Australian National University

Experiencing integration

A pilot study of consumer and provider experiences of integrated primary health care

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Background

Integrated care means different things to different people. Although the term is widely used it is not underpinned by a systematic understanding of integration in health systems (1-3). The concept of integrated care is ambiguous; around 175 definitions were found in a 2009 systematic review of the literature (4). Contributing to its complexity, integration occurs between different levels of the health system: vertical integration, such as between acute and primary care organisations; and horizontal integration such as between GPs and allied health professionals (5).

Kodner (6.p12) provides a useful definition that further demonstrates the complexity of integration:

> [a] multi-level, multi-modal, demand driven and patient-centred strategy designed to address complex and costly health needs by achieving better coordination of services across the entire care continuum. Not an end in itself, integrated care is a means of optimizing system performance and attaining quality patient outcomes.

There is no recognised common model and many argue development of a conceptual framework is needed to better understand integrated care and guide empirical research (1, 2, 7-9).

A useful starting point for demonstrating integration as a process (and for illustrating its complexity) may be the framework developed by Fulop et al. (10), which recognises the importance of process and cultural changes in addition to structures and governance. They identify six dimensions necessary for effective integration (see Table 1).

Table 1. Fulop et al.'s six necessary dimensions for effective integration

Necessary dimensions for effective integration*	Details
Organisational integration	How the organisation is formally structured
Functional integration	How the non-clinical support and back-office processes are integrated
Service integration	How the clinical services are integrated
Clinical integration	How clinical team level care pathways are organised
Normative integration	The role of shared values
Systemic integration	The coherence of policies across organisational levels.

*adapted from Fulop et al. (10)

Recognising the central role primary care plays in integration, Valentijn et al. (2, 11) have developed a conceptual framework that can be used to aid an understanding of the concept of integrated care from a primary care perspective. Building on the formative works of Leutz (12), Fulop et al. (10), Delnioj et al. (13), and Contandriopoulos et al.(14), they have developed the Rainbow Model of Integrated Care.

The model combines the functions of primary care with the dimensions of integrated care. Their framework spans multiple dimensions of integration that play complementary roles on the micro (clinical integration), meso (professional and organisational integration), and macro (system integration) level to deliver comprehensive services that address the needs of people and populations. Functional and normative integration ensure connectivity across the levels.

More recent work by Valentijn et al. (11), and of interest to this project, is the development of a taxonomy that specifies the underlying key features of the six integrated care dimensions. Developed from a theory-driven mixed methods approach consisting of a literature review, thematic analysis and the use of a Delphi study among Dutch experts, 59 key characteristics were identified with 34 considered necessary for achieving integrated care in a primary care setting. Features associated with the functional and system dimensions of integration were considered to be less necessary. A caveat relevant to the use of this taxonomy for the current study is that

consumers were not included in the expert group for Valentijn and colleagues' work, leaving the utility of these features for consumers unknown. Table 2 summarises the highest level descriptors of the taxonomy, with the complete list available in Appendix 2.

Table 2. Taxonomy of key features of integrated primary health care adapted from Valentijn et al (11)

Dimension	Health system level	Description
Clinical integration	Micro level	The coordination of person-focused care in a single process across time, place and discipline
Service/Professional integration	Meso level	Inter-professional partnerships based on shared competencies, roles responsibilities and accountability to deliver a comprehensive continuum of care to a defined population.
Organisational integration	Meso level	Inter-organisational relationships (e.g. contracting, strategic alliances, knowledge networks, mergers), including common governance mechanisms, to deliver comprehensive services to a defined population.
System integration	Macro level	A horizontal and vertical integrated system, based on a coherent set of (informal and formal) rules and policies between care providers and external stakeholders for the benefit of people and populations.
Functional integration	Micro, meso and macro level	Key support functions and activities (i.e. financial, management and information systems) structured around the primary process of service delivery to coordinate and support accountability and decision-making between organisations and professionals in order to add overall value to the system.
Normative integration	Micro, meso and macro level	The development and maintenance of a common frame of reference (i.e. shared mission, vision, values and culture) between organisations, professional groups and individuals.

As Goodwin recently argued, we lack the means to effectively measure and monitor outcomes in integrated care, 'particularly in terms of understanding improvements in the user experience' (7).

The objective of the present study was to explore the perspectives of consumers and providers on integrated care within a newly-opened multidisciplinary primary healthcare centre. We wanted to know how consumers with chronic illness and providers conceptualise integration, what their expectations of integrated care are and what they experience. A key focus was whether the Fulop et al (10) and/or the Valentijn typologies (11) could be effective modes through which we may explore and analyse people's perspectives.

AIMS OF THE RESEARCH

1. Explore consumer and provider perceptions, expectations and experience of integrated primary health care
2. Examine if and how integrated primary health care operates in a large multidisciplinary urban health service
3. Explore the alignment between what consumers perceive as important in quality integrated primary health care with evidence collected by existing quality improvement measures.
4. Evaluate proposed methods for data collection including:
    a. Consumer and provider interviews
    b. Consumer experience surveys
    c. Review of clinical records
5. Evaluate the utility of two typologies of integration for analysis of primary health care integration in Australia.

Methods

OVERVIEW AND RESEARCH DESIGN

As an exploratory pilot, the focus of the project was on trialling a range of methods to investigate the concept of primary health care integration and how to measure it. Data collection was conducted at the Ochre Health Medical Centre in Bruce, ACT (hereafter referred to as Ochre Health Bruce) between April and August 2015. Ochre Health Bruce is a large, urban, multidisciplinary primary health care centre that was constructed as part of the GP Super Clinic program. The GP Super Clinic program was widely publicised in the media and aimed to promote co-location and integration of general practice with allied health and other service providers in order to more effectively support those with or at risk of chronic disease. At the time of the project, the clinic had been in operation for approximately 15 months. As described below and in further detail in relevant appendices, the research design included interviews with consumers and health centre staff, testing of a patient experience questionnaire and exploration of clinical records.

The research was developed and conducted according to a flexible participatory research model (15). The research team included health professionals, consumer leaders and researchers from various disciplinary backgrounds. The team worked closely with a reference group throughout the project, comprising two consumer representatives, a GP, an allied health professional, a nurse and a senior manager with Ochre Health Bruce. The reference group provided feedback on the research protocols, facilitated data collection and contributed to analysis and reporting of results.

The ethical aspects of the research were approved by The Australian National University Science and Medical Delegated Ethics Review Committee (2014/651).

DATA COLLECTION

Interviews

Nineteen interviews were conducted with consumers. Ten completed an interview only (cohort one); nine completed an interview and a questionnaire (cohort two). Consumers were recruited through the practice nurses who were asked to identify people with chronic conditions who had seen more than one health professional at the centre. Ten interviews were also conducted with staff of Ochre Health Bruce. Staff were invited to participate at a staff meeting attended by the researchers and followed up by the Practice Manager. All interviews were guided by semi-structured protocols (see Appendix 6). Questions explored what participants expect of integrated primary health care, their understanding and experiences of the processes involved and the factors that contribute to variations in quality of integrated primary health care. The protocols were developed to encourage participants to volunteer their own perceptions and understanding of primary health care integration. Prompts related to the dimensions of the Fulop et al typology (10) were used where necessary to more fully explore the existing theoretical basis for the project. Interviews were conducted by three interviewers at Ochre Health Bruce and lasted between five and 25 minutes.

Questionnaire testing

In consultation with reference group members, areas of key importance and relevance for consumers were identified. A questionnaire for collecting quantitative data from consumers was adapted from the Canadian Patient Experiences Survey (16) to suit the Australian context. The Canadian survey was developed with extensive consumer input and includes questions spanning six key dimensions relevant to integration and quality including communication, satisfaction, support for self-management and care coordination (17). Permission was obtained from the survey tool developers for the adaptation and use of the tool in the study. Obvious country-specific items such as languages spoken, cultural background and terminology were altered to suit the Australian context. Three members of the research team then examined each question to determine its relevance to studying consumer experiences in primary health care in Australia,

particularly integrated primary health care. Some alterations were made to wording and response options and some additional questions were developed to cover areas not already well reflected.

The resulting modified survey was then tested with a small number of people including other researchers, family members and consumer representatives (18). Participants in the testing phase were asked to comment on the new and modified questions and were also asked to comment on their overall impressions of the survey, particularly its length and whether it was confusing. Testing suggested that the survey took anywhere from 30 to 60 minutes to complete depending on the individual. Although most participants commented that the survey was long, they did appreciate the scope of the questions and felt most were relevant. As a result of the collated feedback from testing, questions related to home care and asking specifics about the costs of care were removed from the final version of the survey as they were seen as irrelevant and too difficult to answer respectively.

Clinical record review

Electronic records held by Ochre Health for consumers with chronic conditions were explored to establish,

  i) the degree to which referral pathways within primary health care can be identified automatically as against a need to physically examine records
  ii) the degree to which the broad records permit study of referral
  iii) whether referral within the wider clinic is followed up by patients, and
  iv) the degree to which results of the referral are returned to the GP.

As described below and in detail in Appendix 4, clinical record review was trialled initially with de-identified records from four patients at the Ochre Health Grafton clinic. A data manager printed the clinical notes and removed identifying details and a second Ochre Health staff member reviewed the resulting de-identified notes, deleting any further identifying details that may have been missed. A researcher then read through the printed notes to examine the four points of interest. These processes of de-identification and analysis proved too labour intensive to be practical on a larger scale. Consent was therefore sought from the consumer participants in the qualitative arm of the study to access their identified records at Ochre Health Bruce. All 19 consented, allowing two researchers to explore the way information was held within the practice software, assisted by an Ochre Health Bruce staff member who provided access to the correct records and demonstrated the features of the software and how it operated to facilitate practice operations.

ANALYSIS

Qualitative data were managed using NVivo10 software. An interpretive approach guided analysis of interview data to explore people's experiences with integration (19). Analysis was framed by the six dimensions of integration identified by Fulop and colleagues (10) and further elaborated by Valentijn et al (11). Using this typology of integration as a framework enabled an exploration of the features of clinical and service integration expected to be the focus of consumer and provider experiences whilst also investigating the wider organisational and systemic elements that may influence primary health care integration more broadly. Data were analysed thematically and mapped to the typologies to describe 1) the structures and processes that support integration and the ways in which these are linked within and across dimensions; 2) consumer, practitioner and manager expectations and experience of integrated care; and 3) the extent to which existing quality measures address both the dimensions of integration as set out in the typology and the concerns identified by consumers.

The questionnaire and clinical records arms of the study focused on refinement of methods rather than data collection. However, some descriptive quantitative analyses from the patient experience survey were conducted to give preliminary data on the achievement of integration objectives at the clinical levels: consumers' ratings of their experience on key domains such as communication and care coordination.

Methods of exploring integration

INTERVIEWS WITH CONSUMERS AND STAFF AND THE UTILITY OF THE FULOP TYPOLOGY

Although typically labour intensive, the interviews with consumers and staff yielded rich information on how people perceive integrated primary health care, what they expect from an integrated centre and their experiences with it. Some difficulties were encountered with recruitment of a range of consumers to gauge how many interviews may be necessary to achieve data saturation in a larger study, but it was clear that the interviews provided the greatest amount of information to explore the typology.

The six dimensions of integration (clinical, service, organisational, functional, normative and systemic) from the Fulop et al typology (10) with the 59 key features identified by Valentijn et al (11) formed the basis of the coding framework for the interview data. Upon trialling the initial coding framework with the first two consumer interviews, it quickly became apparent that whilst data could be coded to the typology, much of the way consumers described their experiences was not adequately captured, resulting in loss of richness. To supplement the initial framework, separate codes were developed from the data during analysis for material relevant to people's experiences of integrated primary health care that were not well represented by the framework.

An investigation of overall coding patterns across all consumer and staff interviews suggested that the typology is useful for capturing the way people in service provision, especially health professionals, describe integration, but less useful for consumers. Consumers' comments that could be coded to the typology were primarily about clinical and functional integration, particularly their experiences of continuity of providers, the usefulness of the shared information systems and the helpfulness of front desk staff. Health professionals (GPs, allied health and nurses) all had a strong focus on clinical level integration, but also talked about integration at the service (i.e., interprofessional) and organisational levels, as well as functional and normative integration. Managers focused on normative and functional integration. Across all groups, discussion of normative integration was primarily in terms of a collective attitude. Some felt that was yet to become well established, whereas other described it in very positive terms. There was very little discussion of system level integration.

To reflect the differences in the way participants described their experiences, in the findings presented in the next chapter, consumer experiences are organised by questions asked in the interview, whereas staff experiences are described in terms of the typologies (10, 11). An interpretive phenomenological analysis of all interviews was also conducted and used in combination with the typologies for the paper submitted to *International Journal of Integrated Care* (Appendix 5).

CONSUMER EXPERIENCE SURVEY AND QUALITY

The primary purpose of the consumer experience survey testing was to evaluate the use of such a tool for exploring integration on a much wider scale than possible through interviews. The Canadian Patient Experiences Survey developed by Wong and Haggerty (17) was chosen for testing as it was developed and extensively tested with healthcare consumers and was found to be the most comprehensive tool in our recent environmental scan of patient experience tools for use in primary care (20, 21).

The finalised survey was used with nine consumers at the Ochre Health Bruce centre to further evaluate its usefulness, and collect consumer experience data for comparison with quality improvement processes and interview data. Participants were asked to complete the survey and then participate in an interview. Most completed the survey in the presence of the researcher and provided feedback on the questions and problems they encountered with response options and wording. These were primarily ambiguities in wording or a lack of a response option for a particular group such as veterans with specific health care provisions.

A sample of some key features of primary healthcare across the six dimensions of consumer experience (17) is presented in Table 3. These features are examples of questions strongly endorsed by a majority of participants, indicating Ochre Health Bruce is performing well in these areas. The extensive range and number of questions relative to the number of completed surveys precluded full quantitative analyses. Additionally, as the survey was developed as a tool to measure primary care consumer experiences (but not focused on integrated care), it was not possible to immediately map questions and sections to the Fulop et al (10) typology. A basic examination of the areas of importance to consumers suggests that, consistent with the interview data, much of the survey data may fall into the clinical, service and functional dimensions of integration. Further work is planned to explore how the six dimensions of consumer experience of primary health care identified by Wong and Haggerty (17) intersect with the features of *integrated* primary health care as proposed in the typologies of Fulop et al and Valentijn et al (10, 11).

Table 3. Summary of primary healthcare features rated as important by a majority of participants

Question area	Consumer experience dimension	Integration dimension
Appointment times	Access	Clinical/functional/service
Preferred provider availability	Access	Clinical/service
Time spent on healthcare	Access	Clinical/service
Costs	Access	
Knowledge of medical history	Interpersonal communication	Clinical
Time in consultation	Interpersonal communication	Clinical
Listening, explaining	Interpersonal communication	Clinical
Health literacy	Interpersonal communication	Clinical
Shared decision-making	Interpersonal communication	Clinical
Front office staff respectfulness	Interpersonal communication	Functional
Management plan	Interpersonal communication	Clinical
Care coordination	Continuity and coordination	Clinical/service
Shared information	Continuity and coordination	Clinical/functional
Continuity/familiarity of provider	Continuity and coordination	Clinical
Continuity of information	Continuity and coordination	Clinical
Teamwork	Continuity and coordination	Clinical/service/normative
Support to manage health	Comprehensiveness of services	Clinical
Medication management	Patient reported impacts of care	Clinical/service
Empowerment/confidence to self-manage	Patient reported impacts of care	Clinical
Trust in health professionals	Trust	Clinical

Quality improvement was discussed with the practice Medical Director to further explore the intersection of consumer experiences with quality improvement processes in a Super Clinic setting. The description of the measurement of quality reflected a continual improvement process, and included consumer experience data (primarily through accreditation activities), staff experience and technical data. The Fulop et al (10) typology was described as a useful framing tool for conversations with allied health professionals around integration operations but there was little expectation that consumers would be able to observe many of the structural and process-related features of integration. Instead, it was anticipated that consumers would observe the teamwork and shared culture that resulted from effective integration, for which there is evidence from both the consumer experience survey and interviews. The Medical Director expressed interest in further work on how consumer experience work can inform quality processes at the Super Clinic.

CLINICAL RECORD REVIEW

To explore the potential of clinical record review for identifying integration, patient notes from two Ochre Health clinics with different levels of provider access to the system were investigated as described below and discussed further in Appendix 4. Specific issues of interest were,

> i)   the degree to which referral pathways within primary health care can be identified automatically as against a need to physically examine records
>
> ii)   the degree to which the broad records permit study of referral
>
> iii)   whether referral within the wider clinic is followed up by patients, and
>
> iv)   the degree to which results of the referral are returned to the GP.

Those parts of the system at the Ochre Health Bruce Super Clinic which can identify communication and integration between the GPs and other health service providers linked to the clinic computer systems were reviewed. Patient notes from the Grafton Ochre Super Clinic provided a contrast of a clinic with the same approach to practice, but with only the GPs and nurses attached to the clinic computer system and a less sophisticated system of computerised records.

Part 1: Practice notes from the Grafton GP Super Clinic

The patient notes for four patients were sought from the Grafton clinic. These were selected by the local nurse and data manager to be people with chronic conditions and with referrals to external providers through Team Care Arrangements (TCAs) and other approaches. The data were de-identified by the nurse which proved to be a major task and one which was difficult to do completely. As many of the notes were scanned documents saved as pictures it was necessary to print them and black out names by hand and then rescan for our analysis.

One immediate conclusion was that it was not going to be practical to extract de-identified notes for a significant number of patients. Either processes would be required to give ethical and other formal clearance for access to identified notes, or very small numbers of notes would be able to be accessed. A second immediate conclusion was that it would not be practical to use "clever" programming to search the documents for words or phrases as so much of the material was in scanned pictures. Any analysis would need to be done manually which would also be very labour intensive.

The four records reviewed may or may not be representative of this practice and are certainly not representative of all practices. They reflected good recording of patient summaries, consultations and progress; good recording of referrals including TCAs and care plans; specialist responses for most but not all referrals; few responses from allied health referrals; and complete responses for pathology and diagnostic imaging requests and also for specialist tests such as cardiography and testing of pacemakers.

The notes reviewed did not provide much evidence of integration, but it was not clear whether this meant a lack of integration or simply that the notes are not the way to identify it. Considerable reading is required to try to extract information about integration/information flows, with limited success. There appears to be a lack of information flowing back to the GP from allied health providers for patients with chronic conditions, but it is possible that there is more communication by phone and email than is reported in the patient notes.

In terms of the four main issues for this part of the study, this component provided information on,

> ii)   the degree to which the broad records permit study of referrals
>
> iv)   the degree to which results of the referral are returned to the GP.

Referrals were well reported in the patient records, but responses were mainly available for test requests, and referrals to specialists to treat acute problems. Apart from one psychologist, there were few responses from allied health providers for patients with chronic conditions.

As a component of interviews with patients at the Bruce Super Clinic, patients were asked if they would permit the researchers to access their medical records. Nineteen patients gave permission for this access. To enable this access, the clinic provided a nurse who was familiar with the electronic systems, and the researchers read the patient records on the screen while the nurse managed the system to ensure only appropriate records were accessed and to assist in managing the system.

The patient approval to access the records removed the need to de-identify records but there was still a need to ensure patient confidentiality. The approach used meant that the records were not removed from the practice and that it was also possible to use facilities within the electronic system to explore some matters further. It meant that the researchers needed to extract all the information they required in a single sitting and to take notes of that information. It 'cost' the clinic nurse time, but any other extraction process would probably have had a similar cost. Any de-identification process such as that used in the Grafton clinic would have been much more expensive. The trial of this method of exploring the data suggested that with practice and well defined questions, substantially more records could be explored relatively quickly, although still not very large numbers.

The Bruce Super Clinic records differed fundamentally from the Grafton records: nurses and allied health providers working at the clinic and linked to the electronic record used the same electronic system as the GP. There was therefore no need for providers co-located with the clinic to provide formal responses to the GP as the GP could read the clinical notes of the other health providers, which noted any alternate diagnosis, treatment or response to treatment.

Viewing the records within the practice software also meant the information for analysis was not in a single document but in many documents. The main consultation notes were contained in a "folder" with a separate file for each consultation. It was therefore quick to see who in the system had seen the patient and when, but to find out what happened at each event the relevant files had to be opened. This folder also included notes from nurses on contact for call back and other interactions. There was also a 'folder' for each of the letters out from the clinic and letters returned to the clinic. This gave a scope to see quickly what was happening overall but meant there was a need to open the files to see the nature of the communication, particularly as key information such as titles and other headings in the file lists were not well completed. Searches based on these titles would therefore not work well.

While these notes were supplemented by the in house messaging system, telephone calls and corridor conversations, they provided the principal means of communication and integration.

As for the Grafton notes examined, the Bruce records for referrals outside the system showed substantial responses for test requests, general responses for specialist referrals for acute concerns, and limited responses for referrals to allied health providers.

The use of the shared patient records clearly provides informational integration, with the various providers aware of their colleagues' consultations and able to access prognoses and treatments, and their views of the patient responses. Given the limited sample it was difficult to assess how well treatment processes were integrated and co-ordinated between providers. However, even with a larger sample more focused on the chronically ill this is likely to have been difficult given the proportion of informal communication overlaying the formal communications.

The issues addressed by this component were,

- ii) the degree to which the broad records permit study of referrals
- iii) whether referral within the wider clinic is followed up by patients
- iv) the degree to which results of the referral are returned to the GP.

Referrals can be assessed by linking letters with patient notes, but it is not clear how easily this is done automatically. The patient clinical records do show to whom patients have been referred but frequently it is necessary to read the actual referral rather than being able to extract information from the sample. As the clinical records are shared, information regarding referrals is automatically

returned by providers within the electronic network. For those outside the network it can be seen from the letters out and in, but the capacity to automate this is likely to be limited.

Part 3: Electronic system at Bruce Super Clinic

Ochre Health Bruce uses Best Practice as its clinical management and practice management software, and PEN-CAT as its audit software. These two systems between them enable considerable searching and testing. As discussed above, the communication/integration through the patient notes can only be assessed by actually reading the notes, which is an extremely time consuming process, and depending how confidentiality is managed can be a significant cost for the clinic as well as the researchers. The alternate approach is therefore to explore what can be learned by direct analysis of the information and flows in the patient records which can extracted electronically. It is in principle possible to assess communication integration at least by relating,

- Letters out from GPs
- Whether in-house allied health providers held consultations with the patient after the letter from the GP (they will record this in the patient notes, but not send a formal response)
- Whether an allied health provider outside the clinic returns a letter (presumably after seeing the patient).

While this is possible in principle, it is only practical where the heading information on the records (author, recipient, topic and date) was such that an automated system could reasonably match them, and our observation of some of the 19 sample suggested that there were many gaps in this information. It would also be necessary for the system to be able to identify the roles of the authors and recipients so that, for example, referrals to pathology testing or to a specialist unrelated to the particular condition (e.g. an orthopaedic surgeon for a person with COPD) could be excluded. This should be possible but may be quite a complex process.

To limit some of the problems, as patients with chronic conditions are those who would benefit most from care integration these could be identified and tested. Those needing assistance from allied health practitioners can obtain Medicare support for the allied health services if they have been referred through team care arrangements (a defined MBS item), the patients for whom it may be most productive to consider assessing integration activities are,

- Patients with chronic conditions – readily identified in the systems by selecting those with defined diagnoses (e.g. diabetes, asthma, COPD)
- Patients with chronic conditions who have services identified as Team Care Arrangements (TCA) by the MBS items
  - It is readily possible then to at least count the number of visits the patient makes to each provider which can be classified by profession of the provider
  - At a finer level of detail, although TCA the items do not identify to whom the patient was referred – this is shown on the TCA form in the patient notes -could be inferred from the letters out
- Of these patients, those who have services provided by allied health providers within the Bruce electronic network should be separated from those outside the network to explore either the later consultations or the later letters.

As noted above, communication between providers within the system regarding patients can follow a range of paths including,

- Within the patient clinical notes
- Through the electronic communication system
- Through phone calls
- Through personal conversations.

We are advised the electronic messaging systems tend to be used for more urgent communication or for other exceptional situations where the patient clinical notes are not seen to be adequate. In

particular, providers are only likely to read clinical notes when there is a consultation – if one provider considers another should call in or otherwise interact with a patient the messages (or phone/personal conversation) are needed to provide this information.

If messages in relation to a particular patient are tagged to that patient it would be possible to identify where these have been used, and the respective providers sending and receiving the message. It would be necessary to sort these using the titles, either by eye or automatically, to exclude those like "did X leave his coat in your room?" for which the system is also used.

This approach would provide very limited set of measures, and it is not clear whether a great deal can be learned directly from it due to the limited information at present in the headers to the files from which selections would need to be made. However, this certainly would provide a means of identifying patients for whom further qualitative studies were relevant, if it was supplemented by reading of a sample of patient clinical notes could provide a basis for further studies of integration.

In terms of the four identified areas of interest for examination of clinical records, this component of the study provided evidence as follows,

    i)   the degree to which referral pathways within primary health care can be identified automatically as against a need to physically examine records
- the referral pathways can be clearly identified

    ii)   whether referral within the wider clinic is followed up by patients
- in principle we can see if the patient visited the provider to whom they were referred by the list of consultations in the patient record

    iii)   the degree to which results of the referral are returned to the GP.
- Can be seen in the list of patient clinical notes for in house providers, and in letters returned by external providers?

Overall view of use of electronic systems and clinical records

Access to patient clinical records provides a great deal of evidence about information flows in all clinics. In the context of "Super Clinics" it provides more information about integration of information, advice and treatment patterns to the degree that all relevant providers are within the clinic network. Overall, information which can be extracted automatically on patient and provider activity within the clinic can be very valuable in relation to identifying patients who have care from multiple providers which would benefit from being integrated, and who would be suitable for more detailed study. However, it seems to be of limited value in providing measures of integration.

WORKING IN PARTNERSHIP WITH A GENERAL PRACTICE: SOME OBSERVATIONS

In addition to piloting specific methods of data collection, this project has provided much useful information about what works and what does not work partnering with general practice and conducting research in a working practice. There was a need to be flexible and adapt: what seemed like a good idea from a research or even reference group discussion may not work in practice. A research paper reflecting on the successes and challenges of this type of research practice has been submitted to BMC Family Practice (see Appendix 3).

The researchers were mindful of respecting Ochre Health's operational chain of command and following up with the staff to whom they were referred by senior management. However, this led to some confusion about the project and recruitment and a disconnect between the researchers and the staff with the most active involvement in data collection processes, particularly for the qualitative work.

As a result of this indirect communication, at first some staff felt the job was 'dumped' on them without discussion and were slow to take it on board. One staff member advised she just didn't really know what was going on and let recruitment slide until she was followed up. After direct discussion with the researchers, staff felt much more comfortable and enthusiastic about the project and recruitment progressed rapidly.

A second consequence of the indirect line of communication became apparent during recruitment of cohort one and the first round of interviews. Consumers recruited for the first cohort were contacted directly by a practice nurse, who invited them to participate and scheduled interviews. As a result, the researchers did not talk with the participants until the time of interview, when the information sheet was provided and explained and written consent was gained. Not all recruited consumers had seen a GP and at least one other health care professional within Ochre Health Bruce, making discussion of integration at the service or professional level challenging. Some had seen a GP and used pathology, radiology and pharmacy services, providing some information on broader integration of organisations within the building. All were aware other health care professionals were at the practice and intended to use them in the future but had not necessarily used them to date.

Two main changes to procedure were then introduced for the recruitment of the second cohort: the researchers discussed the project directly with all practice nurses and provided a check list of the required inclusion criteria; and two researchers spent several days sitting in the waiting area so that the nurses could direct interested consumers attending their clinic to talk to a researcher directly. This allowed better screening of participants and immediate participation in the project for most people, but was very labour intensive and may not be practical on a larger scale.

The Ochre Health group is keen to develop a strong culture of research as part of their service provision, but is not yet fully embedded and staff remain uncertain. Working on direct communication about projects, what is being asked of staff, how to fit with their main focus on service provision and feeding back the results of research carried out will all help to progress a healthy partnership between researchers and service providers.

Experiences of integration

CONSUMER EXPERIENCES

Characteristics of participants

Consumer participants in the first interview cohort (N=10) were not specifically asked for demographic details. All identified as having at least one chronic condition and during the course of the interview, four mentioned that they were retired. Six of the first cohort of consumer participants was female.

The second cohort of consumer participants (N=9) provided demographic details in the patient experience survey. Participants were aged between 54 and 81 years and reported between three and twelve chronic conditions. Other key characteristics are summarised in Table 4: most were retired, fairly well-educated and described themselves as financially comfortable.

Table 4. Demographic characteristics of second consumer interview cohort

	Number of participants (N=9)
Gender	
Male	6
Female	3
Employment	
Part-time	1
Retired	6
Disability	2
Education	
High school	2
Some uni/tech	6
Graduate/prof degree	1
Marital status	
Married	8
Divorced	1
Financial status	
Poor	1
Tight	1
Modestly comfortable	2
Comfortable	4
Very comfortable	1

Table 5 presents the health professionals and services within the health centre building accessed by participants in each cohort. Services offered by providers with a direct contractual relationship with the medical centre operator are shaded, and services which are subcontracted but still co-located are unshaded. For the first cohort, services used were explored in the course of the interview and this information extracted and summarised. Participants in the second cohort indicated the services they had accessed in the patient experience survey. Participants in both cohorts were also questioned about their intentions to use other services within the building in future.

Almost all consumers had a usual GP and regularly saw the practice nurses. They also accessed a range of other services available in the building, particularly pathology and pharmacy. Many commented that they would make greater use of the on-site services such as physiotherapy when the need arose.

Table 5. Health services accessed by consumers

ID			Specialist	Practice Nurse	Physiotherapy	Dietician	Psychology	Diabetes educator				Physio clinic (UC)	Sleep clinic	Future use
	Cohort 1													
01	x	x		x										
02	x			x						x				x	
03	x	x		x											x
04	x	x								x					x
05	x			x										x	
06	x			x						x					
07	x	x		x		x		x							x
08	x	x		x									x	x	
09	x	x		x											
10	x	x		x						x	x				x
	Cohort 2													
11	x	x		x							x			x	
12	x	x		x						x	x				x
13	x	x		x						x	x				
14	x			x		x				x	x	x	x		
15	x	x	x	x							x				
16					x										x
18	x														x
19	x	x		x				x		x	x	x			
20	x			x											x

Perceptions, expectations and experiences

Many consumers had not heard the phrase "integrated primary health care"; despite this, all participants were able to describe what they thought the term means in ways that are consistent with definitions. Given the Super Clinic setting and the publicity that had surrounded this national government program, a particular focus of perceptions for both consumers and staff was co-location, and the term "one-stop shop" came up repeatedly. Some participants, both consumers and staff, had experienced other forms of integrated primary health care but a major theme of their descriptions of benefits was having everything in the one place.

Other frequently mentioned perceptions were that integrated primary health care is multidisciplinary and is focused on multiple providers sharing care to achieve better outcomes.

> …when a patient goes to a centre they can call in other people to satisfy the needs of the patient under a much wider scope…a much wider area for information to help the patient, yeah. [Consumer 5]

The majority of consumers in the study attended Ochre Health Bruce because the doctors they saw had relocated their practices and they had followed. This meant that few were able to comment on their expectations of integrated primary health care as they had not deliberately chosen to attend Ochre Health Bruce as a Super Clinic but rather to retain an established relationship with a GP and/or practice nurse. In response to prompts from the interviewer, some did comment that they would expect such a centre to have good shared information, better

accessibility of services than those that were not co-located, and modern equipment. However, when asked if they expected better care from an integrated centre, consumers commented that they expected a high standard of care no matter where they went.

Consumers described their experiences at the clinic in a broad range of ways. As described earlier, most discussion that could be coded to the clinical dimension of the framework focused on continuity. People with long-standing relationships with particular GPs thought it important that they could get appointments with their preferred GP or their nominated alternate. However, many also commented that they felt comfortable seeing other doctors in the practice if their preferred one was not available, as the shared clinical record meant that any doctor (or other health professional) could see their history without the need for lengthy explanation, so it still felt like an established relationship. Consumers also commented that they felt that the practice went out of their way to try to accommodate their needs, both in terms of appointments and providing appropriate care. However, some did feel that the sheer size of the practice (2,400sqm of space spread over four floors, 14 doctors and numerous other staff) made it feel less personal.

Participants were specifically prompted to comment on information sharing and the helpfulness of front desk staff. Consumers were very positive about the communication both within the Super Clinic and with other professionals. Opinion was divided on the front desk support: some were very positive about the helpfulness of the reception staff for responding to phone calls and people arriving for appointments and for finding appointments, whereas others thought there was less familiarity and some problems with privacy. Most described the reception staff as friendly and helpful.

Outside the Fulop framework, a key theme was the benefits of co-location. Aside from features like continuity of providers and shared records, consumers appreciated easy parking that allowed them to attend to several healthcare needs in the one place.

> I think it's a great thing to have a one stop shop. Now you've got the chemist down there people can put their scripts in while they go and have a coffee or they're waiting for their blood test results or, you know, radiology have said, oh we're a bit backed up at the moment come back in half an hour, you don't have to leave the premises, you can stay here and just wait till you have to go back in… [Consumer 10]

In response to questions about the availability of appointments, the time taken in consultations and the time spent on health overall, consumers were mostly positive. There were some comments that appointments with specific doctors were harder to get than at those doctors' previous practices, but people did not feel like their consultations were rushed or that they had to wait for long periods in the waiting room. Many participants commented that as they had long-standing illnesses and therefore existing relationships with allied health professionals outside the Super Clinic, there had not been a great deal of change in the time spent looking after their health aside from the reduction in travel time for services such as radiology and pathology.

At the conclusion of the interview, participants were asked if they had anything further to add. Many took the opportunity to simply provide positive comments about their experiences at the centre. As one put it "…it's a great experience to come here and they need to tell the world." [Consumer 19]

STAFF EXPERIENCES

Ten Ochre Health Bruce staff participated in interviews: four GPs, one practice nurse, two managers, and three allied health professionals. To maintain confidentiality, no demographic details were recorded for the staff participants.

Some staff members had specifically chosen to work at the Ochre Health Bruce centre because it is an integrated primary health care centre. Despite this, both the health professionals and managers interviewed did not offer much information on what they expected of this type of centre. In addition to shared information and a high standard of care, one staff member suggested that they expected improved working conditions, such as backups/locums for doctors. Other staff members expected to provide more holistic care in an integrated centre, focused on broader

consumer needs, but suggested this may come with a need for wider knowledge on how to provide that care.

Clinical integration

At the clinical level, health professionals focused on continuity as well as the provision of healthcare that met consumer needs. Often these three features would be described together.

> …and the patients very much appreciate that as well, too. And they feel they've got somebody else that they can ring up and get advice from, if they can't get hold of their GP. So you know that's a very important part of I think integrated health, that you've got a team of people that the patients feel connected with, that they can ask for advice from, and get different levels of expertise and in different areas. So that part of it works very, very well here. [GP 01]

Tailoring care to specific population needs, particularly providing care for people with chronic illness, was one clinical level feature described exclusively by staff participants. Several health professionals also talked about individual case management practices, specifically expressing a desire for more formal case conferencing.

Service or professional integration

The majority of discussion of integration at the service level focused on interprofessional interactions rather than formalised agreements or guidelines. Staff described the development of interdependent relationships based on trust, a shared vision and the value for professionals of working together in an integrated centre.

> I love the communication here. I love the fact that like in our section there, we're all... like the room that we're in right now it's an Allied Health room, which means everyone has to work as a team. It's not like the physiotherapist's room, or like the podiatrist's room, it's the Allied Health room, so it's got a really strong outlook in that getting everyone on board. [Allied Health Professional 01]

Organisational integration

Compared with other dimensions, there was little discussion of integration at the organisational level, despite the presence of multiple organisations within the building. As for the individual professional level, most of the focus was on interdependencies between the various businesses that formed part of the Super Clinic. One staff member commented on the importance of the relationship with the pharmacists for provision of good care, noting that the relationship with one that they could actually physically see tended to be better.

> Hmm. And the other issue of course is the pharmacy downstairs as well, you know because that's a very important part of the team, too. You know sort of the fact you've got the ability and the relationship with them then to phone them and discuss things, and vice versa. And you have that same relationship with all the pharmacists you're dealing with, because there's a lot of phone interaction going on, but it happened when there's somebody that you've actually physically seeing, that's more likely to be... they're more likely the ones you'll just phone down and get some advice about something quite quickly. And that's very important for patient care as well. [GP01]

Systemic integration

System level integration was not well represented in the data. One staff member commented on the usefulness of sharing resources across all of the ACT Ochre Health practices but this related more to the corporate governance than integrated primary health care.

> I find the biggest advantage of that for staff, I personally, I do sometimes utilise the resources of other practice managers or admin staff from other locations that have you know more experience…[Manager 01]

Functional integration

As for consumers, staff participants were prompted about the sharing of information at the Ochre Health Bruce centre. Most staff were very positive about the shared records and the additional 'corridor conversations' that went on, suggesting it added to care both from the professional and consumer perspective.

> Yeah, definitely the communication channel is a lot more open. Not only the... can you knock on the door, or go and talk to another health professional directly, but we have on the computer system all the patient notes available, we can send... you know request to have meetings with other health professionals to set up more... more flexibility I guess with catching up with people. [Allied Health Professional 02]

Two health professionals expressed concern about the availability of sensitive information to everyone who could access records, but another had found that most consumers were pleased with sharing information.

Normative integration

Discussion of normative integration focused on the sharing of attitudes, trust and teamwork. Most participants reported that there was a good team feeling.

> I do like the sort of, you know, one big team kind of feeling that you get when you're here. Everyone is really well connected, and everyone seems to have a pretty good understanding of what everyone else does, and their individual role. [Manager 01]

As noted in clinical integration, there was some desire for more formal procedures for case conferencing. Although the sense of informal sharing was appreciated, it could also be difficult for professionals who had few or no overlapping sessions to communicate this way. One participant also commented that getting used to describing things in full in clinical notes rather than using acronyms that may not be shared by providers in other disciplines was also something they were working on to promote a shared culture.

Discussion

METHODS OF MEASURING AND ANALYSING INTEGRATION

A primary aim of the pilot study was to investigate various methods of researching integration. Each of the methods trialled (interviews, consumer experience survey, clinical record review) had both advantages and challenges. Interviews provided the richest information from both consumers and providers about their expectations and experiences. Asking fairly broad questions about integration and experiences of care allowed participants to identify the aspects of providing or receiving care in this setting that were most important to them. However, the cooperation required from the practice and the labour intensive nature of qualitative research mean that this method would require careful resourcing and good partnerships with practices to use on a larger scale in future research.

The consumer experience survey that was trialled was well-received by consumers, despite its length. Participants involved both in the cognitive testing and the trial phases commented that the burden of completing over 100 items was countered by the comprehensive nature of the survey. The entire survey would not be practical as a quality improvement tool to use within practice on a regular basis, but there is potential for specific sections to be used as standalone measures of particular areas such as continuity and communication. The survey may also be useful as a research tool for future studies of integration, either in sections or as a whole, but further work on the intersection of the dimensions of consumer experience with the dimensions of the integration typologies is needed to guide best use of the tool.

Our examination of clinical records in two practices with well-structured administrative and clinical data sets suggests that these data contain information which could be used to develop understandings of the nature of information continuity and its potential role in supporting co-ordination and integration of care, but there are considerable risks and barriers.

Where researchers are able to read full patient records it is possible to assess the levels of information continuity subject to full reporting by various parties, but this does not necessarily inform researchers whether all providers make use of the available information. The access to records in this form would also require patient consent to meet ethical standards and be practical. Further, while possible in some cases, the degree of shared decision making is unlikely to be fully assessable from the patient records due to inconsistent reporting of informal communication, and is clearly not available in automated assessments.

Automated assessment of aspects of integration would be both more efficient than manual methods once set-up costs are met, and would not require patient approval to access data as only aggregate counts would be extracted. Some automated assessment of communication is viable with the Best Practice system for internal communication in a multi-disciplinary clinic, although the degree to which providers draw upon information in consultations with other providers is not known. The communication flows are, in principle, measurable for external communication but will only be readily analysed if clinical roles are well reported or can be inferred. If the limited reporting of clinical roles observed in our pilot study was general this would be a major barrier. The capacity to assess the role of informal communication will be limited, but it would appear that there are opportunities to use automated systems to answer some questions regarding information continuity.

The examination of quality proved difficult. Quality improvement processes themselves were under continual improvement to explore how best to satisfy accreditation requirements whilst also examining processes specific to *integrated* primary healthcare, over and above other primary healthcare. The very detailed consumer experience survey that was modified and tested in the study has potential to inform quality improvement processes, but further work is needed to investigate the intersection of consumer experience dimensions with frameworks of integration. It is likely that discrete sections of the survey that relate to particular dimensions of consumer

experience, for example continuity or communication, could be used as 'mini surveys' to acquire data on integration processes, particularly at the clinical level.

Analysis of coding patterns against the typologies for the interviews suggested that they may be useful for capturing the way people in service provision, especially health professionals, describe integration, but less useful for consumers. Valentijn et al (11) acknowledged that consumers were not included in their Delphi study to develop the taxonomy of features, suggesting this was an area for future research and development of the framework. The current study suggests that consumers' experience of *integrated* care tends to be implicit in their descriptions of primary healthcare experiences more broadly.

EXPERIENCES OF INTEGRATED CARE

The Ochre Health Bruce Medical Centre is still relatively new and growing, but the evidence collected in this pilot study suggests some of the dimensions of integration as conceptualized by the Fulop et al (10) and Valentijn et al (11) typologies are able to be recognised. Consumers and staff both liked the ease of communication and continuity provided by the record system shared by doctors, nurses and allied health professionals, and the familiarity between professionals enabled by co-location. Interaction with people from other services such as pathology, pharmacy and the University student clinic, often in the staff lunch room, helped to establish relationships and build trust which then translated to comfort with recommending these services to consumers.

Overall, this means that not only was there evidence of the more 'practical' elements of integrated care such as information flows, there was evidence of the development of a shared culture, noticeable to the consumers as well as staff. Rather than a focus on more business-like concepts such as coherence of polices and management, integration was described in terms of the way people interacted with one another and the ease of navigating healthcare.

FUTURE DIRECTIONS

As a successful pilot study, "Experiencing integration" will inform both the topic and methods of future research projects by the team on integrated primary health care. Further work is needed to test the utility of the Fulop et al (10) typology and Valentijn and colleagues' (11) taxonomy as methods of defining and understanding integration. Of interest is whether the frameworks are relevant to models of integrated primary healthcare other than co-location. Work with consumers is also needed to investigate whether process-based ways of conceptualising integration have value in understanding how consumers experience integrated care, the outcome of these processes (3).

References

1. Nolte E, Pitchforth E. What is the evidence on the economic impacts of integrated care? Policy summary 11. Copenhagen: World Health Organization; 2014 [cited 2015 31 August]. Available from: www.euro.who.int/en/about-us/partners/observatory/publications/policy-briefs-and-summaries/what-is-the-evidence-on-the-economicimpacts-of-integrated-care.

2. Valentijn PP, Schepman SM, Opheij W, Bruijnzeels MA. Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care. International Journal of Integrated Care. 2013;13.

3. Kodner DL, Spreeuwenberg C. Integrated care: meaning, logic, applications, and implications--a discussion paper. Int J Integr Care. 2002;2:e12.

4. Armitage GD, Suter E, Oelke ND, Adair CE. Health systems integration: state of the evidence. International Journal of Integrated Care. 2009;9:e82.

5. Oliver-Baxter J, Brown L, Bywood P. Integrated Care: What Policies Support and Influence Integration in Health Care in Australia. Primary Health Care Research and Information Service, PHC RIS Policy Issue Review, Adelaide, available at: www phcris org au/publications/policyreviews/index php (accessed 29 September 2013). 2013.

6. Kodner DL. All together now: a conceptual exploration of integrated care. Healthcare quarterly (Toronto, Ont). 2009;13 Spec No:6-15.

7. Goodwin N. Annual Conference Supplement 2010: Integrated care as a scientific discipline: the need for more theory and new analytical methods. International journal of integrated care. 2010;10(Suppl).

8. Axelsson R, Axelsson SB. Integration and collaboration in public health--a conceptual framework. The International journal of health planning and management. 2006;21(1):75-88.

9. Kodner DL, Kyriacou CK. Fully integrated care for frail elderly: two American models. Int J Integr Care. 2000;1:e08.

10. Fulop N, Mowlem A, Edwards N. Building integrated care: Lessons from the UK and elsewhere London: The NHS Confederation; 2005 [cited 2015 31 August]. Available from: http://www.nhsconfed.org/~/media/Confederation/Files/Publications/Documents/Building%20integrated%20care.pdf.

11. Valentijn PP, Boesveld IC, Van der Klauw DM, Ruwaard D, Struijs JN, Molema JJ, et al. Towards a taxonomy for integrated care: a mixed-methods study. International journal of integrated care. 2015;15.

12. Leutz WN. Five laws for integrating medical and social services: lessons from the United States and the United Kingdom. The Milbank quarterly. 1999;77(1):77-110, iv-v.

13. Delnoij D, Klazinga N, Glasgow IK. Integrated care in an international perspective. Int J Integr Care. 2002;2:e04.

14. Contandriopoulos A, Denis J, Touati N, Rodriguez C. The integration of health care: Dimensions and implementation. Working paper N04-01 Montreal: University of Montreal; 2003 [cited 2015 31 August]. Available from: http://www.irspum.umontreal.ca/rapportpdf/N04-01.pdf.

15. Banfield M, Yen L, Newby L. Stakeholder involvement in primary health care research. Report and recommendations. Canberra: Australian Primary Health Care Research Institute, 2011.

16. Canadian Institute for Health Information. Measuring Patient Experiences in Primary Health Care Survey. Vancouver: Canadian Institute for Health Information; 2015.

17. Wong S, Haggerty J. Measuring patient experiences in health care: A review and classification of items and scales used in publicly-available questionnaires Vancouver: Centre for Health Services Research and Policy Research, University of British Columbia; 2013 [updated 29 September 2015]. Available from:

http://www.chspr.ubc.ca/sites/default/files/publication_files/Patient%20experiences%20in%20PHC%202013_0.pdf

18. Collins D. Pretesting survey instruments: An overview of cognitive methods. Quality of Life Research. 2003;12:229-38.

19. Bazeley P, Jackson K. Qualitative data analysis with NVivo (2nd ed). London: Sage; 2013.

20. Gardner K, Parkinson A, Banfield M, Sargent G, Desborough J, Kalia-Hehir K. Environmental scan of patient experience surveys used in primary health care. A report commissioned by the Australian Commission for Safety and Quality in Health Care. Canberra: Australian Primary Health Care Research Institute, 2014.

21. Gardner K, Parkinson A, Banfield M, Sargent G, Desborough J, Kalia-Hehir K. Usability of patient experience surveys in Australian primary healthcare: A scoping review. Australian Journal of Primary Health. 2015;Online Early.

Appendix 1: List of project outputs

CONFERENCE PRESENTATIONS

Banfield M, Parkinson A & Dawda P. (2015) Experiencing integration in primary health care: a pilot study. *Paper presented at the 9th Health Services & Policy Research Conference, Melbourne, December 2015*

Parkinson A & Banfield M. (2015) Partnerships and pitfalls: When the best intentions are lost in translation. *Paper presented at the 9th Health Services & Policy Research Conference, Melbourne, December 2015*

Parkinson A, Banfield M & Dawda P. (2016) Experiencing integration in primary health care: a pilot study. *Paper accepted for the 16th International Conference on Integrated Care, Barcelona, May 2016*

PEER-REVIEWED PUBLICATIONS IN SUBMISSION

Banfield M, Jowsey T, Parkinson A, Douglas K & Dawda P. Experiencing integration: consumer and provider experiences of integrated primary health care in Australia. Submitted to *International Journal of Integrated Care,* 26/02/16

McRae I, Dawda P, Banfield M & Parkinson A. Can we measure integration of health care from administrative and clinical records? Submitted to *Australian Family Physician,* 04/02/16

Parkinson A, Banfield M, Dawda P. Working in research partnership with general practice: Methods, rewards and challenges. Submitted to *BMC Family Practice,* 03/02/16

Appendix 2: Key features of integrated primary health care

Adapted from Valentijn et al (11)

Clinical integration: operating on micro level. The coordination of person-focused care in a single process across time, place and discipline	
1. Centrality of client needs	The principle of care is to address the needs of clients in terms of medical, psychological and social aspects of health
2. Case management	Coordination of care for clients' with a high risk profile (e.g. identifying risks, developing policies and guidance)
3. Patient education	Education for clients is focused om medical, psychological and social aspects of health
4. Client satisfaction	User satisfaction of the individual client is central to the organisation of care
5. Continuity	The organisation of care aims to provide fluid care delivery for an individual client
6. Interaction between professional and client	Attitude and behavioural characteristics between professional and client regarding all health needs of the client.
7. Individual multidisciplinary care plan	Implementation of a multidisciplinary care plan at the individual client level.
8. Information provision to clients	Provide unambiguous and understandable information at the individual client level.
9. Service characteristics	Provision of services is focused on medical, psychological and social aspects of health.
10. Client participation	Clients are (pro) actively involved in the design, organisation and provision of care at the operational level.
11. Population needs	The interdisciplinary approach is consistent with the dominant needs of the population.
12. Self-management	Tailor-made support of self-management at the individual client level
Service/Professional integration: operating on meso level Inter-professional partnerships based on shared competencies, roles responsibilities and accountability to deliver a comprehensive continuum of care to a defined population.	
13. Inter-professional education	Inter-professional education for professionals focused on interdisciplinary collaboration.
14 Shared vision between professionals	A shared vision between professionals focused on the content of care.
15. Agreements or interdisciplinary collaboration	Agreements on the establishment of interdisciplinary cooperation at the operational level.
16. Multidisciplinary guidelines and protocols	Multidisciplinary guidelines and protocols are implemented in coherence with the operational level.
17. Inter-professional governance	Inter-professional governance is focused on openness, integrity and accountability between professionals at the operational level (e.g. joint accountability, appeal on pursued policies and responsibilities).
18. Interpersonal characteristics	Interpersonal characteristics of the professionals involved in the partnership (e.g. trust, equality, respect, values).
19. Clinical leadership	Accepted leadership with power and influence at the operational level (e.g. professional status characteristics such as reputation, specialization, position and seniority).
20. Environmental awareness	Environmental awareness of professionals with regard to economic, social and political developments.
21. Value creation for the professional	Value is added for the individual professional through interdisciplinary collaboration.
22. Performance management	Performance management at the operational level is focused on improving health outcomes for the individual client and the

	population.
23. Creating interdependence between professionals	Creating mutual interdependencies between professionals regarding interdisciplinary collaboration.

Organisational integration: operating on meso level
Inter-organisational relationships (e.g. contracting, strategic alliances, knowledge networks, mergers), including common governance mechanisms, to deliver comprehensive services to a defined population.

24. Value creation for organisation	Value is added through the collaboration of each involved organisation.
25. Inter-organisational governance	Inter-organisational governance is focused on openness, integrity and accountability between organisations at the strategic level (e.g. joint responsibilities, strategy and policy).
26. Informal managerial network	Informal network of managers within the collaboration.
27. Interest management	A climate that attempts to bridge the various interests (e.g. social, organisational and personal) at the operational, tactical and strategic level.
28. Performance management	Collective elaborated performance management between organisations within the collaboration.
29. Population needs as binding agent	The needs of the population are central in the collective policy of the various organisations in the collaboration.
30. Organisational features	Organisational features of inter-organisational collaboration (e.g. legal structure, number of organisations, profit vs. non-profit).
31. Inter-organisational strategy	A collective elaborated strategy exists between the organisations within the collaboration.
32. Managerial leadership	Leadership with power and influence at a strategic level (e.g. reputation, seniority and formal position).
33. Learning organisations	Collective learning power between the organisations within the collaboration (e.g. joint research and development programs).
34. Location policy	A collective location policy between the organisations within the collaboration (e.g. Coordinated housing and facilities).
35. Competency management	Collectively utilize and select competencies of professionals and staff to the greatest possible extent for the objectives of the collaboration.
36. Creating interdependence between organisations	The organisation of the collaboration aims to create mutual interdependencies between organisations (e.g. multiyear rental agreement).

System integration: operating on macro level
A horizontal and vertical integrated system, based on a coherent set of (informal and formal) rules and policies between care providers and external stakeholders for the benefit of people and populations.

37. Social value creation	Value is added through the collaboration of social objectives and interests.
38. Available resources	Available resources in the environment of the collaboration (e.g. usable buildings, (over)capacity, professionals and funding streams).
39. Population features	Health determinants of the population in the environment of the partnership (e.g. population composition and use of care).
40. Stakeholder management	Engagement of various stakeholders (e.g. municipality, patient organisations and health insurance companies).
41. Good governance	Creating trust towards external stakeholders (e.g. municipality and health insurance companies) based on working method, reputation, management, control and/or supervision.
42. Environmental climate	Political, economic and social climate within the environment of the collaboration (e.g. market characteristics, regulatory framework, competition).

Functional integration: operating on micro, meso and macro levels linking all dimensions

Key support functions and activities (i.e. financial, management and information systems) structured around the primary process of service delivery to coordinate and support accountability and decision-making between organisations and professionals in order to add overall value to the system.	
43. Human resource management	Aligned Human Resource Management within the collaboration (e.g. joint staffing an personnel).
44. Information management	Aligned information management systems accessible at an operational, tactical and strategic level (e.g. monitoring and benchmarking systems).
45. Resource management	Coherent use of resources (e.g. collective real estate and funding).
46. Support systems and services	Aligned support systems and services at the operational level (e.g. facility management and secretarial support).
47. Service management	Aligned service management for the client (e.g. collective telephone numbers, counter assistance and 24-hour access)
48. Regular feedback of performance indicators	Regular feedback of performance indicators for professionals at the operational level to enable them to improve their performance.
Normative integration: operating on micro, meso and macro levels linking all dimensions The development and maintenance of a common frame of reference (i.e. shared mission, vision, values and culture) between organisations, professional groups and individuals.	
49. Collective attitude	Collective attitude within the collaboration towards open communication, sincerity and respect at operational, tactical and strategic levels.
50. Sense of urgency	Awareness regarding the need and purpose to collaborate at the operational, tactical and strategic levels.
51. Reliable behaviour	The extent to which the agreements and promises within the collaboration are fulfilled at operational, tactical and strategic levels.
52. Conflict management	The ability to effectively manage interpersonal conflicts within the collaboration.
53. Visionary leadership	Leadership based on a personal vision that inspires and mobilizes people.
55. Quality features of the informal collaboration	Effectiveness and efficiency of the informal collaboration at the operational, tactical and strategic levels (e.g. group dynamics and attention to the undercurrent).
56. Linking cultures	Linking cultures (e.g. values and norms) with different ideological values within the collaboration at the operational, tactical and strategic levels.
57. Reputation	Individual reputation of those people involved in the collaboration.
58. Transcending domain perceptions	The ability to transcend one's own professional domain within the collaboration at the operational, tactical and strategic levels.
59. Trust	The extent to which those involved in the collaboration at operational, tactical and strategic levels trust each other.

Appendix 3: Research partnership article in submission

The following paper is currently under review with *BMC Family Practice*.

Title: Working in research partnership with general practice: Methods, rewards and challenges

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Abstract

Background

Much has been written about the challenges facing collaborative research and how best to engage multiple stakeholders. We recently completed a pilot study in partnership with an integrated primary health care centre to explore consumer and provider experiences of integrated primary health care and evaluate proposed data collection methods. In this paper we describe our participatory methods and reflect on the challenges and rewards.

Methods

The focus of the project was on trialling a range of methods to investigate both conceptions of primary health care integration and how to measure it. Data collection was conducted at a large, multidisciplinary primary health care centre in the Australian Capital Territory in 2015. The research design included interviews with consumers, health care professionals, and centre administration staff, testing of a patient experience questionnaire and exploration of clinical records. We employed a flexible participatory research framework developed for use in practice based research networks, specifically designed to facilitate involvement of various stakeholders. Stakeholders were asked to reflect on their experience.

Results

Initial planning discussions between researchers and practice administration staff led to a disconnect between researchers and health care professionals with the most active involvement in data collection processes, and some confusion about the project and recruitment of patients. After direct discussion with researchers, these staff members felt much more comfortable and enthusiastic about the project and recruitment progressed rapidly.

Managing a large reference group proved challenging especially scheduling meetings. Group members contributed to spirited discussions and meaningful participation that shaped the direction of the project and the practicalities of working within the practice. Stakeholders reported their involvement as being a positive experience.

Conclusions

This project has provided much useful information about what works and what does not work when partnering with, and conducting research in, a working practice. Understanding the research culture that exists within a practice and having a common shared purpose is important. Relationship building and effective communication are key to success. There was a need to be flexible and adapt: what seemed like a good idea from a research or reference group discussion may not work in practice.

Key words: participatory research, primary care, stakeholder engagement, collaborative research

Background

Collaborative research and stakeholder engagement are closely related strategies on the continuum of participatory research. Increasingly endorsed by funding bodies across the world, their value lies in improved research relevance and quality, and development of relationships to aid the translation of research into programs, policies and practice [1-4]. Although much of the literature focuses on consumer and community involvement as underpinning the concept of stakeholder engagement in patient-centred outcomes research, the partnering of researchers with clinicians and health system leaders is equally important [5, 6]. Consumers are the central focus of health care delivery but unless all relevant stakeholders, including consumers and other interested parties are involved, research cannot be sufficiently representative. Reflecting on practicing partnered research in health care, Selby and Slutsky [7] advocate, "Patient centered-care is a partnership involving the patient, their clinician, the delivery system, and sometimes payers or purchasers. The research partnership should be no less partnered" (p S814).

Stakeholder engagement is the process of ensuring that the appropriate people are identified and involved throughout the research process. Collaborative research extends this to ensure all stakeholders have the opportunity for significant input into the research process. In health services research this draws academics, consumers, clinicians, and service organisations together across all sectors (public, private, and third or Non-Government Organisations) and allows for multi-directional dialogue rather than siloed bi-directional dialogue to take place [3, 8].

Much has been written about the challenges facing collaborative research and how best to engage multiple stakeholders [2, 9, 10]. Challenges include significant resource commitments in time for constant discussions and negotiations, lack of access to people and information for data linkage, managing potential conflicts of interest, and differing time scale expectations of various stakeholders.

We recently completed a pilot study in partnership with an integrated primary health care centre. The goal of the "Experiencing integration" study was to explore consumer and provider experiences of integrated primary health care and evaluate proposed data collection methods. The outcomes are reported elsewhere (Banfield et al, in submission). In this paper we describe our participatory methods and reflect on the challenges and rewards we experienced.

Methods

Ethical approval for the study was granted by The Australian National University Human Research Ethics Committee (2014/651).

As an exploratory pilot, the focus of the project was on trialling a range of methods to investigate both conceptions of primary health care integration and how to measure it. Data collection was conducted at a large, urban, multidisciplinary primary health care centre in the Australian Capital Territory between April and August 2015. The research design included interviews with consumers, health care professionals, and centre administration staff, testing of a patient experience questionnaire and exploration of clinical records.

Participatory research framework

We employed a flexible participatory research framework developed for use in practice based research networks (PBRNs) that was specifically designed to facilitate involvement of various stakeholders [11]. The framework has three dimensions which combine to form an easy to use matrix that allows researchers to plan the involvement of stakeholders throughout the project. The dimensions are:

- stakeholders to involve
- stages of the research at which they will be involved; and
- level of involvement for each stakeholder group at each stage

Table 1 presents the completed matrix for the "Experiencing integration" study, followed by further details on the dimensions and how they were applied in the study.

Table 1 Participatory research matrix (adapted from [11])

Opportunities for engagement	Consumers	Health Care Professionals	Administrative staff	Managers	Researchers
Deciding what research to do	OOO	OOO	OOO	OOO	OOO
Deciding how to do the research	OO	OO	OO	OO	OOOO
Doing the research	OO	OO	OO	OO	OOOO
Letting people know the results	OOO	OOO	OO	OO	OOOO
Knowing what to do next	OOO	OOO	OOO	OOO	OOO

Researchers are not constrained by applying one level of involvement to their entire project or to all the involved stakeholders. The level of involvement of each stakeholder group can range from low to high (Table 2).

Table 2 Hierarchy of stakeholder engagement (adapted from [11])

Role of stakeholder	Strength of engagement	Level of participation of stakeholder
Assume control	OOOOO	
Delegated responsibility	OOOO	PARTICIPATION
Plan jointly	OOO	
Advise	OO	
Consulted & provide information	O	TOKENISM
Receive information		NON-PARTICIPATION

Stakeholders

In addition to health services researchers, the stakeholders identified for the project included health care consumers, health care professionals, and practice administrative and managerial staff. As both practice staff and consumers were to be invited to participate in the study and be interviewed it was important to involve these groups in planning how best to facilitate participation. An investigator team was developed comprising health professionals, consumer leaders and researchers from various disciplinary backgrounds. We took a novel approach and purposefully encouraged investigators named on the grant to have multiple interests as stakeholders. For example, two investigators were also healthcare consumer representatives, a further two investigators were also practicing general practitioners, and one investigator was also a senior manager at the health centre in the study. This team worked in partnership with a reference group throughout the project, comprising a GP, an allied health professional, a nurse, a senior manager from the health care organisation and two consumer representatives.

Stages of research and level of involvement

The participatory framework identifies five points in the research process that offer opportunities for stakeholder involvement [11-13]. First, deciding what research to undertake. This can be influenced by funding body interests, researchers, health care professionals, and consumers including consumer groups relevant to the research [11-13]. The idea for the current study was

developed by health professionals who are also academic researchers and refined with input from the other stakeholder groups. It fell within the identified areas of interest of the funding body.

The second stage involves deciding how to undertake the research. Traditionally researchers have determined this but other stakeholders including consumers and community members can meaningfully contribute [11-13]. Our investigator team drafted materials such as questionnaires and interview protocols and proposed methods of recruitment and data collection. These were then considerably redeveloped with the advice of the reference group as described under "Rewards" below.

Conducting the research or "doing it" is the third stage. Responsibility for conducting the "Experiencing integration" study lay primarily with the researchers. However, the multiple interests of the study investigators and regular contact with the reference group helped to ensure the study remained responsive to stakeholders and also helped overcome some of the challenges encountered as described below. Discussing the findings with the reference group as well as the investigator team also allowed exploration of alternative interpretations and provided valuable contextual information.

Sharing the knowledge or letting people know the results is the fourth stage. Most commonly, research has been published in peer reviewed journals but other methods could be used to inform a wider audience [11-13]. Our study took multiple approaches to sharing the knowledge gained in addition to the peer-reviewed publications. Results were discussed with the reference group during writing as a first step in communicating them to stakeholders. Plain language summaries were also prepared for all study participants and for reference group members to distribute to their networks. Presentations to the practice staff, consumers and government (as study funder) are also planned study outputs.

The fifth stage of the research cycle is knowing what to do next after the research is completed. Many proposals are built on the knowledge and experience gained in previous projects; research follows a cycle where one piece of work informs plans for the next. The experience of the stakeholders involved in this study provided valuable insights into future research directions and methods.

Assessing stakeholder engagement

To assess the success of the stakeholder engagement process all reference group members were asked to reflect on their experience of being involved with the study we asked two questions:

Was being on the group a positive or negative experience?

What would you do differently in future?

Members provided a short written reply by email.

Results and Discussion

Overall, the participatory approach was a positive experience for the researchers and the other stakeholders. When asked how things might be improved reference group members suggested three improvements: producing a short newsletter or update throughout the life of the project, providing a proposed schedule of meeting dates at the start of the project and consider teleconferencing as an option for meetings. The input from stakeholders helped to effectively achieve an ambitious pilot study which will contribute to the topics and methods of our future studies on models of primary health care service provision in Australia. The main results for this aspect of the "Experiencing integration" study are thus the lessons we learned, both on the participatory approach itself and on the insights the approach provided for research methods and materials.

Rewards

In general, reference group members were committed and engaged and saw value in the pilot study. Members contributed to spirited discussions and meaningful participation to shape the direction of the project and the practicalities of how it might be undertaken within the practice. Two face-to-face meetings were held, supplemented by ongoing online feedback as the project progressed.

The focus of the first face-to-face meeting was twofold. First to discuss the objects and broad design of the project and second to comment on the materials submitted for the project. Initial discussion clarified the meaning of the term "integration" and how it might be measured and led to refinement of the research questions to reflect this understanding.

We then turned our attention to the project materials. To aid consistency and ensure all elements considered necessary for informed consent are included, the University's Human Research Ethics Committee has produced an information sheet template that researchers are expected to use when producing research materials. However, the group felt that documentation produced using the template resulted in information sheets that were not user friendly, were too long, and bureaucratic in style. They cited intimidating and overly complex language and suggested these sheets would discourage participation.

Their preference was to reduce the key ethical information to one page, moving extra information, for example about the team and funding, to a separate page or a website. The detailed feedback from the reference group on the information sheet was used to construct a response to the Ethics Committee that demonstrated how the document could be written in user-friendly language and format whilst still including the required information for consent. The case was made that the academic style of the template may actually prevent some people from entering the study. Based on the evidence presented from people who are experts in the area, the Committee agreed to the use of the simplified documentation.

A second focus of discussion for the reference group concerned recruitment of health professionals, administration staff and senior managers at the practice. Traditionally it can be difficult to engage health service staff in research as they are often time poor and may not engage with written invitations to participate [14]. The group suggested a two-pronged approach to engage with staff for recruitment. The first part was the explicit endorsement of the study by the senior management of the health service. This led to the second part, which consisted of the practice director introducing researchers at a staff meeting to give a very brief overview of the project, highlighting the relevance to professionals and primary healthcare and answering questions. This approach was highly successful, with two GPs and two administrative staff agreeing to participate immediately after the meeting and the remaining interviews scheduled within two weeks of the presentation.

The final major area to which the reference group contributed was the patient experience survey. The tool selected by researchers, the Canadian Institute for Health Information's Patient Experiences in Primary Health Care Survey [15], was felt to be too long, with a number of questions irrelevant for this study. The survey tool's Canadian developers worked in conjunction with consumers and other health stakeholders to develop a comprehensive set of questions that covered multiple domains of experience [16]. The reference group liked the breadth of the questions but expressed concern that expecting participants to complete over 100 questions in addition to participating in a face to face interview was not acceptable. In consultation with the group we identified areas where the number of questions could be reduced or sections removed. Some questions were also reworded or replaced. The amended version was then piloted with a number of consumers before its use in the study. Study participants were asked for feedback on the tool as part of their interview: most commented that although it was long, they felt it was comprehensive and relevant and therefore they were not bothered by the length.

Another reward of the participatory approach of the study developed separately from the reference group. We quickly recognised the important role reception staff play in the daily operations of the health centre as an integral part of the practice team. Recognising the imposition our project may be for their usual work, we made sure they knew who the researchers were and that researchers announced themselves and introduced themselves on every occasion. The reception staff were thus able to assist with the practical side of the research, such as meeting participants, finding a free meeting room and having it unlocked, organising parking and directing reference group members to meetings. They were explicitly thanked for their help and given a small gift in recognition of the contribution they had made to the project's success.

A final improvement to our study came from one of our participants. Our second of two cohorts of consumer participants were asked to complete the written questionnaire, then take part in an

interview. To minimise disruption to patient flow within the health care centre, our original design was to have participants complete both the survey and the interview after their appointment. One participant commented that she could have completed the survey in the waiting room to keep her occupied whilst waiting for her appointment. This was presented as an option to later participants, thus reducing the overall time burden of the research.

Challenges

Managing a large investigator and reference group of people proved challenging. As expected it proved very difficult to schedule meetings that most members could attend due to their commitments and disparate locations. Meetings were scheduled well in advance at the health care centre, which was highly accessible for all members, and everyone received an honorarium in recognition of their contribution. Nevertheless, we were unable to convene the entire investigator and reference group across the life of the project.

To assist with the scheduling difficulties and give everyone the opportunity to contribute, we agreed to deliver documents for comment using a shared online platform expecting it would allow ease of access and facilitate group discussion. Due to privacy concerns and strict University guidelines for security of research information we were unable to use a free document sharing platform to create a virtual group. The University platform proved difficult for everyone to navigate and some reference group members without University affiliations had additional access difficulties. Little discussion was generated using this method of communication. Instead, we reverted to sending documents via email to individuals for comment and collating comments for discussion at meetings.

As researchers working within an operating primary healthcare centre we were mindful of respecting the operational chain of command. We conducted our initial planning discussions and follow-up with the staff members that senior management nominated to assist us. However, this led to a disconnect between the researchers and the staff with the most active involvement in data collection processes, and some confusion about the project and recruitment of patients. Some staff who had not had the opportunity to interact directly with the researchers felt the job of recruiting participants was "dumped" on them without discussion and were slow to take it on board. They did not fully understand what the project was trying to achieve or their role. After direct discussion with the researchers, these staff members felt much more comfortable and enthusiastic about the project and recruitment progressed rapidly.

A second consequence of the indirect line of communication became apparent during the first round of interviews with consumers. The intended participants for the study were consumers with chronic illness who had seen more than one health professional in the multidisciplinary centre. To protect personal information, consumers recruited for the first cohort were contacted directly by a practice nurse, who invited them to participate and scheduled interviews. As a result, the researchers did not talk with the participants until the time of interview, when the information sheet was provided and explained and written consent was gained. Not all recruited consumers met the study requirements to have seen a GP and at least one other health care professional within the centre, making discussion of integration challenging.

A different strategy was employed for the recruitment of the second cohort of consumers. The researchers discussed the project directly with all practice nurses and provided a check list of the required inclusion criteria. To facilitate a timely flow of interviews and to minimise disruption to the practice, two researchers were then stationed in the waiting room over three consecutive days. The dates were agreed upon in consultation with the Practice Manager. The researchers positioned themselves in one corner of the waiting area where they could be easily seen by participants but were not disturbing the general flow of activity. Participants were then directed to us by practice nurses and we escorted them to a private meeting room where we conducted our interviews. This allowed better screening of participants and immediate participation in the project for most people, but was very labour intensive and may not be practical on a larger scale.

Late in the recruitment process an allied health professional also volunteered to recruit participants. We were then able to recruit our final two participants via two allied health professionals working at the centre which provided some different perspectives.

Senior management at the health care centre were keen to instill a research culture within the practice and actively support staff to participate. One of the investigators who was also a senior manager acted as a champion for research acting as a bridge between researchers and stakeholders. Reflecting on the research culture within the health care centre, the research champion/investigator suggested that as the health care centre was a relatively new clinic formed with doctors from different practices and amalgamated together that a mature research culture did not exist. Hence, one of the challenges for the champion/investigator was to lead by example, subtly encouraging the staff to engage through some intrinsic motivation.

Conclusion

Stakeholders were engaged at all five points in the research process. Investigators spanned consumer health representatives, academics, health care professionals and health care centre senior management and worked with the reference group to refine the research objectives. The reference group were actively involved in determining how to undertake the research, aiding recruitment, commenting on initial results and how to interpret the data that was collected, sharing the results with their networks, and finally in considering future grant applications for a larger scale version of the study based on the learnings from this pilot.

Key learnings included organisational aspects such as making allowances for the time required for managing a large reference group in respect of scheduling meetings and finding communication platforms that suit all members.

Relationship building is also important because no project can operate unless people commit to it and feel valued and involved. Communication and understanding must be constantly monitored and checked to avoid problems as key details can be lost when information is relayed through several people.

General practices are extremely heterogeneous by nature and therefore starting with some understanding about their research culture and having a common shared purpose is important. Having researchers with multiple roles across different organisations can facilitate a better understanding.

In addition to piloting specific methods of data collection, this project has provided much useful information about what works and what does not work partnering with general practice and conducting research in a working practice. There was a need to be flexible and adapt: what seemed like a good idea from a research or even reference group discussion may not work in practice.

reflect the views or policy of the Australian Primary Health Care Research Institute or the Australian Government Department of Health.

Funding

References

1.   Bullock A, Morris ZS, Atwell C. Collaboration between health services managers and researchers: making a difference? Journal of health services research & policy. 2012;17 Suppl 2:2-10.

2.   Hinchcliff R, Greenfield D, Braithwaite J. Is it worth engaging in multi-stakeholder health services research collaborations? Reflections on key benefits, challenges and enabling mechanisms. International journal for quality in health care : journal of the International Society for Quality in Health Care / ISQua. 2014;26(2):124-8.

3.   Jackson CL, Greenhalgh T. Co-creation: a new approach to optimising research impact? The Medical journal of Australia. 2015;203(7):283-4.

4.   Mitchell P, Pirkis J, Hall J, Haas M. Partnerships for knowledge exchange in health services research, policy and practice. Journal of health services research & policy. 2009;14(2):104-11.

5.   Concannon TW, Meissner P, Grunbaum JA, McElwee N, Guise J-M, Santa J, et al. A New Taxonomy for Stakeholder Engagement in Patient-Centered Outcomes Research. J Gen Intern Med. 2012;27(8):985-91.

6.   Concannon TW, Fuster M, Saunders T, Patel K, Wong JB, Leslie LK, et al. A Systematic Review of Stakeholder Engagement in Comparative Effectiveness and Patient-Centered Outcomes Research. J Gen Intern Med. 2014;29(12):1692-701.

7.   Selby JV, Slutsky JR. Practicing Partnered Research. J Gen Intern Med. 2014;29(Suppl 4):814-

8.   Slutsky J, Sheridan S, Selby J. "Getting Engaged". J Gen Intern Med. 2014;29(12):1582-3.

9.   Traynor R, Dobbins M, DeCorby K. Challenges of partnership research: insights from a collaborative partnership in evidence-informed public health decision making. Evid Policy. 2015;11(1):99-109.

10.   Forsythe L, Ellis L, Edmundson L, Sabharwal R, Rein A, Konopka K, et al. Patient and Stakeholder Engagement in the PCORI Pilot Projects: Description and Lessons Learned. J Gen Intern Med. 2015:1-9.

11.   Banfield M, Yen L, Newby L. Stakeholder involvement in primary health care research. Report and recommendations Canberra: Australian Primary Health Care Research Institute. 2011. http://aphcri.anu.edu.au/projects/anu/raising-consumer-voices-australian-primary-health-care-research. Accessed 29 January 2016.

12.   National Health and Medical Research Council, Consumers' Health Forum of Australia. A model framework for consumer and community participation in health and medical research Canberra: Australian Government. 2004. https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/r33.pdf . Accessed 29 January 2016.

13.   McKenzie A, Haines H. Consumer and community participation fact sheet T02: The research cycle Perth: The University of Western Australian and Telethon Kids Institute. 2014. http://www.involvingpeopleinresearch.org.au/images/docs/Factsheets/fact_sheet_T02_research_cycle.pdf . Accessed 29 January 2016.

14.	Parkinson A, Jorm L, Douglas KA, Gee A, Sargent GM, Lujic S, et al. Recruiting general practitioners for surveys: reflections on the difficulties and some lessons learned. Aust J Prim Health. 2015;21(2):254-8.

15.	Canadian Institute for Health Information. Measuring Patient Experiences in Primary Health Care Survey. Vancouver: Canadian Institute for Health Information; 2015.

16.	Wong ST, Haggerty J. Measuring patient experiences in primary health care: a review and classification of items and scales used in publicly-available questionnaires. 2013.

Appendix 4: Utility of clinical record review article in submission

The following paper is currently under review with *Australian Family Physician*.

Can we measure integration of health care from administrative and clinical records?

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Can we measure integration of health care from administrative and clinical records?

Abstract (150 words)

Background

A major component of integrated care is shared information,. Computer based clinical and administrative systems, particularly in multi-disciplinary environments, provide an opportunity to directly measure the degree of integration.

Objectives

To explore the viability of automated measurement of integration within a multi-disciplinary health care centre.

Method

With the assistance of practice staff, researchers explored the structure and content of selected patient records in two practices to understand the viability of automated measurement.

Results

Extracted patient records can be used to understand integration to the degree that communication is recorded but at significant expense to both the clinic and researchers. Automated systems are practical to the degree that clinicians complete all relevant identifying fields.

Discussion

Computerised clinical systems provide opportunities for exploring integration of care if they include a range of care providers and all relevant fields are always completed. The latter condition will always be difficult to achieve.

Introduction

The ideas of care co-ordination and integration are now firmly incorporated in policy statements such as Australia's National Chronic Disease Strategy(1), and there is now considerable effort being made to measure components of care integration(2, 3). The general notion of integrated care – that patients, most commonly those with chronic or complex conditions, have their care co-ordinated with all health and social care providers able to access necessary information; and with joint decision making wherever relevant (including with the patient) – is well known. However, there are many variations of the formal definition of integration(4). A recent study of the economic impacts of integrated care notes that the "most common concepts or terms were case management, care coordination, collaborative care or a combination of these"(5). Singer *et al* (2011) argue that it is necessary to address integrated patient care rather than integrated service delivery. In this context, while integration and coordination are frequently considered synonymous, complete integration requires "patient centredness" with patients both informed and involved in decision making. This leads them to suggest there are five aspects of coordination and two aspects of patient centredness, which should be measured to assess the level of integration of care provision(6).

To address the full range of issues of integration requires a wide range of data, and to assess patient centredness requires a survey or similar means of assessing the processes from the patient's perspective. The majority of measures of integration are survey-based although a small proportion use automated register data(3). Beyond register data there is a vast amount of information available in national clinical databases(2) and in the clinical databases held in doctors' practices. The latter are examined in this study. If there is scope to access this information in a relatively automated manner it may be possible to measure aspects of integration directly, particularly information sharing and information continuity(7). Previous Australian studies of information continuity have concluded that the availability of information is necessary "but not sufficient to ensure continuity for the patient or co-ordination from a system perspective"(8, 9).

This study is part of a larger pilot project exploring means of measuring the level of integrated primary health care. The purpose of this paper is to explore the degree to which administrative and clinical records can be used in an automated manner to assess:

whether the levels of communication necessary for integrated care are met; and

if it is possible to assess the levels of joint decision making required for integrated care.

Methods

The ethical aspects of this study were approved by The Australian National University Human Research Ethics Committee (Protocol number 2014/651.)

This study was part of a pilot project exploring the nature of integrated primary health care within a clinic (Site One) that provides multi-disciplinary services at a single site using a shared electronic record system. The clinic is part of a wider network of clinics, and to expand the horizons of the study, patient records were also extracted from a second site (Site Two), which, while having a similar multi-disciplinary ethos had less allied health workers linked to the electronic record system. This study firstly addressed complete patient notes for the previous 1-2 years extracted from the Site Two to assess whether this information could support measurement of components of integration. Four patients with chronic or complex conditions were selected by the clinic records manager. These records were carefully de-identified by practice staff, and analysed by the researchers to assess the information flows between the GPs and other providers, and to observe indications of joint decision making (including with the patient), noting that the lack of an indication of joint decision making may reflect a lack of reporting rather than a lack of practice.

Secondly, to assess the scope for automated data extraction, information on the nature of the integrated IT system at Site One was obtained by discussion with clinicians and practice managers, by observing active use of these systems, and by interrogating (with the assistance of a practice nurse), records for 19 patients who had given permission for their identified records to be used in this study.

Results

Both clinics use the Best Practice clinical management system and the PEN CS clinical audit system, making identification of patients with chronic conditions relatively straight forward. Examination of information continuity and/or integration processes was, however, more complex.

Examination of extracted patient notes from Site Two: The patient notes assessed were drawn by the practice staff for four patients known to have chronic conditions needing support from health care providers in addition to the GP, and provided as PDFs of sequential series of consultation notes, letters sent and received and notes of telephone conversations. The manual de-identification of the notes proved to be a major task for practice staff, taking considerable time and multiple passes by two staff members, separately. As such, this methodology is not practical for a larger scale study. If full patient notes are to be accessed, patient permission is required to enable researchers to access the relevant records.

Secondly, the analysis of the notes is also an extremely time consuming task. While some electronic searching of the text in the PDF document is possible, most additional documents such as response letters, diagnostic imaging reports and pathology reports were scanned as image files rendering their content unable to be automatically searched. This necessity to hand search does not render the approach impractical, but does create significant time demands if the methodology is to be applied to a larger sample.

Analysis of the four sets of notes showed considerable communication, mainly from the GP to other health care providers, but almost no reporting of joint decision making, except for reports on a small number of telephone conversations. Other communications reported included requests for diagnostic imaging and pathology tests, and requests for diagnostic services from specialists (e.g. tests of pacemakers), together with the relevant reports. Referrals to specialists for clinical services were mostly followed by letters from the specialist reporting on the outcome of the referral. In the event of no response it was only possible to establish whether this was because the patient did not attend, or if the specialist failed to report back to the GP if the next GP consultation included notes on the patient experience with the specialist.

There were very few responses to referrals for clinical services to allied health practitioners, except in relation to one psychologist with whom the practice had close links. Again, if there is no written response from a health care provider, unless mentioned in the notes of the next GP consultation it is not possible to know if the patient attended a consultation with that provider.

Examination of the on-line systems at Site One

All health care providers offering services at the multi-disciplinary clinic had access to the single computer based system, which recorded all appointments at the clinic, consultations, notes of consultations, letters sent and received, and those telephone and other conversations that clinicians chose to document. When a patient is referred by a GP to a physiotherapist for example, the latter can access not only the GP referral letter but also patient notes from previous GP visits. When the patient next attends the GP, they can see not only any formal response by the physiotherapist but also notes from the consultation with the physiotherapist. Access to these notes means formal responses are less necessary.

Nineteen patients gave consent for researchers to access their records. However, researchers could not be given access to the full working data set as this would give access to all patients, and the system did not readily enable providing access to consenting patients only. In principle, data for the consenting patients could be extracted to a separate file, but this would have been a non-trivial task. To maintain confidentiality a practice nurse managed the computer system, opening files as required by researchers for consenting patients only. This was practical for a pilot study, but for a larger project would be problematic, emphasising the value of more automated systems.

The capacity to use automatic extraction to assess communication practice is dependent on the structure of the database, how it is accessed and how information is entered by health care providers. The components of the database relevant to this study comprise essentially two folders for each patient, one containing separate files of notes for each consultation/telephone conversation for all providers attached to the system, and the other containing separate files for each letter/report/referral from any of the providers and responses/reports received.

The notes of consultations are identified by provider name and date, but any information on the content of the consultation requires reading the notes. Given there are a limited number of providers attached to the system, and their positions (GP/nurse/physiotherapist/diabetes educator etc) are known, the usage of different providers by patients with particular conditions can be measured directly from the system. Information on informal contacts (telephone, "corridor" meetings) was sometimes included as additional "consultation" notes, sometimes with the notes of an actual consultation. However, practice staff assisting the project noted that informal contacts were frequently not reported and, therefore, the electronic system did not fully capture shared patient care in the clinic.

Letters/reports/referrals from the GP to other providers and from other providers to GPs can best be considered as two sub-folders, an "out" sub-folder containing materials going out from the GP (mainly requests for tests or referrals) and an "in" sub-folder comprising letters and reports returning to the GP. The letters/referrals "out" were identified by the name of addressee, their clinical role (pathologist, physiotherapist, endocrinologist etc), the topic of the letter/referral and the date. While the name and date were always present, the clinical role and topic were frequently omitted. For practitioners within the clinic, the clinical role can be inferred from the name, enabling automatic assessment of whether patients were referred by GPs to providers within the practice treating the chronic conditions and whether patients actually attended consultations/treatments with the referred providers. However, for external practitioners this is less clear unless a comprehensive table of specialists and allied health practitioners is available and used in automated system in the analysis.

The letters/reports provided in response to referrals again frequently omitted important parts of the identifying information. This made tracing the complete episode of care challenging. Further, as noted earlier, practitioners within the clinic rarely replied to the GP as any necessary information was available in the patient notes to which the GP had access.

The practice also has a messaging system referred to as "Patient Messages" which practitioners can use to discuss particular patients. Its use is variable and dependent on the clinician's perspective. Common examples of use include situations where information supplementary to that in the clinical notes would be helpful to provide additional context, or where a response is required on issues peripheral to the central clinical issue. It is thus a source of information which may potentially assist in measuring the level of co-ordination.

Automated exploration of the database, without reading the content of the clinical notes, could be used to identify patients with chronic conditions likely to benefit from integrated care. It could then, in principle, be used to identify letters/referrals from the GP to other providers within the clinic and whether the patient attended that provider following the referral (i.e., if there is a consultation reported in the notes). This could be classified by practitioner clinical role. While there generally would be no explicit response because the GP can access the consultation notes, these data on information flows could be supplemented by data on information flows from the messaging system to gain an understanding of how communication is used to support integrated primary health care.

It would only be practicable to interpret the purpose of letters/referrals from the GP to providers outside the clinic if the letter descriptor identified the clinical role of the addressee or if a more sophisticated system was in place to match names to clinical roles. Our observation of 19 patients suggests that information on the clinical role of the named external providers may be available in relatively few cases. Without identification of the clinician's role it would not be clear whether a referral was to treat the chronic condition(s) of interest or an unrelated issue. By matching names it is clearly possible to automatically identify letters/reports back from the external providers subsequent to the GP letter/referral, but without knowledge of the clinical role it will be difficult to interpret the nature of this communication.

Such analysis would provide clear information on whether patients attended consultations with referred providers within the clinic and whether information from these referred consultations was available to the GP. For referrals to external providers, subject to the availability of information on the clinical role of the referred provider and reason for the referral, it is possible to measure whether a report is returned. If no report is returned it is not possible to identify whether the patient actually attended a consultation.

Limitations

This pilot project examined two practices and a relatively small number of patients. However the purpose was to explore potential processes and not to provide actual outcomes in relation to the success or otherwise of integration, and the comments on these matters should be seen as indicative only. The limitation to two practices in the one network means a limitation to one clinical management system, and other systems may be more or less easily interrogated. Findings are consistent with previous work on co-ordination in primary health care, which also found that systems are sensitive to the way in which information is entered by providers and office staff, requiring considerable training and maintenance of accurate coding and recording (8). The project also did not attempt to prepare tools to extract particular data sets, but rather took advice on what was and was not practical.

Discussion

Our examination of records in two practices with well-structured administrative and clinical data sets suggests that these data contain information which could be used to develop understandings of the nature of information continuity and its potential role in supporting co-ordination and integration of care, but there are considerable risks and barriers.

Where researchers are able to read full patient records it is possible to assess the levels of information continuity(7) subject to full reporting by various parties, but this does not necessarily inform researchers whether all providers make use of the available information(8). The access to records in this form would also require patient consent to meet ethical standards and be practical. Further, while possible in some cases, the degree of shared decision making is unlikely to be fully assessable from the patient records due to inconsistent reporting of informal communication, and is clearly not available in automated assessments.

Automated assessment of aspects of integration would be both more efficient than manual methods once set up costs are met, and would not require patient approval to access data as only aggregate counts would be extracted. Some automated assessment of communication is viable with the Best Practice system for internal communication in a multi-disciplinary clinic, although the degree to which providers draw upon information in consultations with other providers is not known. The communication flows are, in principle, measurable for external communication but will only be readily analysed if clinical roles are well reported or can be inferred. If the limited reporting of clinical roles observed in our pilot study was general this would be a major barrier. The capacity to assess the role of informal communication will be limited, but it would appear that there are opportunities to use automated systems to answer some questions regarding information continuity.

Integrated care is increasingly seen as essential to care delivery(10). One of the dimensions of integrated care is functional integration, and a critical enabler for this is high quality information systems as evidenced by high performing health systems(11). These information systems need to be capable of providing structures/modules to support the different levels of integration from linkage, to coordination and full integration. Those same modules should also have the functionality to provide a measurement system to support integrated service delivery and measure integration. The measures examined in this pilot could answer more questions if all information was completed and coded, but as with most systems designed for clinical and administrative purposes the users complete only that which is necessary for the primary purpose and not always that which is most useful to the researcher. The design of such information systems needs to provide utility and add value to providers. As Feachem *et al* (2002) point out "more advanced parts of the Kaiser[US] system have sophisticated and efficient information technology systems that reduce administrative time, particularly clinician's time spent taking medical histories, dictating letters and locating patient locating patient records."

While information continuity is necessary for successful care co-ordination, which is itself necessary for integration of care, clinical systems can measure care coordination but cannot directly measure integrated care. Integrated care with its many definitions has a common element with the patient perspective as the organising principle of service delivery(12) with integration being the combined set of methods, process and models that seek to bring about improved co-ordination

of care. Information systems with capacity for automated measurement offer an opportunity to measure some aspects of integration.

Implications for general practice

While general practices will usually have a subjective view of the degree of information continuity and care co-ordination in their practices, it will rarely be measured. Depending on the system in use, there are opportunities for automated measurement subject to how well the data is entered in the first instance, and this information can inform practices on how successfully they are meeting their objectives with respect to care co-ordination and integration.

References

1.	(NHPAC) NHPAC. National Chronic Disease Strategy. Canberra: Australian Government Department of Health and Ageing2006.

2.	Chen LM, Ayanian JZ. Care continuity and care coordination: what counts? JAMA Intern Med. 2014 May;174(5):749-50.

3.	Strandberg-Larsen M. Measuring integrated care. Dan Med Bull. 2011 Feb;58(2):B4245.

4.	Armitage GD, Suter E, Oelke ND, Adair CE. Health systems integration: state of the evidence. Int J Integr Care. 2009;9:e82.

5.	Nolte E, Pitchforth E. What is the evidence on the economic impacts of integrated care? Policy summary 11. Copenhagen: World Health Organization2014.

6.	Singer SJ, Burgers J, Friedberg M, Rosenthal MB, Leape L, Schneider E. Defining and Measuring Integrated Patient Care: Promoting the Next Frontier in Health Care Delivery. Medical Care Research and Review. 2011 February 1, 2011;68(1):112-27.

7.	Haggerty JL, Reid RJ, Freeman GK, Starfield BH, Adair CE, McKendry R. Continuity of care: a multidisciplinary review. BMJ. 2003 Nov 22;327(7425):1219-21.

8.	Banfield M, Gardner K, McRae I, Gillespie J, Wells R, Yen L. Unlocking information for coordination of care in Australia: a qualitative study of information continuity in four primary health care models. BMC Fam Pract. 2013;14:34.

9.	Gardner K, Banfield M, McRae I, Gillespie J, Yen L. Improving coordination through information continuity: a framework for translational research. BMC Health Serv Res. 2014;14:590.

10.	Kasteridis P, Street A, Dolman M, Gallier L, Hudson K, Martin J, et al. Who would most benefit from improved integrated care? Implementing an analytical strategy in South Somerset. Int J Integr Care. 2015 Jan-Mar;15:e001.

11.	Feachem RG, Sekhri NK, White KL. Getting more for their dollar: a comparison of the NHS with California's Kaiser Permanente. BMJ. 2002 Jan 19;324(7330):135-41.

12.	Shaw S, Rosen R, Rumbold R. What is integrated care. London: Nuffield Trust2011.

Appendix 5: Experiencing integration findings article in submission

The following paper is currently under review with the *International Journal of Integrated Care.*

Experiencing integration: Consumer and provider experiences of integrated primary health care in Australia

Banfield M, Jowsey T, Parkinson A, Douglas K & Dawda P.

Abstract

Introduction

The terms integration and integrated care describe the complex, patient-centred strategies to improve coordination of healthcare services. Frameworks exist to conceptualise these terms, but these have been developed from a professional viewpoint.

The objective of this study was to explore consumers' and providers' concepts, expectations and experience of integrated care. A key focus was whether frameworks developed from a professional perspective are effective models to explore people's experiences.

Methods

Semi-structured interviews were conducted with consumers (N=19) and staff (N=10) at an Australian co-located primary healthcare centre.

Findings

Consumers' experience of integrated care tended to be implicit in their descriptions of primary healthcare experiences more broadly. Experiences related to the frameworks involved clinical and functional integration, such as continuity of providers and the usefulness of shared information. Staff focused on clinical level integration, but also talked about a cultural shift that demonstrated normative, professional and functional integration.

Discussion

Existing frameworks for integration have been heavily influenced by the provider and organisational perspectives. They are useful for conceptualising integration from a professional perspective, but are less relevant for consumers' experiences. Consumers of integrated primary health care may be more focussed on relational aspects of care and outcomes of the care.

Introduction

When planning and describing desired health service provision, we often find the terms 'integration' and 'integrated care' used interchangeably. However, Kodner and colleagues have pointed out that 'integration' refers to structures and processes, while 'integrated care' is more concerned with the patient experiences and outcomes of such processes (1). Despite clarifying this for us, confusion remains in the literature, which others have noted (1-4). This is largely due to the complexity with which integration and integrated care engage; operating on different levels of health systems, both horizontally and vertically (1, 5). Kodner (6, p.12) provides a useful definition of integrated care that further demonstrates the complexity:

> [a] multi-level, multi-modal, demand driven and patient-centred strategy designed to address complex and costly health needs by achieving better coordination of services across the entire care continuum. Not an end in itself, integrated care is a means of optimizing system performance and attaining quality patient outcomes.

Given there is no recognised common model of integrated care, a conceptual framework is needed to better understand integrated care and guide empirical research (2, 3, 7-10). As Goodwin recently argued, we lack the means to effectively measure and monitor outcomes in integrated care, 'particularly in terms of understanding improvements in the user experience'(11).

A useful starting point for demonstrating integration as a process (and for illustrating its complexity) may be the framework developed by Fulop et al. (12), which recognises the importance of process and cultural changes in addition to structures and governance. They identify six dimensions necessary for effective integration (see Table 1).

Table 1: Fulop et al.'s six necessary dimensions for effective integration

Necessary dimensions for effective integration*	Details
Organisational integration	How the organisation is formally structured
Functional integration	How the non-clinical support and back-office processes are integrated
Service integration	How the clinical services are integrated
Clinical integration	How clinical team level care pathways are organised
Normative integration	The role of shared values
Systemic integration	The coherence of policies across organisational levels.

*adapted from Fulop et al. (12)

Also relevant is the taxonomy of integrated care that Valentijn et al. (3, 13, 14) have developed, which uses a theory-driven mixed methods approach. The appropriateness of key features was tested in a Delphi studies with experts. The taxonomy consists of 21 key characteristics identified as necessary for achieving integrated care in a primary care setting, which are grouped across eight integration domains and organised into three main categories (see Table 2).

Table 2. Valentijn et al's 21 key characteristics necessary for achieving integrated care within a primary care setting (13)

Categories	Domains and characteristics	Details*
SCOPE	*Person-focused care*	
	1. Centrality of client needs	Address the needs of individual clients in terms of medical, psychological and social aspects of health
	Population based care	
	2. Centrality of population needs	Address the dominant needs of well-defined populations
TYPE	*Clinical integration*	
	3. Case management	Coordination of care for clients with a high risk profile
	4. Continuity	Provide fluid the processes of care delivery
	5. Interaction between professional and client	Attitude and behavioural characteristics regarding all health needs of the client
	6. Individual multidisciplinary care plan	Implementation and application at the individual client level
	Professional integration	
	7. Inter-professional education	Education focused on interdisciplinary service delivery and collaboration
	8. Agreements on interdisciplinary collaboration	Agreements on establishment of interdisciplinary service delivery and collaboration
	9. Value creation for the professional	The value added by the integrated service delivery approach
	Organisational integration	
	10. Inter-organisational governance	Focused on openness, integrity and accountability between the involved organisations and professionals
	11.Inter-organisational strategy	Collective elaborated strategy between the organisations involved
	12. Trust	The extent to which those involved trust each other
	System integration	
	13. Alignment of regulatory frameworks	Alignment for teamwork, coordination and continuity of care
	14. Environmental climate	Political, economic and social climate in the environment of the integrated service model
ENABLERS	*Functional integration*	
	15. Learning organisations	Collective learning power between the organisations involved (e.g. joint research and development)
	16.Information management	Aligned systems (e.g. monitoring and benchmarking)
	17. Regular feedback of	Regular feedback for quality improvement and self-

	performance indicators	reflection
	Normative integration	
	18. Shared vision	Collectively shared long-term vision among people involved
	19. Reliable behaviour	Extent agreements and promises are fulfilled
	20. Visionary leadership	Vision that inspires and mobilises people
	21. Linking cultures	Linking values and norms with different ideological values

The results of the Delphi studies indicated features associated with the functional and system dimensions of integration were considered to be less necessary. However, as Valentijn and colleagues point out, not all stakeholders were engaged in their research. For example, consumers were not included in the expert group, leaving the utility of these features for consumers unknown (13, 14).

The objective of the present study was to explore the perspectives of consumers and providers on integrated care within a newly-opened multidisciplinary primary healthcare centre. Of interest was how consumers with chronic illness and providers conceptualise integration, what they expect in terms of integrated care and what they experience. A key focus was whether the Fulop et al model (12) and/or the Valentijn et al taxonomy of features (13) could be effective modes through which people's perspectives may be explored and analysed.

Methods

The research was developed and conducted according to a flexible participatory research model (15). The research team included health professionals, consumer leaders and researchers from various disciplinary backgrounds. The team worked closely with a reference group throughout the project, comprising two consumer representatives, a GP, an allied health professional, a nurse and a senior manager with the provider organisation. The reference group provided feedback on the research protocols, facilitated data collection and contributed to analysis and reporting of results.

Data collection was conducted at a large, urban, multidisciplinary primary healthcare centre in Australia between April and August 2015. The centre had been in operation for approximately 15 months and had been funded under an Australian government program (GP Super Clinics) widely publicised in the media that aimed to promote co-location and integration of general practice with allied health and other service providers in order to more effectively support those with, or at risk of, chronic disease. Multidisciplinary services at the centre are provided by health professionals with a direct contractual relationship with the medical centre operator as well as more broadly by services with a subcontracting relationship. Professionals with a direct contractual relationship can access the shared practice management system and patient records, whereas subcontractors manage their own systems and communicate via traditional referral and communication systems such as letter and phone.

Nineteen interviews were conducted with consumers. Ten completed an interview only (cohort one); nine completed an interview and a questionnaire (cohort two). Ten interviews were also conducted with health professional and management staff at the healthcare centre. Consumers were recruited through the practice nurses, who were asked to identify people with chronic conditions who had seen more than one health professional at the centre. Staff were invited to participate at a staff meeting attended by the researchers and followed up by the Practice Manager.

All interviews were guided by semi-structured protocols: the broad questions are presented in Table 3. The protocols were developed to encourage participants to volunteer their own perceptions and understanding of primary health care integration, with prompts related to the dimensions of Fulop and colleagues' (12) typology used where necessary to more fully explore the

existing theoretical basis for the project. Interviews were conducted by three interviewers at the healthcare centre and lasted between five and 25 minutes.

Table 3: Broad interview questions

Consumers

1. [This practice] is set up as an integrated primary health care centre. When I say "integrated primary health care", what sort of things come to mind for you?
2. What are your expectations of [this practice] for care for your chronic condition?
3. Can you tell me about your experiences with [practice] services?
4. We are particularly interested in the effect of integrated health care on the time people spend looking after their health. Can you talk about that?

Providers/managers

1. [This practice] is set up as an integrated primary health care centre. When I say "integrated primary health care", what sort of things come to mind for you?
2. What are your expectations of working in an integrated primary health care centre?
3. Can you tell me about your experiences with providing services/working at [this practice]?
4. How does [this practice] compare with other general practices where you've worked in the past?

Analysis

Data were managed using NVivo10 software. Interpretive phenomenological analysis, as developed by Smith, Flowers and Larkin (16-19) was chosen as the analytic method as it allows exploration of the meaning of an individual's experience and the factors shaping that experience, in a specific context. It is concerned with "people engaging with the world" (16: 5). To understand this engagement Smith, Flowers and Larkin advocate that participants in research should be able to tell their stories freely, and have the freedom to express feelings and thoughts (16). While the participant interviews were more structured than one might typically find in a phenomenological study, the analysis of the interviews kept a close focus on people's experiences, ideas and practices, in the context of an integrated health care service; and this focus is in keeping with the analytical method.

Interpretive phenomenological analysis acknowledges that the researchers' interpretation of the data is shaped by their own values and beliefs, and this leads to a unique co–construction of understanding the experience. Smith, Flowers and Larkin express this as the "researcher trying to make sense of the participant trying to make sense of what has happened to them" (2009: 3). As part of the analysis process, data were also interrogated for the six dimensions of integration identified by Fulop and colleagues (Table 1) and further elaborated by Valentijn et al (Table 2).

Interviews were numbered sequentially within their group (consumer, health professional or manager). Participant quotes used within findings are identified only by their group and number.

Findings

Consumer experiences

Characteristics of participants

Consumer participants in the first interview cohort were not specifically asked for demographic details. All identified as having at least one chronic condition and during the course of the interview, four mentioned that they were retired. Six of the first cohort of consumer participants were female. The second cohort of consumer participants provided demographic details in the patient experience survey completed in addition to the interview. Participants were aged between 54 and 81 years and reported between three and twelve chronic conditions. Six of the participants in cohort two were male, the majority were retired or on disability, had at least some tertiary education and described themselves as financially comfortable.

Table 4 presents the health professionals and services within the health centre building accessed by participants in each cohort. Services offered by providers with a direct contractual

relationship with the medical centre operator are shaded, and services which are subcontracted but collocated are unshaded. For the first cohort, services used were explored in the course of the interview and this information extracted and summarised. Participants in the second cohort indicated the services they had accessed in the patient experience survey. Participants in both cohorts were also questioned about their intentions to use other services within the building in future.

Almost all consumers had a usual GP and regularly saw the practice nurses. They also accessed a range of other services available in the building, particularly pathology and pharmacy. Many commented that they would make greater use of the on-site services such as physiotherapy when the need arose.

Table 4 Health services accessed by consumers

Services accessed	Number of consumers N=20
Practice Nurse	17
Pathology	8
Pharmacy	7
Radiology	5
Dietician	2
University training physio clinic	2
Specialist	1
Physiotherapy	1
Psychology	1
Diabetes educator	1
Sleep clinic	1

Perceptions, expectations and experiences

Participant experiences of health care, as reported in this study, were overwhelmingly positive. One participant summarised this: "But you know our health system here in Australia is way ahead of America, England, anywhere I've been. So I'm always very happy to be sick here" (Consumer 20).

Making meaning from the term integration

Many consumers had not heard the phrase "integrated primary health care"; despite this, all participants were able to describe what they thought the term means in ways that are consistent with definitions. Given the Super Clinic setting and the publicity that had surrounded this program, a particular focus of perceptions for consumers was that integration was increased through co-location. Consumers frequently used the term "one-stop shop" a phrase that had been used by the Health minister promoting the original program to illustrate their experiences of integration.

> "'Integrated' to me indicates that it's not just a minor health centre where you go and see the GP for minor ailments and things like that but there are other treatments and things available where you can be interviewed for various other things besides just ordinary medical issues, like physiotherapies and things like that. I've noticed some of the signs around, you have a chemist available in the building and the X-ray facilities are also integrated into the building as well which makes it a very good medical centre to visit, in my opinion." (Consumer 01).

"it [integrated primary health care] includes doctors, nurses, so I can get all my shots and my blood and everything done in the one spot, that I can get my X-rays… it's like a kind of one-stop shop." (Consumer 02).

Experience at the healthcare centre

Several consumer participants reported that they had followed their GP of 20+ years to the healthcare centre because they were satisfied with the quality of care offered by that particular GP and were motivated to seek continuity of care. Whilst not directly examples of integrated care, these comments illustrated the importance of retaining established relationships and the adaptations they were prepared to make.

"Well based on long experience with certain doctors here [laughs] we just mentioned that we've known [doctor] for 35 years plus and some of his staff are also here now. I have full confidence in the resources of [healthcare centre]. … the same people and the same good care." (Consumer 05).

"I want to see the same doctor, because he's had, I don't know, 25, 30 years of contact with me, he's quite a busy man and so instead of being able to see him tomorrow, I might have to wait a few days. But I must say, the girls at the front are very good at fitting you in." (Consumer 20).

When asked to assess their experiences of the healthcare centre, and to compare with healthcare experiences they had elsewhere, participants overwhelmingly reported satisfaction. Many of the comments reflected **person-focused care** and related to **clinical level** features of integration such as continuity and case management but framed as consumers experience these elements as follows.

Access to services:

"There's more nurses and that they can fit you in just for a flu shot whenever, or if I needed to have something else done they can fit you in straightaway which is great, and the fact that I can go downstairs and have bloods done if [name] says, you need bloods, and there's no waiting or expecting for me to go elsewhere, but compared to having to go to [other practice] one time it's more friendly, everyone's personable, everyone knows everyone, which is what I like." (Consumer 02).

"… they said, oh well you need to go to a physio, you should see a physio, well – and this is what happened with the dietician with me, like, I probably honestly would not have got around to ringing up the dietician, to making the appointment, when someone had said – but I walked out the door and said, he wants me to see so-and-so, and she said, I'll make the appointment for you now." (Consumer 07).

"… you've pretty much got the one stop place where you can come, see your GP, if you need a referral to go and do something you can just go downstairs or up, wherever you need to go and it's good because for people like me [with multiple sclerosis]. … I think your energy levels get worse and you just don't have time and the energy to be going to three different places when you could be coming to one and go, I can do everything in the one hit here and it's done." (Consumer 10).

However, some participants felt the transport and parking were not ideal. Limited disabled parking and bus schedules that were difficult to follow meant that some people did not find getting to the centre very easy, but they still appreciated having multiple services in one location once they accessed it.

Another participant was concerned at the cost of multiple visits, which they believed should be free since the visits were part of a care plan. This may be interpreted as an example of poor communication between health care practitioners and patient:

"When you're on the health care plan you're supposed to have access to certain other medical people like physio or whatever free. It's not free. … I've got appointments with a physio coming up and it's going to cost me $300 for five visits and then hello here I'm on a pension only, I don't have other income and that was just, why do they keep saying you get

access to these people [for] free. Five visits a year when it's *not* free, it costs. I can just phone up and make an appointment with a physio and it costs me the same amount." (Consumer 08).

Care continuity:

"I know that they always send report – even, like, the eye specialist and that who'd been recommended by or referred by here, they all send letters back to the doctor so I know that all the things are going onto my file. Yeah, so she would be my [laughs] primary source of information if anybody needed to know my whole history. I'm fairly confident that most of the stuff that I talk to with the other people actually do all get back to her in the end, yeah." (Consumer 07).

Performing above expectations:

"… they've gone out of their way to make me kind of comfortable. I've been going through chemotherapy and when I've been here at that time when I'm susceptible to infection I've asked about going into – rather than being in an ordinary – this is just an example of the cooperation – rather than being in the waiting room with all the other patients I've been allocated my own room there for isolation, to protect me from infection there." (Consumer 05).

"I forgot to get a prescription repeat for whatever particularly, like, [nurse] and [nurse] and all of those who've known me for a long time, they'll just look up my record and go, oh it's this one, and they'll double-check it and go, OK I'll get [doctor] or [doctor] to write you out a script for that." (Consumer 10).

Descriptions of **person-focused care** also often included experiences with staff and healthcare organisation consistent with elements of **functional integration**, particularly their experience of service management.

Staff availability and competence:

"They'll give me a choice of times, which is very good … There's always someone who can answer the phone when you ring to make an appointment or a query, and they've always got the information available, which is very good." (Consumer 01).

 "If I walk in, and [receptionist] always knows, or [receptionist] knows…when have you got to come back. Oh gee, that's going to be difficult, but we'll find a spot for you, hang on. And they take the time. And they know when you go to the counter, OK, he's coming in, he needs to see the clinic, or he needs to see the doctor, or he needs... and nothing's a problem." (Consumer 19).

Not all experiences with availability were positive. One participant felt that the move to a large centre had made it more difficult to get appointments.

"I ring up one day and I say I want an appointment for the current, no, we can't do it. I said, you know, just make an appointment. But you've got... she's this and that, and we have a few spots that we save through the day, and you've got to ring at 7 o'clock in the morning, on the day, and see if we've got... if we can slot you in. Because she only works 'till lunch time, right. And I was on the phone for 20 minutes the other morning before somebody answered. And I thought, well this is just hopeless you know." (Consumer 15).

Appointments/services running on time:

"I'm very impressed that everything seems to run on time, it's efficiently run, which is a bonus, not sitting for hours and waiting. Whether that'll continue or not I know, hopefully will, but that's my first impression of – it's very well run." (Consumer 08).

"[doctor] is very quick, and likes to be on time, and we like that. We don't like waiting two hours, where we used to at a previous doctor." (Consumer 14).

Some participants also reported feeling that they had enough time in appointments (which could come at a cost to services running on time):

"I never feel rushed with [doctor] or any of the other doctors. They're prepared to listen to either [name] or I with our medical problems and advise us what to do." (Consumer 09).

"… she'll exhaust every avenue until the appointment's finished, so no I never feel – and even when I've seen [doctor] – never feel rushed, just do what I've got to do and that's that, so it's good."(Consumer 10).

However, not all participants shared these feelings. Some reported feeling rushed and guilty about the amount of time they took with the doctor.

"I know that whenever I get out and I go to make my next appointment the receptionist staff is constantly asking, do you need a double appointment, do you need a double appointment, and it's all, no I don't. Like, it's done, and that kind of makes me feel like, oh have I been in there too long, have I – do you know what I mean? It makes me feel like I've done something wrong. Yeah, that makes me feel a bit – that makes me feel more rushed, actually being in with the doctor." (Consumer 06).

Friendly staff

Participants reported that they appreciated feeling known by staff and they perceived staff within the centre as friendly. This included the GPs, receptionists, nurses, pharmacists and even the café personnel. The café personnel were considered by some to be equally important to their general feeling of 'being known';

"Respondent: … now they've got the chemist downstairs, and a coffee shop … , so I think you're pretty much covered in most of your…

Interviewer: Cover your caffeine as well as your meds [laughs].

Respondent: Yeah especially depending on the appointment yeah [laughs].

Interviewer: They make a good coffee, too, I had a couple this morning [laughs].

Respondent: Oh they're fabulous and the guy there's really lovely, I like him, so he's good value, so…

Interviewer: Yeah seems like a nice guy.

Respondent: Yeah that makes it nice too especially if you're feeling a bit stressed or something, you just need a friendly face to have a bit of a laugh." (Consumer 10).

Shared attitude

Consumer participants had a sense of the collective attitude, trust and collaboration indicative of **normative integration.** One participant commented that this difference might even be overwhelming for new people, suggesting they felt it to be a strength of the healthcare centre.

"I think someone new coming in would find the experience almost overwhelming, it's all here, and if they actually get the care and treatment that makes it even better. And I think it's important they're all on that... the wavelength of wanting to help people." (Consumer 19)

Participants reported that they were so satisfied with the health service that they recommended it to family members and friends.

"I've certainly brought my mother – like, my mother had to have some imaging things done and she's going … cause [other clinic] is such a pain to, you know, go to as well. There's one at [healthcare centre] so I've made sure she came here and things like – because of the convenient parking and the, you know, cause it's closer proximity and yeah. Mainly the parking has a lot to do with that." (Consumer 07).

Staff experiences

Ten staff participated in interviews: four GPs, one practice nurse, two managers, and three allied health professionals. To maintain confidentiality, no demographic details were recorded for the staff participants.

Making meaning from the term integration

When asked to describe integration, staff participants described it in terms of diverse services being co-located, patient-centric, and optimising continuity of care. They also described integration in terms of care providers having ready access to other care providers in order to seek advice or manage individual case needs. Staff participants said:

> "Integrated primary health care should be where there's good co-ordination between allied health and medical practitioners and nursing staff, working towards the better health of patients." (Health professional 01).

> "… communication, liaison, the ability to not just send emails, and it's to actually to be able to verbally communicate via telephone, or even walking into each other's rooms. And that's... what I see from that, patient coming in with a complaint or a condition, it's not just handled by one person, and then have to either (a) not contact the other person at all and just feed through the patient, but rather the patient can turn up to the clinic and go, "Does the physiotherapist know all my background," and the idea is, yes, because all the information that we store between the physio, the doctor, the podiatrist, and even the dietician, is all stored on our system, and therefore we've got a good rounding knowledge about what it is that this patient's complaint is, and we can also liaise quite easily on our same system, and through other physical means, of how we can interact around their care." (Health professional 02)

Experiences at the healthcare centre

Some staff members had specifically chosen to work at the healthcare centre because it is a GP Super Clinic. Despite this, both the health professionals and managers interviewed did not offer much information on what they expected of this type of centre. In addition to shared information and a high standard of care, one staff member suggested that they expected improved working conditions, such as backups/locums for doctors. Other staff members expected to provide more holistic care in an integrated centre, but suggested this may come with a need for wider knowledge.

> "Just you know broader range of knowledge. I've learnt a lot since I've been here about the different you know areas of health and things like that." (Manager 01)

> "… that's a very important part of I think integrated health, that you've got a team of people that the patients feel connected with, that they can ask for advice from, and get different levels of expertise and in different areas." (Health professional 01)

One staff participant described their motivation to join the healthcare centre in terms of the needs of patients not being met in a small general practice. By moving, they said, "We've lost the intimacy of a little private practice, but there's been so much more to gain" (Health professional 03).

A cultural shift towards teamwork and care integration

Staff experiences provided a strong sense of the collective attitude and collaboration underpinning **normative integration** as an enabler of integrated care. Elements of **clinical, professional** and **functional integration** were all clearly identifiable contributors to a culture of integration as reported by GPs, allied health professionals and managers alike.

Having a sense of teamwork and holistic care was reported as being an important element in the healthcare centre, one that staff participants had either not experienced in previous settings or had experienced but to a lesser degree.

> "Yeah, definitely the communication channel is a lot more open. Not only the... can you knock on the door, or go and talk to another health professional directly, but we have on the computer system all the patient notes available, we can send... you know request to have meetings with other health professionals to set up more... more flexibility I guess with catching up with people … I think the whole philosophy here is so embraced by all the staff members. Everyone is so helpful and welcoming. I think it's the culture of what [the practice] is trying to promote really does resonate with everyone that works here. I think it's

a very supportive environment not only for the clients, but also for the staff members." (Health professional 04).

Staff participants described a desire to see a real cultural shift in the sharing of information between practitioners of different modalities. They saw the healthcare centre as being a trailblazer towards this shift.

"I think GPs and Allied Health sometimes struggle with the concept, and they need to just be open to the thoughts of their files being shared, their clinical notes being shared. Generally a GP initially shares clinical notes with … their colleagues, not with external providers such as Allied Health, so I think the knowledge basis of what integration can do, can be improved."(Manager 02).

Key to the success of such cultural shifting, they explained, is communication. Formal modes of communication, such as writing clear and structured patient notes and sharing them, were described. Of equal value to the cultural shift was informal communication and developing a sense of friendship and community with staff of different modalities using the space.

"Communication, it has to be strong, and it's time consuming. And obviously communication can be taken, especially written communication, can be taken in many ways, so just being careful of how things are communicated, to what extent, what detail." (Manager 02).

"I found that obviously as physios we have our own acronyms, and I think GPs have their own acronyms, so I think it's something that I try to portray to the other physios here too, because this is the first time they've worked in this environment. If they write TVA, or if they write FIS, ... FIS for a doctor could mean FIS differently to what we think. So we're starting to write flexion standing, rather than FIS." (Health professional 05).

One staff participant explained that although the ideology of sharing information between practitioners to optimise patient care was generally held by staff at the healthcare centre, and that it was facilitated by the shared electronic information system, that difficulties arose in relation to sharing mental health information, which was partially addressed by psychologists providing notes that staff could read that were different from the patient notes.

"… someone having counselling, that they may disclose something that they would never have told me, you know, or... yeah. And that's a difficulty of how much. And I'm not sure with the psychologist here how much... I think she keeps a lot of her own records, so I've never looked to see. But I know the physio does put records in, and I know he looks at what we've got as well, too, to help him, and I'm the same. So they can look, and for instance the dietician can look and see what the latest cholesterol was, and you know things like that that are very useful to be... so it's just when you get that sort of super confidential bit of information, and that's probably more policies and procedures. … they will give us a summary, or you know when there's times that we've got to perhaps do a referral to a psychiatrist, and give us some information there. But they actually keep totally separate notes." (Health professional 01).

Also key to the cultural shift toward integration, was the way space was used. Room sharing and communal areas were described as facilitating communication and care integration.

"I love the communication here. I love the fact that like in our section there, we're all... like the room that we're in right now it's an Allied Health room, which means everyone's to work as a team. It's not like the physiotherapist's room, or like the podiatrist's room, it's the Allied Health room, so it's got a really strong outlook in that getting everyone on board." (Health professional 05).

"[we do] A lot of horse trading in the corridors and tearooms. … it's quite... a bit of a different flavour to what people are willing to type as opposed to as what they're willing to say" (Health professional 06).

When describing the value of the cultural shift, one participant summed it up in the following way: "I've seen the lot, as in solo practice with no nurses, no practice manager, and I wouldn't go back to that system by choice again." (Health professional 06).

Discussion

The healthcare centre is still relatively new and growing, but the interviews provided evidence that many dimensions of integration are already becoming established and consumers are experiencing integrated care. Consumers and staff both liked the ease of communication and continuity provided by the shared record system and the familiarity between professionals enabled by co-location. Interaction with people from other services, often in the staff tearoom, helped to establish relationships and build trust which then translated to comfort with recommending these services to consumers. Overall, this means that not only was there evidence of the more "practical" elements of integration such as information flows, there was evidence of the development of a shared culture, noticeable to the consumers as well as staff. Rather than a focus on more business-like concepts such as coherence of polices and management, integration was described in terms of the way people interacted with one another and the ease of navigating healthcare.

Consumers' experience of integrated care tended to be implicit in their descriptions of primary health care experiences more broadly. Their comments that could be related to the typologies (13, 14) were primarily about clinical and functional integration, particularly their experiences of continuity of providers, the usefulness of the shared information systems and the helpfulness of front desk staff. Staff had a strong focus on clinical level integration, but also talked about a cultural shift that demonstrated normative, professional and functional integration. Across all groups, discussion of normative integration was primarily in terms of a sense of collective attitude. There was very little discussion of organisational or system level integration.

An investigation of overall coding patterns across all consumer and staff interviews against Fulop et al's (12) typology and Valentijn et al's (13, 14) key features suggested that these frameworks may be useful for capturing the way people in service provision, especially health professionals, describe integration, but less useful for consumers' experience of integrated care. Valentijn et al (13) acknowledged that their Delphi process did not involve some key stakeholders, including consumers, suggesting work in local settings may further refine understanding of key features across groups. The current study provides evidence that work is still needed on the key concepts of quality integrated primary health care from the consumer perspective. A potential area of focus may be the intersection of integrated primary health care with dimensions of consumer experiences of health care (20) more broadly.

Limitations

As a study pilot, there are a number of limitations to acknowledge. The study was conducted at one healthcare centre, constructed and promoted as part of a government program, the GP Super Clinic Program. It is not known whether findings would generalise to other GP Super Clinics or to other types of integrated primary healthcare centres. Consumer participants were also recruited by practice nurses, with interviews for cohort one arranged and scheduled by one nurse with whom many consumers had a long-term relationship. This may have biased the findings on the importance of continuity.

Conclusion

Existing frameworks for integration have been heavily influenced by the provider and organisational perspectives. They are useful for conceptualising integration from a professional perspective, but are less relevant for consumers' experiences. Consumers of integrated primary health care may be more focussed on relational aspects of care and outcomes of the care with less focus on the organisational or structural processes necessary to produce them. Despite this, as proposed by previous authors (3, 12-14), the feature that unifies experiences of both providing and receiving integrated care is a sense of collective attitude. Thus, consistent with Kodner and colleagues' (1) distinction between integration as a process and integrated care as an outcome, future research into these concepts should focus on the area salient to each group and the influence of a shared culture for both.

References

1. Kodner DL, Spreeuwenberg C. Integrated care: meaning, logic, applications, and implications--a discussion paper. Int J Integr Care. 2002;2:e12.
2. Nolte E, Pitchforth E. What is the evidence on the economic impacts of integrated care? Policy summary 11. Copenhagen: World Health Organization; 2014 [cited 2015 31 August]. Available from: www.euro.who.int/en/about-us/partners/observatory/publications/policy-briefs-and-summaries/what-is-the-evidence-on-the-economicimpacts-of-integrated-care.
3. Valentijn PP, Schepman SM, Opheij W, Bruijnzeels MA. Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care. International Journal of Integrated Care. 2013;13.
4. Armitage GD, Suter E, Oelke ND, Adair CE. Health systems integration: state of the evidence. International Journal of Integrated Care. 2009;9:e82.
5. Oliver-Baxter J, Brown L, Bywood P. Integrated Care: What Policies Support and Influence Integration in Health Care in Australia. Primary Health Care Research and Information Service, PHC RIS Policy Issue Review, Adelaide, available at: www phcris org au/publications/policyreviews/index php (accessed 29 September 2013). 2013.
6. Kodner DL. All together now: a conceptual exploration of integrated care. Healthcare quarterly (Toronto, Ont). 2009;13 Spec No:6-15.
7. Goodwin N. Annual Conference Supplement 2010: Integrated care as a scientific discipline: the need for more theory and new analytical methods. International journal of integrated care. 2010;10(Suppl).
8. Axelsson R, Axelsson SB. Integration and collaboration in public health--a conceptual framework. The International journal of health planning and management. 2006;21(1):75-88.
9. Kodner DL, Kyriacou CK. Fully integrated care for frail elderly: two American models. Int J Integr Care. 2000;1:e08.
10. Nurjono M, Valentijn PP, Bautista MAC, Lim YW, Vrijhoef HJ. A prospective validation study of a rainbow model of integrated care measurement tool in Singapore. 2016. 2016.
11. Goodwin N. How should integrated care address the challenge of people with complex health and social care needs? Emerging lessons from international case studies. 2015. 2015.
12. Fulop N, Mowlem A, Edwards N. Building integrated care: Lessons from the UK and elsewhere London: The NHS Confederation; 2005 [cited 2015 31 August]. Available from: http://www.nhsconfed.org/~/media/Confederation/Files/Publications/Documents/Building%20integrated%20care.pdf.
13. Valentijn P, Vrijhoef H, Ruwaard D, Boesveld I, Arends R, Bruijnzeels M. Towards an international taxonomy of integrated primary care: a Delphi consensus approach. BMC Family Practice. 2015;16(1):64.
14. Valentijn PP, Boesveld IC, Van der Klauw DM, Ruwaard D, Struijs JN, Molema JJ, et al. Towards a taxonomy for integrated care: a mixed-methods study. International journal of integrated care. 2015;15.
15. Banfield M, Yen L, Newby L. Stakeholder involvement in primary health care research. Report and recommendations. Canberra: Australian Primary Health Care Research Institute, 2011.
16. Smith J, Flowers P, Larkin M. Interpretative Phoneomological Analysis: theory, method and research. London: SAGE Publications; 2009.
17. Smith JA. Beyond the divide between cognition and discourse: Using interpretative phenomenological analysis in health psychology. Psychology and health. 1996;11(2):261-71.
18. Smith JA. Evaluating the contribution of interpretative phenomenological analysis. Health psychology review. 2011;5(1):9-27.
19. Reid K, Flowers P, Larkin M. Exploring lived experience. Psychologist. 2005;18(1):20-3.

20.   Wong S, Haggerty J. Measuring patient experiences in health care: A review and classification of items and scales used in publicly-available questionnaires Vancouver: Centre for Health Services Research and Policy Research, University of British Columbia; 2013 [updated 29 September 2015]. Available from:
http://www.chspr.ubc.ca/sites/default/files/publication_files/Patient%20experiences%20in%20PHC%202013_0.pdf

Appendix 6: Interview protocols

Experiencing integration: interview protocol for consumers

Introduction   P a g e | **62**   *Researcher to introduce themselves*   *Briefly explain purpose of interview is to gain insight into their perceptions and experiences with integrated primary health care; no right or wrong answers*   *Questions will be open-ended but participant can ask for further guidance/prompt at any time*   *Check for questions before commencing*   *Remind that they can withdraw at any time*   *Confirm consent to proceed and to record interview*   *Signal start of interview and recording*
Question 1.   **Ochre Health Medical Centre Bruce is set up as an integrated primary health care centre. When I say "integrated primary health care", what sort of things come to mind for you?**
Possible prompts if participant requests clarification   Have you heard the term before?   What do you understand it to mean?   How do you think an integrated health centre might be different from a regular GP clinic?
Question 2.   **What are your expectations of Ochre for care for your chronic condition?**
Possible prompts and follow up questions   Did you purposely choose Ochre to receive integrated care?   Do you expect there to be advantages to having a variety of health professionals in the same health centre?   Are there specific elements of care (e.g., shared information) that you expect to be better in an integrated health care centre?
Question 3.   **Can you tell me about your experiences with Ochre services?**
Possible prompts and follow up questions   What did you like about the services?   Is there anything you would like to see improved?   How does Ochre compare with other general practices you've attended in the past?

Question 4.   **We are particularly interested in the effect of integrated health care on the time people spend looking after their health. Can you talk about that?**
Possible prompts and follow up questions   How long did the consultations take?   Did you ever feel rushed?   Was it difficult to find appointment times that fit with your work or other commitments?   Was taking time off work for appointments a problem?   How does the time you've spent at Ochre appointments compare with other health providers you've attended?
Interview wrap up   **That's all the questions we have today. Is there anything further you'd like to add?**
Thank for contributions   *Turn off recorder*   *Outline remainder of research process (complete interviews, analysis, opportunity for participants to review quotes, provision of research summary)*   *Check for questions*   *Give honorarium*

Experiencing integration: interview protocol for health professionals

Introduction

Researcher to introduce themselves

Briefly explain purpose of interview is to gain insight into their perceptions and experiences with integrated primary health care; no right or wrong answers

Questions will be open-ended but participant can ask for further guidance/prompt at any time

Prompts and follow up questions can be asked to elicit further information as needed

Check for questions before commencing

Remind that they can withdraw at any time

Confirm consent to proceed and to record interview

Signal start of interview and recording

Question 1.

Ochre Health Medical Centre Bruce is set up as an integrated primary health care centre. When I say "integrated primary health care", what sort of things come to mind for you?

Possible prompts

What do you understand it to mean?

How do you think an integrated health centre might be different from a regular GP clinic?

Question 2.

What are your expectations of working in an integrated primary health care centre?

Possible prompts and follow up questions

Did you choose to work at Ochre because it is an integrated centre?

Do you expect there to be advantages to having a variety of health professionals in the same health centre?

Are there specific elements of care (e.g., shared information) that you expect to be better in an integrated health care centre?

Question 3.

Can you tell me about your experiences with providing services at Ochre?

Possible prompts and follow up questions

What are the things you like?

Is there anything you would like to see improved?

Are there policies or procedures that work well? That don't work well?

What do you see as the major successes?

What about challenges?

Question 4.

How does Ochre compare with other general practices where you've worked in the past?

Possible prompts and follow up questions

Are there differences in teamwork or organisational culture?

Is the length or nature of the consultations different?

Do you think patients have a different experience (eg care pathways, coordination)? Is this related to integration?

Is the way information is handled and shared different? Does it affect patient care?

Do you think co-location improves communication between staff? What about with patients?

Interview wrap up

That's all the questions we have today. Is there anything further you'd like to add?

Thank for contributions

Turn off recorder

Outline remainder of research process (complete interviews, analysis, opportunity for participants to review quotes, provision of research summary)

Check for questions

Give honorarium

Experiencing integration: interview protocol for administrative staff

Introduction

Researcher to introduce themselves

Briefly explain purpose of interview is to gain insight into their perceptions and experiences with integrated primary health care; no right or wrong answers

Questions will be open-ended but participant can ask for further guidance/prompt at any time

Prompts and follow up questions can be asked to elicit further information as needed

Check for questions before commencing

Remind that they can withdraw at any time

Confirm consent to proceed and to record interview

Signal start of interview and recording

Question 1.

Ochre Health Medical Centre Bruce is set up as an integrated primary health care centre. When I say "integrated primary health care", what sort of things come to mind for you?

Possible prompts

What do you understand it to mean?

How do you think an integrated health centre might be different from a regular GP clinic?

Question 2.

What are your expectations of working in an integrated primary health care centre?

Possible prompts and follow up questions

Did you choose to work at Ochre because it is an integrated centre?

Do you expect there to be advantages to having a variety of health professionals in the same health centre?

Are there specific things such as managing patient information that you expect to be better in an integrated health care centre?

Question 3.

Can you tell me about your experiences with working at Ochre?

Possible prompts and follow up questions

What are the things you like?

Is there anything you would like to see improved?

Are there policies or procedures that work well? That don't work well?

What do you see as the major successes?

What about challenges?

Question 4.
How does Ochre compare with other general practices where you've worked in the past?

Possible prompts and follow up questions
Are there differences in teamwork or organisational culture?
Do you think patients have a different experience (eg care pathways, coordination)? Is this related to integration?
Is the way information is handled and shared different?
Do you think co-location improves communication between staff? What about with patients?

Interview wrap up
That's all the questions we have today. Is there anything further you'd like to add?

Thank for contributions
Turn off recorder
Outline remainder of research process (complete interviews, analysis, opportunity for participants to review quotes, provision of research summary)
Check for questions
Give honorarium