3D Case study report

Beddoes (Practice 26)

Table 01 Beddoes data sources

	Context	Adoption	Delivery Ch 5	Response Also Ch 6	Fidelity and reach
Practice profile form	✓				
Clinician questionnaire	✓				
Observation of part 2 training	✓	✓			
Trainer feedback and participant evaluation forms	✓	✓			
Initial interviews with practice manager, 3D lead GP and lead nurse	✓	✓			
Field notes from practice visits, interviews and observations	✓	✓	✓		✓
Observation of 3 nurse and 3 GP reviews			✓		✓
Interviews with a second GP and nurse			✓	✓	
Final interviews with practice manager, 3D lead GP and lead nurse	✓		✓	✓	
Focus group with 7 patients	✓		✓	✓	✓
Interviews with another 5 patients			✓	✓	
End of trial practice profile	✓				
Final clinician questionnaire				✓	
Quantitative data					✓

Context

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<u>The practice</u>

The practice served approx. 5700 patients in a moderately affluent area with pockets of relative deprivation. It occupied an adapted residential building in a small town. The waiting area was small with two additional seats in the glass entrance porch. Reception was behind a glass hatch through which several staff were visible in an office further back. There were three consulting rooms and a treatment room on the ground floor and upstairs one consulting room, a meeting room and two offices. Offices were shared and the meeting room also served as an office for four people. Due to limited space, there was some strain over researchers' need to use a computer at set-up and close of the trial. The practice also had a satellite surgery in a neighbouring village.

Four GPs, of whom three were partners, and three nurses covered the two locations and they also had two health care assistants who helped with LTC reviews. The practice manager was the key contact with the practice and seemed very energetic and approachable. There was a strong team ethos, evident in the emphasis on communication, which the newly arrived lead nurse commented on. *'The communication's very good…There's meetings once a week and any problems the GPs' doors are always open'* and *'the admin support's fantastic and we work well as a team throughout.'[NU1]*. The 3D lead GP agreed and attributed this in part to their size and regular meetings. *'I think our advantage here is size. We're such a small practice and we have Monday meetings every week, clinical meetings where the clinical staff meet together, that we're in a good position, really, to talk about things and problems as they arise. We also meet each lunchtime – I mean the partners, normally have a sandwich together over lunch. So, we are very close-knit.'*[GP1]. The practice manager highlighted the extensive use they made of the instant messaging function in the EMIS computer record system.

The three partners had been at the practice a long time and claimed to know their patients well. There was a very experienced lead nurse, who could review all the major LTCs and two treatment room nurses who also did reviews, being trained in either diabetes or respiratory conditions. The lead nurse compared the practice very favourably with her experience of other practices. She described being told at her recruitment interview that the practice wanted to improve the care of older people with multimorbidity and subsequently initiated changes to the LTC review system.

Answers to the clinician attitudes at baseline (Appendix 22) indicated some readiness to engage in shared action planning with patients. They were ambivalent about whether the care

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they currently provided was too disease-orientated and divided on whether patients' main concerns may be overlooked during review of LTCs. When interviewed, GP1 expressed a strong wish to encourage patients towards taking more responsibility for their healthcare and expected that patients would initiate reviews and blood tests when they were due. *'It's the patient's responsibility; it's their life, their health, they should be…taking that responsibility.'* [GP1]

Patients

3D recruitment was 42% of those invited and totalled 57, higher than in most practices (**Error! Reference source not found.**, practice 26). The practice manager said their participating patients were very keen to receive the intervention. Some had phoned asking when they would have their review before the practice had started arranging them. *'The only difficulty we had was that the letters were sent out to … the patients signed up for the study and then started ringing us to try and make the appointments, but we were like, "No, we've not invited you yet".'* [PM]

Interviewed patients were generally very supportive of the practice and felt it was better than others they knew about. *'I've always found them really good and if you're really ill they're excellent and….when I hear other people speak about the doctors' surgeries they go to I think we're extremely lucky.'* [Pt 4]

Current LTC care provision

The practice manager and lead nurse explained that they were in the process of changing their LTC review system so patients had a review in their birthday month including, if possible, all their LTCs, so that patients came in no more than 6-monthly. Diabetes and respiratory conditions were generally not combined due to the separate skills of the nurses. The nurses managed virtually all LTC reviewing, leaving only severe mental health problems and dementia to GPs. There was a diabetes clinic at which a nurse and GP worked together.

One GP explained that their patients were used to taking the initiative on arranging their reviews. To check no-one was missed, an EMIS search identified those due a review and whether they had an appointment. If necessary a reminder letter was sent.

According to the practice profile, patients were encouraged to see their named GP whenever possible. Care plans were not used. Patients with respiratory disease or diabetes were routinely screened for depression. Patients could be referred to the community pharmacist who visited them at home and discussed medication use and identified over-supply of

medications. Patients could book routine appointments with either nurse or GP up to four weeks ahead.

3D adoption

Initial responses

From training observation, evaluation forms and subsequent interviews, the practice were generally positive about the 3D training and the intervention itself. There was lively engagement in the discussion and they agreed with the research team's description of the challenges faced in caring for patients with multimorbidity. System change to offer combined reviews was already underway and 3D seemed a good opportunity to achieve their aim of providing better care for their older patients with multimorbidity. They also aspired to greater patient-centredness and increased self-management of LTCs, changes that were also sought by their local CCG.

However, not all GPs were as enthusiastic as the 3D lead GP, which she explained by referring to different dispositions. *'I think some of us are glass half full and some are glass half empty' [GP1]*. There were some genuine concerns too, over the logistics of organising appointments and finding enough time. *'Logistics coordinating nurse and doctor appointments - something to look at as a practice' [post-it note during training]*. The possibility of patients not attending the appointments was also mentioned, which since they were long appointments would mean significant loss of appointment time.

The perceived potential to benefit patients and enhance their experience outweighed these concerns. *'Hopefully, they'll have a better experience…[and] be more satisfied at the end of their review.' [GP1]* They welcomed the idea that care would be more holistic and co-ordinated, especially if it also reduced the number of times patients are called in. *'I would hope it means that they're seeing the doctor that they want to see and…they're not having to come back for a second med review appointment, which they did before.' [PM]*. Depending on the effect on appointments and on patient response, the practice would consider adopting the system for all their patients at the end of the trial. They saw it as potentially *'Spending time to save time ultimately and provide better outcomes' [training evaluation comment]* and anticipated that it might prompt patients to take more responsibility for their care. It could also lead to patients feeling more valued, listened to and looked after.

Novel aspects welcomed by the 3D lead GP were the template and the way it selected all and only the conditions the patient had and the use of a printed-out health plan with patients' goals. *'I think also giving them an actual printout at the end, the patient. Some information is*

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probably quite new as well because, although we always talk through goals with our patients, I wonder how much of it goes in sometimes and what they actually remember, going away. We've never really printed out that information for patients before.' [GP1].

There were some less positive comments about the 3D set-up process. These referred to the difficulty in managing two three-hour training sessions and identified a need for hands-on practice with the template, which was not provided. *'It's always difficult, isn't it, when you have training, because you're shown something on a screen? You all sit there and think, "That looks straightforward." Then, of course, you come to actually use it yourself, and perhaps a couple of weeks have gone past and you think, "How did that work? What was I doing with that? What did they tell me to do?" I think, until you get using something, it's fairly hard.' [GP1]*

The practice manager felt she had been misled about the time required by the research team to do the set-up, including installation of the template and searches. She would have liked an accurate estimation of time requirement, saying the practice would still have taken part if they had known this and would have been more prepared for it. She questioned the number of meetings required by the research team and felt that more could have been left to their own IT expert to do. This would have been less inconvenient for them as it would have avoided an extra person taking up a computer for an extended period of time. *'Sometimes having a little bit of trust that we are speaking to the rest of the staff makes it easier than trying to organise a big team meeting… Now it's set up, it's easy and it's making life easier and the searches are easy to run and the care plan is easy to use. So now it's set up it was all worth the hard work, but it just felt like we were wading through mud at the beginning.' [PM]*

Planning

The start of 3D reviews was significantly delayed due to difficulties in finding time for the training and then staff sickness. The first training session took place in Sept 2015 and the second in November but reviews were not started until January. The practice recognised the challenge that offering combined reviews presented to the nurses. *'We have a nurse who very much is respiratory trained and one who does all the diabetes and is trained to that level. So I think…doing the whole review at one time is quite challenging for us.' [GP1]*. They therefore took advantage of the delayed start to give the nurses some additional training, so they could all undertake 3D reviews. *'It's highlighted training needs for the nurses, because we wanted all the nurses to get involved instead of just one nurse, so that we could offer more*

appointments. It's meant that we've offered them some more skills, which is never a bad thing.' [PM]

They also used the time to think carefully about how they would arrange the appointments and discussed it in practice meetings. The practice manager was clearly the lynch pin but clinicians and the administrative team were all involved in deciding how to set up the reviews. *'We'd had a team meeting after the training with the senior nurse and the GPs to decide what was the best way forward and then I met with the admin team to say, "What would you like to see on your screen so that you know they're part of the 3D study and so that you know about the appointments?" and that's how we've got different colours and pop-ups and things like that, because that was their preference.' [PM]* Prompts and pop-ups in EMIS ensured that everyone was aware of 3D and the receptionists were kept well-informed by the practice manager *'everybody's aware of it. Everybody's talking about 3D pop-ups and stuff' [PM]*.

Allocating patients to a usual GP and Nurse for 3D was relatively straightforward as all GP partners and all the nurses were involved. However, some patients were moved to a GP other than the one they usually saw so that the number of patients was equally shared between GPs The community pharmacist attached to the practice who had attended the 3D training undertook the 3D medication reviews by visiting patients at their home. This was different from other practices where reviews were often done by a pharmacist who was not connected with the practice and who did the reviews by remote access to the electronic records.

Appointment system - 3D reviews and interim appointments

The practice manager explained that letters inviting patients to arrange the first 3D appointment would be sent by a receptionist. After seeing the nurse, the patient would arrange the GP appointment at reception and the nurse would inform the pharmacist to do the medication review. They decided to start with a 30-minute appointment for the nurse and a 20-minute appointment for the GP and adjust those times if needed. The HCAs continued to see the diabetics to take bloods prior to the 3D review appointments. Because of a slow start, most of the reviews were done in a bunch towards the end of the time window rather than being distributed by birthday.

They planned to save slots for emergency appointments for 3D patients so they could be fitted in with their usual GP. If the slot was not filled they would release it just before the surgery. This plan was not implemented.

Table 02 Beddoes system changes to adopt 3D

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Care features specified by 3D	Existing practice system	System changes for 3D
Continuity of care with named GP and nurse	Small GP practice with only 3 partners. Practice claims that patients can usually see GP of their choice and all patients have a named GP	Needed to allocate patient's usual GP as named GP for 3D. A few patients were changed from their current preferred GP to even the distribution of 3D patients
Patient recall for reviews every 6 months	Annual reviews based on birthday month. Administrator uses spreadsheet generated by a search to identify patients due review. Moving towards recalling patients just once or twice a year to cover all conditions at once	Adjust to recall 3D patients both during birthday month and 6 months preceding or following to fit with 3D time frame. Separate spreadsheet created for 3D patients to invite them for reviews. Nurses prompt patients to arrange the second part of review with GP.
Letter sent inviting patient for 2-part 3D review and to think about their priorities before they come	Letter sent to patient to inform them they are due review and inviting them to make appointment. Patient responsibility to make appointment	Letter specifying 3D review due. No detail about the nature of the review.
Longer appointments for reviews of all conditions at once and identification of any other health-related problems	Mostly reviewing all conditions at once and using longer slots if needed	Only 30 minutes allowed for nurse appointment at start. To be adjusted later if needed. Additional nurse training to facilitate combined reviewing. 20 minutes for GP appointment

Pharmacist to perform medication review	Community pharmacist employed by CCG who sees patients referred because of problems with their medication. Pharmacist visits patient at their home.	Will use the same community pharmacist for 3D. He has agreed to see all 3D patients in their home
Availability of (longer) appointments with named GP between reviews when needed	Some complex patients were flagged on the electronic patient record as needing a double appointment every time they came	Planned to embargo one slot a session per GP for 3D patients but did not implement this

Response

The practice was the most positive among those sampled in its response to 3D. The practice manager and 3D lead GP felt that they might continue with the intervention in some form. They had reservations about the length of the reviews, especially the second one which they felt could be shortened and arranged solely with the nurse unless a patient had issues requiring a GP review. *'Forty minutes with the nurse, then twenty minutes on a separate appointment with the doctor, then six months later two more twenty-minute appointments. I think patients have found that a little bit too much. I think if they just came in once and had it done like at six months with the nurse for fifteen minutes or twenty minutes, they'd find that much easier to manage.' [GP1]*

They had mixed feelings about the patient agenda, noting that some patients struggled to think of things they wished to discuss while others raised relatively trivial issues that were nothing to do with their LTC or health problems that were very long-standing and intractable. On the other hand they thought it was useful for finding out what was bothering the patient *'because sometimes they come in and they don't tell you' [NU3]*

The clinicians mostly liked using the template and thought that with a little modification they might continue to use it for all their patients with LTCs.

<u>Patients</u>

Seven patients attended the focus group and a further five were interviewed individually

Patients were already very pleased with the care they received from Beddoes, but did feel that

the 3D reviews offered something they had not previously experienced. 'T*he great thing about this is that they're looking at you as a whole being and taking everything into account, and that is very new'* [Pt 7]. Being given the extra time and invited to talk about all their concerns seemed to be the most valued aspects. *'It makes sense to me to be able to discuss it all at the same time but not feeling pressured or rushed because of time'* [Pt 9]

Continuity of care was clearly important and one patient who had been allocated a different GP for 3D was disappointed by that. '*The only thing I found was that [GP3] is my doctor and has been for many, many years but I was asked to go to [GP1] for this particular study and I thought 'oh well I'll have to go to her'...she doesn't really know me.'* [Pt 8]

Fidelity and reach

Observation of consultations showed that all clinicians followed the template during their reviews. The nurses and one GP did so very obviously but the other two GPs seemed to integrate it into their normal consultation style. Difficulty with printing the health plan was observed. The EMIS search showed that component completion was high except for medication adherence and review of pharmacist's comments in the GP part of the review. Components of the nurse review were completed at a minimum level of 98% (Appendix 2)

Despite their late start, the practice did manage to complete 80% of the first round of 3D reviews. When it came to repeat them at six months they found themselves up against the trial deadline but still managed 82% second round reviews. Continuity of care with the named GP dropped between baseline and the end of the trial probably because some patients were switched to a different GP than the one they usually saw for the purposes of 3D reviews (Appendix 2)

Davy (Practice 69)

Data sources:

	Context	Adoption	Delivery Ch 5	Response Ch 6	Mainten-ance
Practice profile form	✓				
Clinician questionnaires	✓				
Observation of part 1 and 2 and refresher training	✓	✓			
Observation of administrative set-up meetings	✓	✓			

Trainer feedback and participant evaluation forms from part 1 and 2 training	✓	✓			
Initial interviews with administrator arranging 3D appointments	✓	✓			
Field notes from practice visits, interviews and observations	✓	✓			
Observation of 1 GP consultation			✓		
Mid stage interview with lead GP	✓	✓		✓	✓
Final interview with nurse			✓	✓	✓
Focus group with 7 patients and 2 carers			✓	✓	✓
End of trial practice profile	✓				
Final clinician questionnaire				✓	✓

Context

<u>The practice</u>

The practice was in a suburban area of moderate affluence. It had approximately 14,500 patients and was housed in a purpose-built building which it had outgrown. Plans were underway to build a large extension. The building was accessed from a car-park through a small lobby to a reception area. There were two closed-off reception stations behind glass screens. Usually only one receptionist was at the station with a short queue waiting to speak to her. Offices were accessed from a door at the side of reception and extended back into the building. Further offices and a meeting room were upstairs. Consulting rooms were situated the far side of a waiting area to the left of reception.

At the start of the trial there were 14 GPs, and 4 nurses who undertook LTC reviews. Three of the nurses were present at the training. One reviewed respiratory conditions, one was trained in diabetes and one could review both types of condition. The respiratory specialist nurse was subsequently made redundant and two other nurses needed long-term leave. Two of the four GPs who were trained also left. The 3D lead GP, who was highly spoken of by some patients, also left just after 3D finished. Contact was difficult with all staff except the 3D lead GP who usually responded to emails. The main contact required was with three

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administrators involved in managing appointments and arranging LTC reviews. They were helpful and friendly when contact could be made.

It was much more difficult to get a sense of this practice as contact was so limited and I was unable to interview anyone until about 5 months after they started delivering reviews. On that occasion, I interviewed the 3D lead GP and the administrator. Only one review was observed with a GP and none with a nurse. Only one further interview was possible at the end of the trial when I interviewed one of the nurses. The impression was that they felt under siege and were having difficulty meeting demands. Communication seemed quite limited, for example, the 3D lead GP was not aware of it when the administrators were having difficulty fitting in 3D reviews. They were conscious of income and felt that 3D was not offering enough financial incentive to perform the reviews. This was raised at the end of the training and resulted in it concluding on a negative note.

Patients

The patients at this practice were less satisfied with their care than those in the other case study practices. They described great difficulty in getting through to make an appointment and low continuity of care. '*I said "can I make an appointment?" "Oh no, you can't make an appointment, you've got to ring on the morning' [Pt 7]*. I observed one interaction in which the receptionist was dealing with a patient who had been unable to make contact by telephone because the lines were so busy. The patient was clearly dissatisfied and the receptionist did not meet her eye at all. The patients described a deterioration in service during the trial period, which coincided with building works starting and several nurses and GPs leaving or being on sick leave.

Current LTC care provision

A designated administrator for each LTC recalled patients for review. Separate spreadsheets were kept for each disease which showed the date the clinician at the last review had decided the next review should take place. The administrator did a monthly search for patients whose next review was due and sent them a letter. If the patient did not respond after 3 letters they were not asked again. Although patients were invited for single reviews, if a review was needed for other conditions as well the nurse would fit in as much as she could, with the longer-term aim of eventually combining all reviews in the birthday month. Only diabetes, COPD, and asthma had specific appointments for review. Asthma was sometimes reviewed by questionnaire posted to the patient. Almost all other conditions were reviewed in an ad-

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hoc way triggered by prompts that appeared on the patient record when they were seen for something else.

3D adoption

<u>Initial responses</u>

The practice did not at first respond to the invitation to take part in 3D but after the 3D lead GP had been told about it by a colleague in another practice she reconsidered. The practice was motivated to take part by thinking that 3D would help them to establish combined reviews of LTCs. They supported the concept of patient-centred care when it was discussed during the training and agreed about the challenges facing patients with multi-morbidity. In their answers to the clinician attitudes questionnaire they agreed more strongly than other practices that review of long-term conditions is too disease orientated and that patients should receive care plans. They were aware that their care was quite fragmented, for example one GP during the training referred frequently to the problem of patients having multiple blood tests because they were not co-ordinated. Their main aim was to combine LTC reviews and they were interested in having pharmacist input for medication reviews. To that extent they felt 3D aligned with their practice priorities.

Comments about 3D on the training evaluation forms after the first session were generally positive reflecting some enthusiasm for the concept but less so after the second session when the practical details became more apparent. The practice's engagement in 3D felt precarious all the way through from the point of recruitment with some dissonance between comments supportive of 3D concepts and observed behaviour and implementation. During the first training session one nurse did not contribute at all and in the second session two GPs, although in the room, did not join the group round the table but contributed from a sofa at the back of the room.

<u>Planning</u>

This practice had great difficulties in implementing. Shortly after the training had been completed, they nearly withdrew from the trial because of loss of staff. They were persuaded to continue on the basis that they would only offer one two-part 3D review to their patients. They did not start reviews until 6 months after completing the initial training. Clinicians received another top-up training session before starting.

There were two meetings between the local researcher and three administrators to discuss how to implement the administrative side of 3D. Planning was undertaken by the administrators with very little input from the clinicians. Observing the two meetings, the

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planning appeared very complex due to the need to identify paired appointments with the nurse and GP.

Appointment system – 3D reviews and interim appointments

The plan for arranging appointments involved several stages. First, the administrators prepared a list of all the 3D patients, and the participating GPs decided which of them should see each patient. Then the list was sorted by LTC and discussed with one of the nurses. The nurse decided which nurse should review each patient and how long was needed based on the conditions the patient had. At the end of this process each patient had been allocated a specific pair of clinicians (nurse and GP) and a specific length of nurse review. Second, when the senior appointment co-ordinator created the appointment 'book' for the next couple of months she embargoed appointments in pairs. Third, this list was given to the junior administrator (Admin 1), supported by the senior receptionist, who tried to match available pairs of appointments to individual 3D patients. '*So then [senior admin's] been trying to put that into the diary for me and then fire it back to me saying yeah I've been able to book this one in and this one and then I try to find the patients that tally that to come*' *[Admin 2]*. She then sent an appointment letter specifying the two appointments to the selected patient. The rest of the administrator and reception team were not involved so if a patient needed to change the appointment it had to be referred back to the junior administrator who by that time had no more appointments available and had to wait for the next batch to be identified.

A pharmacist who had been identified by the research team and was not attached to the practice conducted the medication reviews by remote access to the patients' electronic records. A local secondary care geriatrician, willing to be available to provide advice, was identified and her name and contact details were supplied to the practice. In common with all other practices, the clinicians at Davy did not make use of this service.

Table 03 Davy system changes to adopt 3D

Care features specified by 3D	Existing practice system	System changes for 3D
Continuity of care with named GP and nurse	Large practice with low continuity of care. Patients describe it being very difficult to get appointments.	Needed to allocate patient's usual GP as named GP for 3D. 3D patients divided between the four GPs taking part, two of

		whom left soon after and were replaced by one other GP
Patient recall for reviews every 6 months	Annual reviews based on last date reviewed and time interval decided by clinician for next review e.g. 6 months or 12 months. Patients due review identified by search of individual disease spreadsheets.	Used dedicated spreadsheet of 3D patients to arrange reviews and record appointment details. They worked through this completing as many as they could.
Letter sent inviting patient for 2-part 3D review and to think about their priorities before they come	Letter sent to patient with an appointment for review.	Letter explaining 3D review and specifying appointments with nurse and GP sent to patient.
Longer appointments for reviews of all conditions at once and identification of any other health-related problems	Appointment for single review. If time nurse tried to do any other reviews needed. COPD and diabetes reviews not done in same appointment.	Appointment length for nurse reviews decided on individual basis depending on number of conditions
Pharmacist to perform medication review	No current arrangements at baseline for a pharmacist to carry out medication reviews	3D pharmacist given access to electronic patient record to perform medication reviews online.
Availability of (longer) appointments with named GP between	No special arrangement	Did not implement this aspect of 3D

reviews when needed		

Response

I was only able to speak to the 3D lead GP and one administrator midway through the trial and one nurse at the end of the trial about their experience. All seemed to have found it challenging to implement 3D, especially the administrator responsible for organising reviews who was very definite that she would not like to see the intervention continued. *'If I'm honest I would hate it if it was all patients…I find it a nightmare with 53' [Admin 2]*. The GP described it as *'onerous'* and did not feel it was appropriate for patients to mix other concerns with an LTC review. *'The patients' issues had nothing to do with the chronic disease. They were other things like my hip pain…which were really separate issues from my point of view' [GP1].* She was not at all happy with the template either and felt she should not be spending time completing boxes. *'I don't want a load of prompts and a load of forms to fill in and click and buttons' [GP1].* Another criticisms was that the pharmacist reviews were *'not always sensible'* and sometimes inappropriate, although they were occasionally helpful. They had not always occurred before the review.

The nurse supported the idea of working in a patient-centred way but felt that combining the LTC reviews with the extra 3D part did not work. She said that patients were taken aback by moving on to an LTC review when they expected to be able to direct the agenda. *'Going through the template with the 3D, it starts off patient-centred and then it kind of hits the QOF and they're looking at… you know, what are you asking me that for?* [NU1]

Patients

Most of the patients who attended the focus group were disappointed with their 3D experience and generally critical of the practice. None had had the second review they were expecting, some felt their agenda had not been addressed and a carer was critical of the health plan because she felt the action written down for the patient did not address the problem. *'He only wanted to talk about two things…They never talked about his heart problems at all, that was just ignored' [carer of Pt 3].* Only one patient spoke positively of her experience.

Fidelity and reach

In reviews that took place the nurses achieved 100% completion of the patient's most important problem and 100% of recording how much the patient was experiencing pain. PHQ9 completion was slightly less at 94% and only 58% of reviewed patients received a

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printed agenda. GPs showed a similar pattern to other practices in that their component completion was less than that of the nurses, including medication adherence at 50% and 80% of health plans printed. Only 43% of participants received a medication review, slightly more than the number of patients who received a 3D review with both doctor and nurse. More nurse reviews were completed than GP reviews (58% versus 38%). The nurses found they had not been allocated enough time due to appointment pressures and so separated what they saw as the '3D bit' from the LTC reviews and asked the patients to come back for the LTC review. This was clearly not in keeping with the intervention intention.

Continuity was not improved according to the patients. The GP described how she had asked one patient who had brought details of a long-standing complaint to the review to make another appointment, knowing that she would be booked in with someone else for that occasion.

This practice achieved the least number of reviews of all the case studies, managing only 20 first-round reviews and no second-round reviews. Although they set out to offer paired appointments, this system did not seem to be sustainable. For the later reviews patients had the nurse review followed by a long gap before the GP part of the review, which was sometimes not arranged. *'But now I'm having to say, well I don't know when your doctor appointment is' [NU1]*. This may explain the greater number of nurse reviews.

Harvey (Practice 60)

Data sources:

	Context	Adoption	Delivery Ch 5	Response Ch 6	Mainten-ance
Practice profile form	✓				
Clinician questionnaires	✓				
Observation of parts 1 and 2 of training	✓	✓			
Trainer feedback and participant evaluation forms from part 1 and 2 training	✓	✓			

Initial interviews with lead GP, lead nurse and IT administrator responsible for 3D appointments	✓	✓			
Field notes from practice visits, interviews and observations	✓	✓	✓		
Observation of 2 nurse and 3 GP consultations			✓		
Additional interviews with a nurse			✓	✓	
Additional interview with an administrator		✓		✓	✓
Final interviews with lead GP, lead nurse and new administrator responsible for 3D appointments	✓		✓	✓	✓
Focus group with 3 patients			✓	✓	
Interviews with another 5 patients			✓	✓	
End of trial practice profile	✓				
Final clinician questionnaire				✓	✓

Context

The practice

This was a large practice in a deprived area on the periphery of a major city with a list size of approx. 15,000. It was accommodated in a spacious purpose-built building sited in a large low-rise housing estate. The reception and waiting area was open and situated in an atrium extending the height of two floors. A play area was at one end and at the other a screen played health educational messages, accompanied by background music. The clinicians came to the waiting area to call the patients, rather than using a screen or tannoy. Although there were sometimes queues at reception, the service always felt attentive and helpful. Whenever I was in the waiting area I never observed them being anything other than patient and helpful to all enquirers. Upstairs there was a spacious meeting room where sometimes groups were held for patients, such as art therapy, and several other rooms, some for midwife or health visitor clinics, some for administration and three extra consulting rooms. Downstairs they had

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a sprawling suite of consulting rooms, thirteen in total, that led off in different directions from the waiting area.

This was an innovative modern practice which felt welcoming and friendly. The practice placed a very strong emphasis on relational continuity of care. They notified each patient of their named GP and explained that the system was for them to see this doctor each time. This was backed up by each doctor having a 'buddy' who saw their colleague's patients if the primary named doctor was not available.

The practice also appeared to be very well-organised, which showed itself in the calm atmosphere at reception and the clarity of the appointment system that seemed to be well-understood by all receptionists. This impression was corroborated by the lead nurse *'we're quite organised here at [Harvey]' [NU1]*. The layout of reception and the lack of a screen suggested a patient-centred ethos, which was borne out in the comments and observed practice of the GPs and nurses and the manner of the receptionists.

The practice was very active in research and took part in a lot of studies, seeing it as very important. However, the GPs stated at the initial training that they could not think of a single research study in which they had taken part that had changed their practice. They were very interested to know whether the research would make a difference and GP1 stated that *'where there's evidence this practice is happy to make a change' [GP1]*.

Only three of the ten GPs and two of the six nurses took part at the outset, all of whom were highly experienced. GP1, the 3D lead GP, was a GP of 25 years' experience who enjoyed working with complex patients and felt that was how her time should be spent. *'I would be quite happy to see complex patients all day – I think that's really why I'm paid a lot of money and…how I can use…25 years of experience' [GP1]*. GP2 was also very experienced and had an interest in IT. Both he and GP1 seemed to have a very patient-centred approach already, judging by comments made during the training. *'We should be responding to the patient's agenda' [GP2]* as *'it's their illness' [GP1]*. GP3 seemed less interested in taking part in 3D and it was not clear why he was one of the three GPs included. He left the practice several months after the start of 3D reviews, to the regret of several of his patients whom I interviewed. Later GP1 told me that the three GPs taking part in 3D were those that had the most patients eligible for 3D, so they had been specifically asked by the practice lead to participate.

Two practice nurses, one of whom was the lead and the other the deputy lead of the nursing team, were involved in the trial. They each had around 25 years' experience of managing

LTCs. Although neither of them were qualified prescribers, GP1 explained that they did virtually all the management of LTCs and had extended roles in this area rather than in management of minor illness, for example. When medication changes were needed they would make a recommendation to the GP who would usually provide the necessary prescription. NU1 described how they were very used to discussing life-style changes with patients in a way that recognised the need for a patient-centred approach.

One administrator, who arranged LTC reviews and was responsible for IT, established practice procedures for organising 3D reviews. She explained how she organised the usual care and how she planned to integrate the 3D reviews. She had no problems with the IT aspects of 3D, '*It's definitely been very easy to get our heads around and get set up*' [admin1]. Unfortunately, she left her post just after all the first reviews had been completed and was replaced by someone who had not had the benefit of the earlier training and was less experienced in practice administration and IT.

There was no pharmacist specifically associated with the practice but a dispensing pharmacy in an adjoining building.

Patients

3D recruitment was 29% of the invited patients and amounted to 43 patients. The percentage of their patients over 18 who met the eligibility criteria of three or more LTCs on the QOF register was 3.3%. Interviewed patients were generally very happy with the care they received although some were unhappy about having to switch to a different GP during the trial when their own GP left the practice.

Current LTC care provision

A spreadsheet and monthly search for patients with a review date falling in the next month was used to identify patients due review of their LTC. Review dates were set to be during the month in which the patient was born. These patients were then sent a letter headed with a reference that identified which conditions needed to be reviewed, which asked them to phone a number that reached one of two dedicated receptionists based in the treatment room area. These receptionists would be able to tell from the reference what length of appointment needed to be booked and with whom, working from a detailed chart kept up to date by the lead nurse.

The nurses try to review all the conditions in one appointment although they do not review dementia, atrial fibrillation, depression or epilepsy. Patients with learning disabilities see the nurse first who gathers necessary information before the patient sees the GP.

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3D adoption

Initial responses

Judging from the responses to the pre-course clinician questionnaire, the 3D approach was very much in line with the philosophy of this practice. Their understanding of what constituted patient-centred care appeared to concur with that of 3D and the priority they gave to achieving continuity of care created common ground. The components that appeared novel to them were the medication reviews, which they welcomed, and the goal setting involved in creating a health plan with the patient.

GP1 said she had an open mind about whether 3D would result in any change. She was very interested in the aspect of the intervention asking patients to come up with goals to address their main health concerns. During the training, she tried to get some role-play going to practice this. Her view was that nurses were likely to be better at goal-setting than GPs because they had more time to engage in it and probably had training in Motivational Interviewing as part of their chronic disease management training. *'I think the nurses are much better at it than doctors as a matter of course, so they're much better at exploring in more depth what's really happening. So they do get longer appointments in general, and they've got a bit more time to do that. But I also think they're kind of brought up doing that and are better at doing it. And they do more training in sort of lifestyle changes than doctors do' [GP1].* During the training both nurses were receptive to the idea of 3D and talked about goal setting with authority and insight, agreeing that small achievable steps were more likely to succeed.

The GPs were enthusiastic about the idea of giving patients more control over the agenda. They saw patient-centred care as a two-way street that should also involve patients taking more responsibility. *'If more decisions were made by patients I think that would be a really good thing' [GP].* Asked on the training evaluation form what was the most important element of 3D, clinicians highlighted *'Giving the patient the choice to prioritise their health issues'* in a way that encouraged the patients to take more responsibility *'Getting the patients to think about what they really want (and what they don't)'. [anonymous comments on training evaluation form]*

As in all observed practices, both GPs and nurses were very interested in the 3D template. GP2 viewed it from the perspective of how he might improve it and what its deficiencies were and asked at the training whether he would be allowed to adapt it in small ways. There

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were some comments reflecting apprehension about using a new, apparently complex template and they felt unsure about it until they could try it out for themselves.

Although in the first training session the clinicians initially appeared somewhat unreceptive, they appeared to be won over by the researchers' knowledge of their continuity of care policy and the thoroughness of their preparation. *'The two sessions we've had I think have been very well organised and planned out…I think they were quite clear from the start, what was involved and what we had to do' [NU1]*. Several staff said they felt the study was well-organised. *'I think in comparison to some other studies that we've been involved with, this has been quite well handled and we've been well supported in the process' [admin1]*. Ultimately, they engaged well in the training and appeared to have a good understanding of 3D, which was mostly confirmed in the first stage interviews. GP1 demonstrated a very good understanding of the intention to make the reviews more patient-centred but both she and the lead nurse were unclear exactly how review appointments would be arranged and what information patients would get. Uncertainty about whether patients would change their behaviour to use the reviews in the way intended was also mentioned in both training comments and subsequent interviews *'They've been used to the same approach for the last 10, 20 years to suddenly come in to say "actually, what is your top priority?" I don't know whether some of them will be able to answer' [NU1]*

Planning

The start of delivering 3D reviews was delayed by difficulties in organising the training sessions and a change to the practice's system for sending out letters. There were also some staffing difficulties in the first 6 months. One of the 3 GPs who were originally trained to do 3D left. His intention was known at the time of the second training but the decision was made for him to carry on with reviews until he left about 4 months later. Two other GPs also left around about the same time and 6 new GPs started. Three of these were informed about 3D by the practice champion and between them they took on the 3D patients of the GP who had left. Three of the new GPs subsequently left, including one of those who undertook 3D reviews, so another GP was introduced. The practice has therefore been unsettled as there have been difficulties with maintaining their named GP system and some patients have been allocated to a new GP twice within a year. Because of this situation some 3D patients have been reviewed by practitioners not previously known to them and/or by a different practitioner for the two reviews.

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The organisation of 3D review appointments was planned by the LTC reviews administrator without the involvement of clinicians. She set up a system of alerts and ensured all receptionists were informed so they knew how to respond when patients phoned to book 3D reviews. Her plan integrated well with their existing recall system for LTC reviews. When it came to second round reviews, her replacement found it harder to maintain the momentum of sending out letters for second appointments and doing the monitoring searches that informed the trial team of progress.

Appointment system - 3D reviews and interim appointments

The administrator used a separate spreadsheet from her usual LTC review one to identify 3D patients that needed to be invited for review. She had hoped to pick patients up as their usual annual review came due but realised that they would not all be reviewed in the required timeframe because of the delay in starting reviews, unless she called them in earlier. She used the usual system of sending a letter to ask patients to phone for an appointment and added a reference to 3D at the top so receptionists would know to book a 3D review. The administrator kept track of who had been sent a letter and whether they subsequently had an appointment booked in by creating a search in EMIS to identify what appointments the 3D patients had coming up. This enabled her to send reminders when needed. Two reminders were sent for the first round of reviews but only one for the second.

The length of the nurse 3D reviews was adapted to suit the current system i.e. the length depended on the conditions to be reviewed and was not necessarily the 40 minutes recommended by the research team. The GP review appointments were 20 minutes as recommended. Interim appointments were not necessarily longer than usual and GP1 told me she already had flags on her patients with complex conditions to prompt reception to allocate double appointments to those patients.

It was agreed that the administrator would notify the 3D study pharmacist of upcoming reviews so that the review could be completed online. The pharmacist was granted online access to the practice records. A local secondary care geriatrician agreed to be a point of contact for advice and her contact details were provided to the practice. The practice did not use this opportunity.

Table 04 System changes to adopt 3D

Care features specified by 3D	Existing practice system	Changes required
Continuity of care with named GP and nurse	Practice has a robust named GP system resulting in high continuity of care. Which nurse does review depends on who has the skills to manage patient conditions.	Nurse doing review dependent on skills and availability. Usual nurse may change if patient has both COPD and diabetes.
Patient recall for reviews every 6 months	Annual reviews based on birthday month. Spreadsheet to identify patients due review.	Birthday month system suspended for 3D patients. Separate spreadsheet created with dates by which they need both first and second reviews.
Letter sent inviting patient for 2-part 3D review	Letters sent to patient specifying reviews they are due and inviting them to make an appointment with the nurse. Letter reference code tells receptionist what reviews are due and how long the appointment needs to be.	Added paragraph to existing letter to explain 3D review. Extra reference code added to letter to tell receptionist that 3D review needed. Receptionists informed about what is needed.
Longer appointments for reviews of all conditions at once and identification of any other health-related problems	Length of nurse appointments adjusted for number of conditions to be reviewed. Receptionists have a list of how long is required by each nurse for each condition and add the times together. Single appointment to cover most conditions including main ones of COPD, diabetes and CHD but excluding some conditions.	Organisation of 40 minute appointment with nurse followed by 20 minute appointment with the named GP within 10 days. Patients with diabetes seen on same day as they have had to attend for blood test in a separate appointment a few days before.

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	COPD and diabetes not usually combined.	
Pharmacist to perform medication review	No routine pharmacist medication review	Notification of pharmacist when 3D appointments arranged. Pharmacist to enter information in 3D template in patient record. GP to view this at appointment
Availability of (longer) appointments with named GP between reviews when needed	Patient sees named GP for all appointments whenever possible. GP1 flags patients that she knows need more time so that they always get a longer appointment unless they tell the receptionist that they don't need that	No change made

Response

The template provoked a mixed response as in most practices. The challenge to communication was balanced by its value in prompting clinicians to ask things that might otherwise be forgotten. One drawback highlighted by the GP with an interest in IT was that a 3D review was coded in the electronic patient record with a single 3D code without adding individual disease codes to indicate which conditions had been reviewed. '*We normally at this practice structure everything according to multiple problem titles, putting everything under 3D multi-morbidity slightly makes the records difficult to follow through' [GP2]*. The lead nurse found some questions difficult to understand, saying *'it just goes over my head'* and she tended to skip those questions. Both the nurses were uncomfortable with the depression screening, one because it was unfamiliar and the other because she felt some of the questions were very negative. '*Feeling bad about yourself or that you or … that you are a failure or have let yourself or your family down? I just hate asking that question.' [NU2]*

It was noticeable that both nurses continued to conduct the LTC reviews incorporating their usual life-style discussion and then felt the lack of a specific place in the template to record what they had agreed. '*we're used to making our own way through the consultation and getting a management plan sort of at the end anyway' [NU2]*

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There was also some ambivalence about eliciting the patient's agenda. While it was considered very useful and something to try to incorporate in the future, there were the usual concerns about the difficulty of accommodating both the clinician's agenda and patient's agenda within the time available. *'I think the main benefit was finding out what was important to the patient and for that to be systematically asked for' [GP1].* Also in common with other clinicians, they felt that sometimes patients had unrealistic expectations, *'Quite often they asked for the moon, which we weren't able to give them'* [GP1].

The goal setting aspect in which GP1 had been very interested yielded some surprise goals. *'sometimes patients do come up with a totally different goal that I had never dreamt of' [GP1].* More often, however, goals and health plans were initiated by the GP.

Patients

Some patients I spoke to in this practice did not perceive much impact from 3D and impressions were quite mixed. Two patients had experienced disruption of continuity due to GPs leaving the practice and were mainly concerned about that. Another said that her first GP review had been very different from her second which I was observed, suggesting that the first time the GP had not completed a 3D review in the way intended. Most had not perceived a significant difference in their experience of care but one patient was very impressed with the way his new GP went through everything that had been identified by the nurse, who was also very thorough, and asked lots of pertinent questions addressing psychosocial aspects.

Fidelity and reach

Practice level fidelity was mixed in terms of completion of components in the template. The nurses completed all components except depression screening in all reviews. Depression screening, using PHQ9, was completed in 91% of reviews. The omission in some may reflect the nurses' discomfort with using it. The GPs had a lower rate of completion in all components probably mainly attributable to one GP who did not complete the template until after the patient had left or neglected to do so at all. Only 62% of health plans were printed following a review while 76% had the main problem and what the patient could do about it noted (Appendix 2). I had the impression that reviews were completed more rigorously when I was observing, which was corroborated by the carer of one patient who felt that because I was there her mother had been able to get attention for a long-standing complaint, which she felt had been ignored for a long time.

Reach was not as good for second reviews in part because the new administrator found it very difficult to make time to send the letters to patients. Only 44% of 3D patients remaining in

the trial until the end received two reviews with both nurse and GP compared with 77% (85%) who had one nurse and GP review. Slightly more (87%) had one GP review probably because housebound patients were only seen by a GP. (ref all sites overview)

Lovell (Practice 46)

Data sources:

	Context	Adoption	Delivery Ch 5	Response Ch 6	Mainten-ance
Practice profile form	✓				
Clinician questionnaire	✓				
Observation of part 1 training	✓	✓			
Trainer feedback and participant evaluation forms from part 1 and 2 training	✓	✓			
Mid stage interview with administrator responsible for 3D	✓	✓		✓	
Mid-stage group interview with 2 GPs and 2 nurses	✓		✓	✓	
Field notes from practice visits, interviews and observations	✓		✓		
Observation of 3 nurse and 2 GP consultations			✓		
Additional interview with 2 nurses			✓	✓	✓
Final interview with administrator				✓	✓
Final group interview with 3 GPs and 2 nurses	✓		✓	✓	✓
Focus group with 3 patients			✓	✓	
Interviews with another 5 patients			✓	✓	
End of trial practice profile	✓				

Final clinician questionnaire				✔	✔

Context

<u>The practice</u>

This practice was housed in a large modern building that contained various services including a community hospital. It was one of two practices serving a small town and the surrounding countryside and villages in a deprived area. The GPs in both practices provided medical cover for the community hospital and so they continued to care for their patients when they were admitted there.

Reception faced the entrance, across the other side of a large corridor that ran the length of the building. The main corridor also led to other facilities, including a pharmacy and a restaurant. The reception was behind a glass screen and adjoined reception for the other practice. There were two desks for receptionists behind the screen but usually only one person there. Once checked in, patients went through a door to the left of reception to enter a small waiting area. Two long corridors led off it, perpendicular to the main corridor. The consulting rooms were down those corridors, one side for each practice. Patients had to walk a long way down the corridor to reach some consulting rooms as all rooms are off this linear corridor. There was also an internal meeting room off the same corridor where I met with the staff to observe the training and later to interview them during a practice meeting. The space overall felt impersonal and enclosed and on too large a scale, but in my visits to the practice all the staff appeared friendly and accessible.

The practice only had three GPs and two practice nurses, all full time and all very experienced. Several receptionists and administrators, a practice manager and assistant practice manager worked in the practice. I did not meet the practice manager.

All the members of staff claimed that they knew their patients very well as they have mostly been there a long time and there is very little population turnover. This was confirmed in the consultations I observed and by patients. One administrator had responsibility for arranging all the 3D appointments. She was given that responsibility because she is the one who normally arranges the LTC reviews. Knowing when individual patients were likely to be available helped her with arranging appointments for 3D reviews *'You've got a fair idea of those that work…I've been doing this for years so I kind of know when to avoid for them by now, so that does help things [Admin 1].*

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GP1 was the 3D lead GP. Two of the GPs run out-patient LTC clinics in the community hospital as one specialises in diabetes and the other in respiratory conditions. The GPs described themselves as having a collaborative approach to patients and with each other. The two practice nurses are of equal seniority and have been at the practice for at least ten years each. Only NU1 is COPD trained but NU2 is learning. Both review diabetes and all the other conditions as required. They work closely with the two GPs who specialise in LTCs and all the clinicians appear to have close working relationships.

There is a pharmacist specifically attached to the practice who is employed by the health authority and who reviews the medication of patients with multimorbidity. There is also a pharmacy situated in the same community hospital premises as the GP practice.

The clinical staff felt it was their job to address whatever a patient brought rather than trying to limit to one issue *'I think that's your job. People have diabetes and they want to talk about their chest or the pain in their wrist or their back, the nurses will come down and say to us, can you see Mr X' [GP3]*. They had previously discussed the idea of '*doing an all-round check'* for complex patients with multimorbidity. Rather than leaving it to patients to remember to make appointments, this practice took responsibility for calling them in for whatever checks or treatment they needed. During the training NU2 said that she thought patients felt they could depend on the recall system to call them in.

Patients

The patients I spoke to were very appreciative of the care they received from this practice and felt well looked after *'We're very lucky in here that we've got great nurses and great doctors that look after us, that take time with us' [Pt 5]*. They had opinions about who were the better GPs but seemed to like all of them as people. They also spoke highly of the receptionists.

Current LTC care provision

The administrator responsible for the recall of patients with LTCs for review described the system she used. When patients were reviewed, EMIS PCS (the electronic patient record system used by this practice) was updated with the date the next review would be due. A monthly search of EMIS identified patients with an upcoming review date. A review appointment was then scheduled with the appropriate person and the patient was sent a letter detailing which conditions would be reviewed and when and how long the appointment would be. Patients had to opt in to the appointment they were sent or they would lose it. If patients do not respond to the letter they are telephoned and asked if they intend to come to the appointment. If they cannot get in touch with the patient the appointment is cancelled and

another one is sent. Three attempts are made in this way to get the patient in for an appointment. The system was adopted a few months before the start of 3D to try to address the high rate of non-attendance (DNA) at appointments and, according to the administrator, it has been very successful.

The appointment length depended on the conditions to be reviewed, with a maximum of an hour. Reviews mainly combined multiple LTCs with the exception of COPD and diabetes together as they are more time-consuming. We '*try and do as much as possible in one go but with that exception that you've got the specialities of diabetes and COPD so they might be split …. say they've got diabetes, hypertensive, hyperthyroid. They would get all that done at that clinic. If they've got COPD and asthma they would be brought back to do that separate.' [Admin1]*. Diabetes is generally reviewed in 15 minutes and COPD in 40 minutes. Patients with COPD and/or diabetes also have an annual review in the community hospital clinic with a GP who specialises in the relevant disease and who is not from their own practice. This creates the opportunity for another opinion. The interim six-month review is with their own practice nurse.

The three GPs thought continuity of care provision was quite high because they worked in a small practice and could discuss patients with each other quite easily and had similar approaches. The administrator described how relational continuity depends on patients asking to see a particular GP and that GP being available. Receptionists will try to accommodate patients' requests and will try to book patients in with the same GP throughout an episode of care. For each new episode of care the patient will generally get booked in with the next available GP.

3D adoption

<u>Initial response</u>

During discussions in the training and in their feedback comments, the clinicians generally welcomed the idea of providing more holistic, in-depth care. They believed that it could potentially improve health care utilisation, empower patients, and improve their quality of life and that the 3D study could '*refresh the idea of patient-centred care' [quote from anonymous training feedback form]*. They thought that other problems impacting on patients' health, such as depression, might be identified. The clinicians would welcome patients becoming better self-managers but thought that many expect the initiative and decisions to come from the doctor and it might be hard to change them. '*Certainly, some people still need to be led a little bit and advised rather than them tell you what they want' [NU1]*. GP1 thought 3D '*will

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hopefully promote self-management ... I don't set goals for [patients] to achieve before they come back as often as I should' [GP1]. He was a strong advocate of the idea of patients coming to appointments with their own pre-thought out agenda. *'I certainly think that the agenda setting, I think there should be just a big pile of papers at the front desk and every patient that comes in should write down what they want to talk about' [GP1]*

At the end of the training, the trainers felt it had been very well-received. Observation of the first training session indicated a very positive response to the research team and the trainers confirmed this for the second session as well. Most comments on the training evaluation forms were positive, reflecting support for relational continuity of care, practising in a holistic patient-centred way and patients setting, or at least sharing, the agenda. The negative ones were almost all about increased time commitment for both clinicians and administrators and the difficulty of fitting in the necessary review appointments. There was a secondary concern about managing patients' increased expectations for appointments. Two comments expressed concern about getting used to the template.

The practice staff seemed to have a good understanding in principle following the training. The researchers reported later in the trial that the practice was very helpful and did not require much input once set up with the necessary information technology to conduct the reviews and run the monthly monitoring searches.

Planning

Based on the observation and first interviews with practice staff, the intervention seemed to fit well to the practice ethos. One key element had already been tried, namely agenda setting, and two others were under consideration: having a nurse assessment with a GP follow-on and having all round reviews for complex patients with multimorbidity. Administratively, the intervention appeared likely to integrate satisfactorily with the practice systems. The biggest challenge seemed to be arranging the necessary paired appointments for 3D reviews because of competing demands on all clinicians' time.

Appointment system - 3D reviews and interim appointments

One administrator who already had responsibility for arranging LTC reviews undertook to arrange the 3D reviews. When interviewed, she was clear about the process and described how she identified 3D patients due review and made sure to call them in within the required timeframe. She had a list of the consented patients and later a list of when each patient needed to be reviewed by. She used different colours to highlight which month each patient needed to be reviewed. When the clinics had been set up by the assistant practice manager,

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the administrator would start to book in paired appointments, if necessary adjusting slots and clinic times to accommodate them. She sent out a letter to each patient with the details of both appointments and asking the patients to phone to confirm attendance, in keeping with their usual system of opting in for appointments. Three attempts were made as with usual care.

The appointment letter was based on the template provided by the research team which included information about 3D and alerted the patient to the intention to ask about their concerns and all health problems. The depression questionnaire PHQ9 was sent with the letter and patients were asked to complete it and bring it with them but did not always do so. For the first round of reviews the appointments were spaced a week or so apart to allow for the pharmacist review in between appointments. Because there was no pharmacy review the second time the administrator felt it would be easier for her and for patients to arrange both parts of the review on the same day. In fact, she said, it did not make much difference to how easy it was to arrange appointments. It also meant that the results of any blood tests taken by the nurse were not available to the GP.

Although at the first training session the practice agreed to create embargoed appointments for 3D patients wishing to book an appointment in between reviews, they did not in fact do this. No changes were made to their usual system and the clinicians later said they felt that the card was seen by patients as *'kind of a fast pass ticket for Disney or something, it meant that they would get prioritised' [GP1]*. They laughed at that idea.

When I asked the administrator who had decided the length of the reviews, she said clinicians had told her to give nurses 45 minutes and GPs 20 minutes for the reviews, based on instructions from the research team. A nurse later told me that 3D patients with COPD would have a 50-minute nurse slot and those without would have 40 minutes. Observation of consultations later revealed that the nurses did not realise that they would not need to repeat all the clinical measurements the second time.

Patients taking part in 3D were 'excepted' from the usual system of pharmacist review that applied in the practice. Instead, a pharmacist employed by the health board conducted 10-minute reviews of each 3D patient's medication remotely and then suggested any changes that might optimise the medication regime. This contrasted with the much longer reviews done by the practice's own linked pharmacist who would see the patients in person and would be much more familiar with their medication and medical history.

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The research team arranged for a secondary care geriatrician to accept calls for advice about 3D patients from intervention practices. However, this aspect of the intervention was not taken up.

Table 05 Lovell adaptation of usual care to 3D

Care features specified by 3D	**Existing practice system**	**System changes made for 3D**
Continuity of care with named GP and nurse	Small GP practice with only 3 partners. Practice claims that patients can usually see GP of their choice and the practice tries to ensure the patient is booked with the same GP throughout each episode of care. However, the patient is booked with the first available GP for each new episode of care.	Need to match patient preferred or usual GP with named GP for 3D. To ensure even spread of 3D patients between the 3 GPs some patients were allocated to a different GP for 3D than their usual one. No other changes made
Patient recall for reviews every 6 months	Annual reviews based on when last review took place. Administrator uses spreadsheet generated by an EMIS search to identify patients due review. Patients with diabetes or COPD are reviewed annually in the community hospital by a specialist GP who is not their own GP. This recall is done by the hospital. The practice recalls patients for the interim half yearly appointment with the specialist nurse in their own practice	Adjust to recall all 3D patients 6 monthly. Hospital recall continued so some patients were receiving single disease hospital reviews close to their 3D review and those patients had 3 reviews in the year.

Letter sent inviting patient for 2-part 3D review	Appointment for review sent to patients who are asked to confirm their attendance	Appointments for 3D review managed in the same way. Paired nurse and GP appointments sent to patients
Longer appointments for reviews of all conditions at once and identification of any other health-related problems	Some reviews combine conditions but not COPD and diabetes together. Longer appointments given for patients with multiple conditions up to a max of 1 hour	40 minutes allocated for all 3D reviews unless the patient had COPD in which case 50 minutes was allocated
Pharmacist to perform medication review	Pharmacist attached to the practice who reviews patients with polypharmacy in person. Patients history generally well known to the pharmacist	3D patients reviewed by 3D pharmacist instead who was employed by area health authority and did reviews remotely
Availability of (longer) appointments with named GP between reviews when needed	Patients asked for this as needed. Receptionists try to accommodate patient request	No different arrangement made.

Response

This practice disliked the template. Since they used an earlier version of the electronic medical record (EMIS), the template did not operate quite as intended and clinicians were frustrated by being unable to look at other information they needed, such as medications while they were working through the template. This meant that one GP did not use it during the consultation. *'once you're in the 3D process template you can't go out, so I was printing out stuff beforehand, 'cause you can't go out and check into their record, so you couldn't access the record properly' [GP3].* They also felt that parts of it were cumbersome or

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redundant because it was asking for information they had already completed on another occasion, such as a particular cardiovascular risk score that was not showing through in the 3D template. '*Lots of… not relevant stuff in there, that you would have picked up previously*' [GP3]

Another comment from one GP was that the training should have included some communication skills training to improve both the agenda setting aspect and the goal setting. As it was, he felt that we were simply asking them to do the same things but in different circumstances. For the agenda setting he would have liked patients' problems to have been recorded in more specific ways rather than generically such as digestion problems or diabetes management. On the patients' side, he would have liked them to have given more prior thought to their agenda.

Patients

Patients at this practice seemed to appreciate the additional aspects of the review such as depression screening and the medication review. '*She went through everything obviously and it turned out, well … I knew, I was very low and I wasn't sleeping very well and so she went through all that and gave me tablets for it and fine today, so that's helped*' [Pt 4]. Although they said they were usually given all the time they needed, like most patients they appreciated feeling they could take time. '*That is more relaxed. You can talk to the doctor without having to say, "Oh I'm keeping them back".* [Pt 2] Despite saying it had not really made much difference to their care which was already very good, they provided some examples of how they had benefitted, for example, by a referral to the Falls Clinic and treatment for depression or sleeping difficulty.

Fidelity and reach

The completion of components by both nurses and GPs was very high with one exception which was completion of the EQ5D pain measure. It is unclear why this occurred and may perhaps have been due to the way the template operated in EMIS PCS. There was 100% completion of the medication adherence questions, which no other practice achieved. (ref to table of monthly searches). Fidelity to the intervention in terms of completing the template was high although one observation indicated that the way in which the intervention was delivered was not always as intended. This was a GP who did not really address the patient's agenda or create a health plan in discussion with the patient.

Like some other practices, the Lovell administrator decided to try having both review appointments on the same day one after another. Although this meant only one visit for most

patients it was a long time to be at the practice and could be difficult for patients who relied on a lift from a neighbour or who found it too much to take in at one time. The intervention intended that each patient should have two visits to allow time for results to be available for the GP part of the review.

This practice achieved the highest reach of the study with almost 100% in the first round. In the second round, because of increased demand on the clinicians, due to having to take over another practice, the reviews were harder to fit in. However, all patients responded and fewer asked for their appointment to be changed than in the first round, so they managed to complete 93% of their second-round reviews.