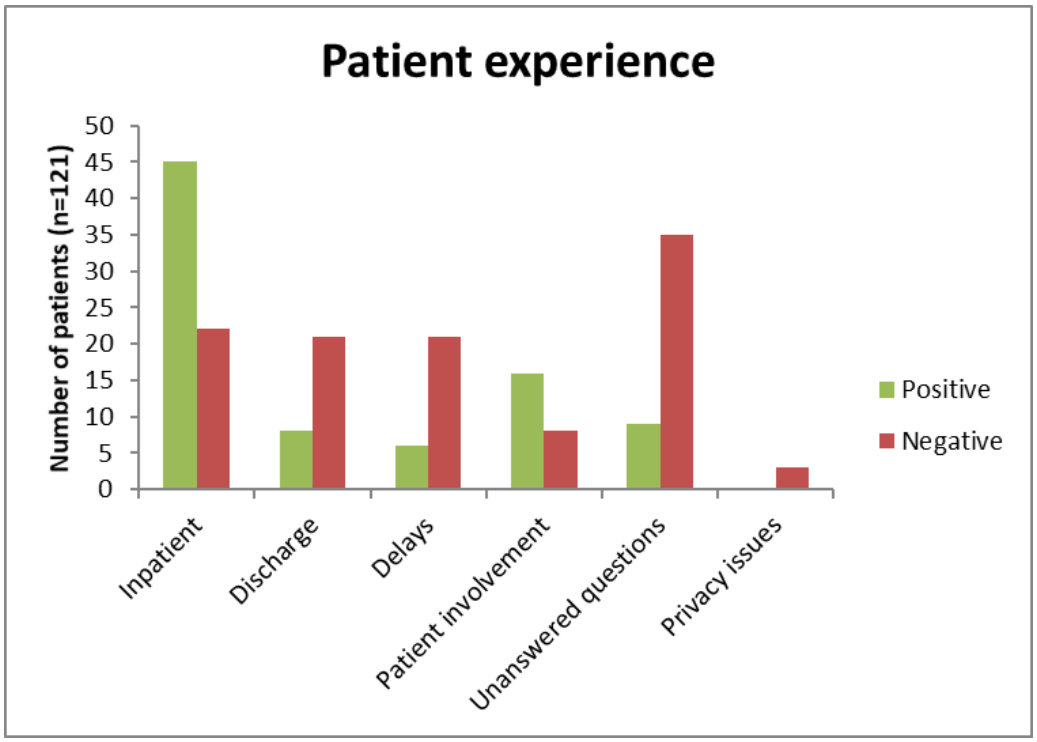
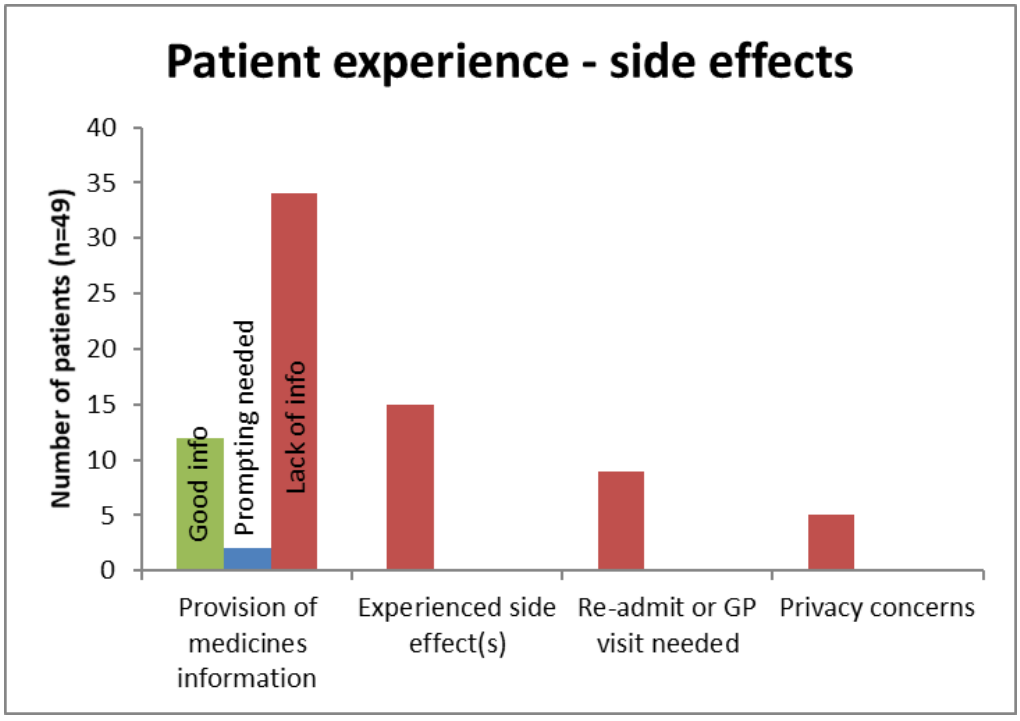


Figure 2: BOP DHB patient experience survey provides an illustration of the positive and negative experiences relating to medication side effects.



We gathered information from hospital staff (nursing, allied health and pharmacy) and community pharmacy staff. We asked DHB staff about their thoughts on the current process (good and bad, how it made them feel, and their ideas for improvement) using the following methods:

1. Hospital pharmacy team meeting (14 pharmacists, one technician).
2. Informal discussions with nursing staff and allied health (n=7), one in-depth interview of a nurse on a quality day.
3. Electronic community pharmacy survey (27 pharmacies phoned, 25 accepted invitation, 11 responded – 40 percent response rate).

Key themes identified by staff were as follows:

- Nursing, allied health and pharmacy staff felt our current IT system is out of date. *'The DHBs are scored on how well they utilise IT systems, BOP is at 2 out of 7'* (registered nurse).

- When asked about adapting their referral process, allied health staff felt the current paper-based referral process was 'terrible'. Referrals were large in number, lacked detail and were delayed. *'We get more information from rapid round.'* These feelings were shared by other allied health staff members.

- Nurses felt completing referrals took time away from caring for patients, and allied health should review patients themselves. *'They've got their name, NHI number, and notes. What more information do they need?'*

- Nursing staff valued pharmacist input on the ward but were unclear regarding the role pharmacists play on discharge. *'Nurses aren't aware of what pharmacists can do* (on discharge)'. *'I would like the pharmacist to move in, set up an office in the corner, and stay all day'* (registered nurse).

- Staff admitted to skipping medication education for patients who have '*generally been on the medication before*'. *'We probably don't tell them, we assume they know.'*

The findings from the 11 community pharmacies surveyed included the following:

- All pharmacies contacted the hospital to clarify a discharge prescription at least once a month, and five pharmacies contacted the hospital at least once a week. This caused community pharmacy staff to feel stressed and frustrated.

- Issues that most frequently required clarification related to medication funding or were clinical in nature.

- Nine pharmacists would like **all** medication details listed on the discharge prescription (that is, whether the medication is new, continued, stopped and/or increased/decreased). *'All information should be visible, as this helps us to know what reconciliation has already happened and exactly what is expected going forwards.' 'Lack of detail is the most common problem.'*

- Four pharmacies provide their patients with medication cards. A further six pharmacies were open to providing medication cards if there was a suitable IT system.

Understand

We used a Venn diagram to understand common themes identified in the capture phase.

Patients, hospital and community staff felt there was a lack of explanation of medication changes, and lack of information is contributing to patients experiencing unnecessary side effects, such as opioid-induced constipation and antibiotic-associated thrush. Seven out of 15 patients who experienced preventable side effects returned to the emergency department or their general practitioner. A further 2 out of 49 patients went to their general practitioner as they were confused about what medication to take on discharge.

The quote below from a pharmacist is representative of the general feeling of other pharmacists.

'It was unnerving to learn that patients felt unprepared or were going home with unanswered questions. We have a focus on ensuring that things are correct from the beginning (on admission) and often think things will follow through smoothly to discharge. It goes to show the discharge stage is just as important as admission.'

Patients want to understand the reason for any medication changes and potential side effects, receive information at the appropriate time, and have an opportunity to ask questions. They would also like to know who to contact if they need further advice.

Having spoken to patients, hospital and community staff, we identified a number of resource issues. These included:

- lack of availability of pharmacists on the ward or technician resource due to rostering requirements

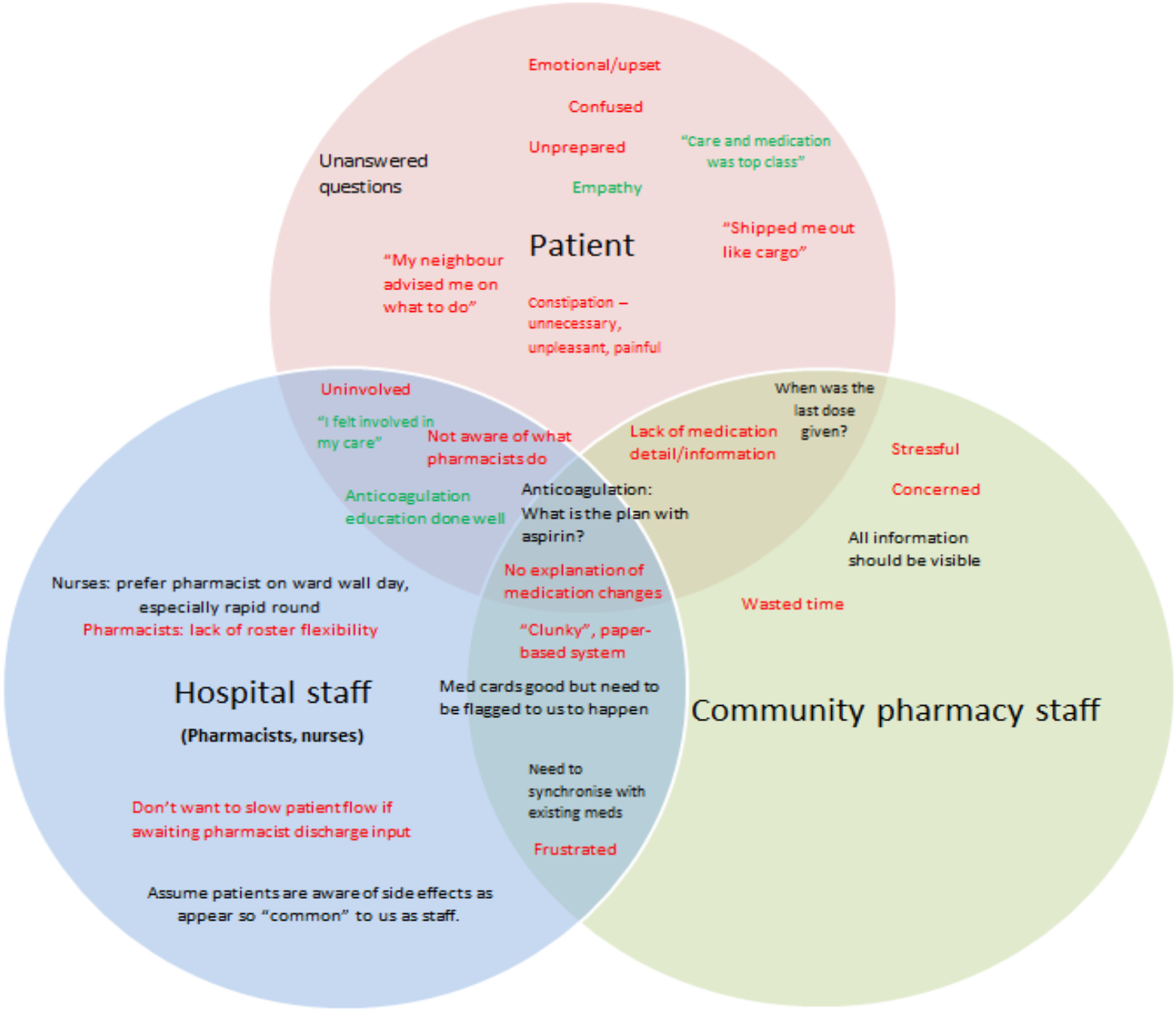
- limited IT infrastructure/paper-based systems

- paper-based referrals leading to delay in care and lack of adequate information

- referral systems adding to heavy nursing workloads.

- community pharmacies being receptive to making medication cards on discharge if there were adequate IT systems and they were notified in timely manner.

Figure 3: Venn diagram illustrating the key themes that emerged through the capture phase.



Improve

Patient ideas for improvement included the following:

- **Patient 3**: *'I had to ask about side effects, issues with the medication and my pill, issues with feeling after surgery. These should all be standard things mentioned to the patient.'*
- **Patient 4**: *'An FAQ sheet at discharge would have been very helpful as I was unprepared for the side effects from the anaesthetic so had to rely on Google.'*

We came to understand that paper-based referrals were unlikely to work well for our proposed discharge service. Those practitioners surveyed (n=5) suggested that we contact the prescribing team using the paging system or a note in the discharge summary, to alert them that a pharmacist would like to be involved in the discharge process.

Changes that we have trialled to date include the following:

- Introducing pharmacist-led medicine reconciliation on discharge.
- Reviewing the discharge medication list to reduce medication errors.
- The pharmacist preparing the medication section of the discharge summary for prioritised high-risk patients. This highlights changes made to the patient's medication while in hospital.
- The pharmacist or technician providing education for selected patients about their medication and preparing a medication card if necessary.
- The pharmacist or technician liaising with the patient's community pharmacy to fax prescriptions and arrange blister packs if necessary.

While testing improvements, a pharmacist identified a patient who was unaware they were to stop their carbimazole post-thyroidectomy. The house officer assumed they knew to stop this as their thyroid had been removed, and so did not document this in the discharge paperwork.

Example of pharmacist medicine reconciliation at discharge:

Before

BAY OF PLENTY DISTRICT HEALTH BOARD RAUORA A TOI

(Circle one)
Y4 0 - 5 yrs
J4 6 - 17 yrs
A4 >= 18 yrs
O Oral Contraceptive
NS Not subsidised

PRESCRIPTION
Tauranga Hospital
Cameron Rd Tauranga
Phone 07 579 8000

Pharmacy use Only
[Item Count____]
[Subsidy Card___]

Full Prescriber Name: **Prof. Reg. No.:**
Prof. Group: _____ (eg doctor, midwife etc)
Name of Patient: **DOB:**
Address of Patient: **NHI:**
NEW ZEALAND

Description	Dose	Directions	Quantity	Period
Levothyroxine	100mcg	PO OD		1/12
Paracetamol	1g	PO QID		1/12
Codeine	30-60mg	PO QID PRN		1/52
Tramadol	50-100mg	PO QID PRN		5/7

☐ Generic substitution is NOT permitted if checked.
Date: **Signed:** _____
Name of Consultant:

*Dispense Stat-List Medicines Once Only Unless "Endorsed Close Control".

After

BAY OF PLENTY DISTRICT HEALTH BOARD RAUORA A TOI

(Circle one)
Y4 0 - 5 yrs
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Prof. Group: _____ (eg doctor, midwife etc)
Name of Patient **DOB:**
Address of Patient: **NHI:**
NEW ZEALAND

Description	Dose	Directions	Quantity	Period
Levothyroxine	100mcg	PO mane (thyroid hormone)	NEW	1/12
Paracetamol	1g	PO QID PRN pain		1/12
Tramadol	50-100mg	PO TDS PRN strong pain		5/7
Quinapril	20mg	PO daily	CONTINUE	
Metformin	500mg	PO BD	CONTINUE	
Omeprazole	20mg	PO daily	CONTINUE	
Bezafibrate Retard	400mg	PO nocte	CONTINUE	
Carbimazole		(thyroid removed)	STOPPED	
Gliclazide		(Diabetes RN low HbA1c)	STOPPED	

☐ Generic substitution is NOT permitted if checked.
Date **Signed:** _____
Name of Consultant:

*Dispense Stat-List Medicines Once Only Unless "Endorsed Close Control".

Measure

We gathered patient stories from patients/carers who received pharmacist or technician education or input on discharge (n=2).

- **Patient 5**: An elderly chronic pain patient with short bowel (choice of opiates, onset and duration of action).

  'It all makes sense now, now that someone has taken the time to explain it to me. Thank you for taking the time, it really helps. My GP was increasing my fentanyl patch every few days but it wasn't working, I'd much prefer to be back on morphine as it really helped with my loose bowels too.'

  The patient was able to change back to morphine and manage their pain on a much lower opiate dose.

- **Patient 6**: Admitted because of accidental zopiclone overdose that came about because of poor medication habits.

  'I haven't needed sleeping pills at all since I've come home.'

  Confidence in medications: '*It's good… I don't have to write them down or organise them (now that they're in blister packs).'*

  'The community pharmacist came to visit me today and took away all of my excess medication… she was very good. They are going to see if they can stop my vitamin tablets.'

Can we do anything better next time?: '*Not really…I haven't got a list of my medicines yet and you said you would send this to me when I went home.'* (We organised to send her a medication card.)

Pharmacy technician:

'From the feedback of patients after our medication card service, I know they are left feeling well informed and cared for. This creates job satisfaction for me as a technician and I love being able to utilise my training to its maximum.'

We gathered survey feedback from prescribers who had received pharmacist input on discharge (n=5):

- Prescribers felt that **all** medication changes should be detailed on a discharge prescription for long-stay, high-risk patients (that is, whether the medication is new, stopped, continued and/or increased/decreased). Many prescribers have now adapted this format when routinely writing the discharge script.
- All prescribers felt that pharmacist input on discharge was 'highly beneficial'.
- All said they would use a pharmacist again for prioritised high-risk patients and felt confident and reassured in having a pharmacist prepare the discharge script.

  'I feel reassured that I haven't missed off previous medicines, and that discrepancies have been identified.'

  'Confident, although I would double- check the medication section myself.'

  'I think the work that the pharmacists are doing is great, particularly medicine reconciliation and constant review of medication prescribed.'

Our data collection phase is in its early stages. We plan to collect more patient stories and patient feedback/ideas for improvement, using a paper questionnaire or follow-up phone calls. We will also begin recording the number of pharmacist interventions on discharge paperwork.

Working as a co-design team

As a team, we had rostered work time to complete our project, which really helped. However, we found it was also useful if we delegated tasks and worked on them individually to fit in with our own workloads.

At times, progressing with the project was difficult due to time constraints, such as competing priorities/rosters, staff turnover and annual leave, but we are happy with what we have achieved to date and aim to continue. Working with our current manual, paper-based system was difficult and we plan to liaise with IT and the Midland eMedicines Management group about our IT functionality in the future. We also learned a lot from gathering qualitative data about thoughts and feelings, as this was a new concept for us.

Working together with patients towards a shared outcome has positively changed our practice. We feel that 'seeing aspects of health care from a patient's viewpoint' is invaluable, and can see the benefit in taking a little extra time with a patient to improve patient involvement and health outcomes.

The project team

Name	Role	Email	Organisation
Ashleigh Eaden	Pharmacist	Ashleigh.eaden@bopdhb.govt.nz	BOP DHB
Tamsin Willis	Pharmacist	Tamsin.willis@bopdhb.govt.nz	BOP DHB
Kelly Hiha	Pharmacy technician	Kelly.hiha@bopdhb.govt.nz	BOP DHB
Nada Byrne	Consumer		