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Patient involvement in healthcare projects: A mixed method study on the perspectives of project staff in Western Australian (WA) public hospitals and health services

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CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter discusses the methodology used for this study including the theoretical perspective, use of a mixed methods approach, the research design and the ethical framework in which the study was conducted. It also discusses the rationale for the design of the study and strategies employed to ensure research rigour and validity.

Given that there is paucity of evidence in the literature regarding this topic, the study is descriptive and does not, at this starting point, adhere to any particular conceptual framework or theory (Miles & Huberman, 1994; Polit & Tatano Beck, 2014; Smyth, 2004). Therefore, the conceptual framework is emergent and avoids adhering to existing theories in case these might mislead the researcher. Thus, the conceptual framework emerged as the study evolved.

3.2 Research paradigm

When planning research, Punch (2014), described using either a paradigm-driven or a pragmatic approach. A paradigm-driven approach begins with a paradigm, or a set of assumptions, then using appropriate techniques for inquiry (Punch, 2014). A pragmatic approach starts with a research question or problem that needs a solution and then chooses methods to provide answers (Punch, 2014). The researcher defined the research questions and then applied the strategy, design and methods to best answer the questions, using a philosophical paradigm of pragmatism (Polit & Tatano Beck, 2014). Conducting this study using a pragmatic approach informed the research and focused on the outcome of the research, the 'what' and the 'how' (Creswell, 2013). A paradigm-driven approach was not useful in this study as the issue originated from a problem noted in the workplace, rather than an assumption about the issue.

3.3 Methodology

Mixed methods was the chosen methodology for this study, which provided flexibility and enhanced validity by having multiple and complementary types of data (Creswell, 2014). The research design was chosen to be sequential and in three distinct phases; completing each phase methodically, then using the findings to inform the next phase of the research. The researcher reviewed explanatory versus exploratory design and due to the context of the study, felt that more insight could be gained by completing the questionnaire first, and then elaborating on issues arising from this during direct questioning in the focus group. One aim of social science is to build explanatory theory about people and their behaviours by completing a quantitative phase first, followed by a qualitative phase (Punch, 2014). In reverse, exploratory design includes a qualitative phase first, followed by a quantitative phase (Punch, 2014). For this study, it would have been difficult to devise questions for the qualitative phase (focus group) first, without the insights gained from the quantitative phase (questionnaire).

Therefore, this primary research used a sequential, explanatory design with a quantitative strand priority (Polit & Tatano Beck, 2014); which does not suggest that the qualitative aspects are inferior, or have less value (Van Griensven, Moore, & Hall, 2014). Instead, the quantitative aspect utilising a questionnaire, was completed and analysed first, which assisted to inform the themes and questions for the qualitative focus group; thereby integrating the two methodologies (Greenwood & Terry, 2012). Data synthesis was used as a final step to review and compare results from both the quantitative and qualitative data sets.

Figure 1 provides a visual overview of the research design and the three associated phases.

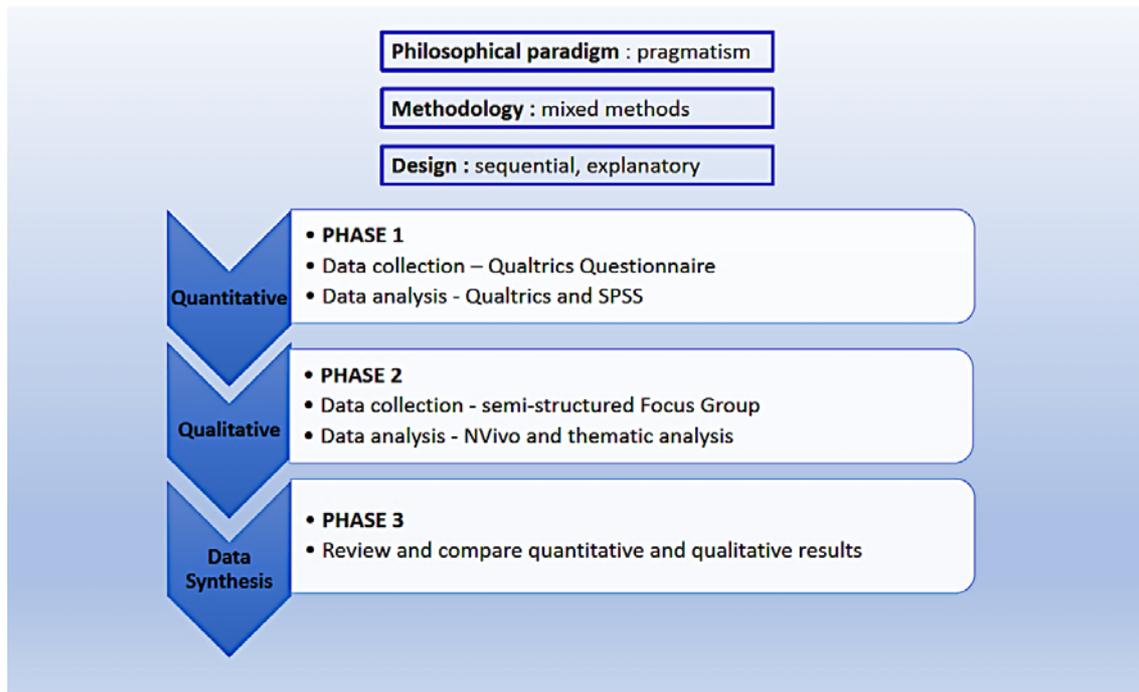


Figure 1. Research design

3.4 Research rigour

Research rigour is concerned with the authenticity, strength and credibility of the research and its reliability and validity (both internal and external) to provide a sense of trust and confidence in the research (Liamputtong, 2013). In order to aid research rigour, as described by Van Griensven, Moore and Hall (2014), the study used a large sample size for the questionnaire, followed by a small sample size for the focus group. Quantitative and qualitative research have different aspects of research rigour which are discussed in the following sections.

3.4.1. Quantitative research rigour

There are four criteria to demonstrate research rigour in quantitative studies ; internal validity, external validity, reliability and objectivity (Liamputtong, 2013). In the quantitative phase of this study, internal validity was considered by researching questionnaire tools, format and development, and then using standardised response matrices in the form of set Likert scales. Content validity was achieved by involving colleagues and supervisors in the drafting stage to ensure that the questions measured only those aspects that were required to be

measured. Face validity was achieved by pilot testing the final draft questionnaire before distributing it to participants.

The questionnaire ([Appx.6](#)) was developed using Qualtrics™ Version 2017 (2017), and was specifically designed to answer the research questions as well as some demographic and skill-based information regarding project staff, as this was not readily available.

External validity was achieved by involving project staff from all WA Health sites, therefore making data results potentially generalisable amongst differing cohorts of healthcare project staff, and potentially non-healthcare staff.

Reliability was achieved by clearly documenting the process and definitions used to promote reproducibility. Use of the Qualtrics™ internet-based questionnaire software tool not only ensured anonymity but reduced the potential of secondary input data entry errors from the researcher or a third party. The responses were directly entered into the software by the participants. Qualtrics™ had standard and customised analytics and pre-programmed functionality which may increase reliability of results. The questionnaire results are presented as raw, tabulated and summarised data to demonstrate that the research findings reliably match the data received.

Objectivity was assured during pilot testing of the questionnaire to ensure that the questions were not leading participants or causing an inherent bias. Pilot testing was conducted by both supervisors and three WA Health staff chosen at random by the researchers' line manager. The pre-formatted participant emails were included as appendices in the research proposal, to ensure transparency and objectivity when contacting participants. Following independent review of the draft questions for the questionnaire, some questions were modified or removed to reduce any biases inadvertently introduced by the researcher e.g. do you have a clinical background and if so, state which profession?

3.4.2 Qualitative research rigour

According to Liamputtong (2013), there are four criteria to demonstrate research rigour in qualitative studies ; credibility, transferability, dependability and confirmability. In the qualitative phase of this research project, credibility was assured in the focus group by using an interview grid with pre-set questions and audio recording the discussions. The researcher checked participant (or researcher) understanding during focus group questioning as in the researcher example below:

Researcher: “so when you say you can’t re-evaluate them is that because the patients will be different?”

Participant: “the patients will be different. Yes”.

The researcher transcribed the audio recording discussions verbatim and then asked the participants to review the typed transcript and assess if this was an accurate representation of the discussions. Systematic data analysis followed in NVivo™ Version 12 (QSR International, 2016), which is a specialised qualitative analytics software program, and by employing a standardised analysis framework ; thematic analysis (Braun & Clarke, 2006).

Transferability was achieved by selecting participants from one large health service which manages tertiary and general hospitals, where project staff cover a wide range of projects in different healthcare settings. This health service was one of the largest in WA Health, with a high level of comparison to all the other health services; therefore, the results may be applicable across WA Health. The results may be transferable to other general healthcare settings where patients are being involved in clinical decision making, clinical pathways or policy development.

Dependability relates to the research proposal and research design. The focus group aims were clearly articulated from the outset and although not a large sample size, it is the rich narrative that the researcher was interested in, which cannot be obtained from a questionnaire (O’Leary, 2014). The researcher also

took field notes during the focus group to enhance the audio recording and note any adverse issues or non-verbal cues that an audio recording would not capture. The focus group discussions were clearly documented and imported into a qualitative software system (NVivo™) for further analysis.

Confirmability was assured by conducting a mapping exercise for gaps arising from the questionnaire results and discussing the pre-set questions with the supervisors to ensure that they were not leading or biased. The focus group questions needed to be about the research questions rather than the researcher perspectives. The researcher ensured transparency of purpose at the start of the focus group, and summarised discussions at the end. The results from the focus group were clearly linked to the data displayed and discussed in the results section.

3.5 Phase 1 - Quantitative

This section describes the key processes undertaken during the quantitative phase of this study.

3.5.1 Sampling

The population of project staff in WA Health fluctuated as many staff can be hired on fixed term contracts for the duration of the project only. Some project staff may have been permanently employed to deliver continuous improvement or Clinical Service Redesign (CSR) projects on an ongoing basis.

However, to scope the study and set a sample size for the questionnaire, the population size of project staff employed on fixed term or permanent contracts in WA Health was checked, to provide a working baseline. External Consultants were excluded as they do not appear on the WA Health global address list, and there was no central repository that provides their details for review or contact.

An advanced search by job title was performed on the WA Health global address list, comprising of the following position titles: Project Director or

Program Director; Project Coordinator or Program Coordinator; Project Manager or Program Manager; Senior Project Officer or Senior Program Officer; and Project Officer or Program Officer.

The search was repeated for each of the titles above with the prefix 'A' or 'Acting' to capture staff in temporary or short-term promotional positions. Due to the contractual nature of project staff employment, and several high-profile projects due to close, the population size was reviewed at three different time points during proposal development and prior to questionnaire distribution, as documented in Table 3.

Table 3 : Population by Employment Title

Date	Project or Program Director	Project or Program Coordinator	Project or Program Manager	Senior Project or Program Officer	Project or Program Officer	*Other	Total
15/08/16	14	26	91	102	127	47	407
30/10/16	11	24	95	117	139	45	431
16/11/17	9	18	82	84	85	28	306

Note. *search picked up other titles such as project lead, project assistant, project support and project administration.

Due to the highly fluctuant population as demonstrated in Table 3, a convenience sample was deemed the most appropriate sampling method, as described by Polit and Tatano-Beck (2014). The convenience sampling approach sought up to one hundred participants into the study, which is approximately one third of the latest population figure as shown in Table 3. The questionnaire was distributed to one hundred project staff as documented in the approved research proposal.

3.5.2 Participant selection - questionnaire

For participant recruitment to the questionnaire, a WA Health staff contact list was used to perform sampling in a single stage, on one day, as described by Creswell (2014). The master list of three hundred and six staff was filtered to make distinct lists of project staff from each of the five HSPs. A stratified sampling technique was then used, by dividing the population into five sub-

groups (HSPs) and then randomly selecting the first twenty staff in each of the five lists (n=100). This random approach was adhered to regardless of the staff members title, position in the organisation or service / specialty i.e. Infrastructure or CSR, to ensure that the sample represented key subgroups from each HSP and was not biased by the researcher (O'Leary, 2014).

3.5.3 Questionnaire design

This study was focused on staff perspectives and experiences, therefore survey research was highly applicable as it examined opinions by asking people to answer open and closed questions (Polit & Tatano Beck, 2014). A cross sectional, self-administered questionnaire was created by the researcher, as a review of the literature did not reveal a suitable existing tool for use in this study ([Appx 6](#)). The questionnaire was designed using Qualtrics™ (2016) internet based software in order to reach the geographically dispersed target audience in WA (Oppenheimer, Pannucci, Kasten, & Haase, 2011). Qualtrics™ was chosen as the preferred tool as it seemed to have improved format, functionality, visual appeal and analytics over other software tools, was recommended by the initial supervisors and was different to current tools being used in WA Health. Many of the current staff surveys in WA Health use Survey Monkey™ (2016), and whilst this tool is useful, the researcher felt that Qualtrics™ provides an advanced capability and therefore research credibility.

The design of the questionnaire was critical for this study; the questions were constructed by the researcher to provide some basic demographic data, answer the research questions and link to information found in the available literature, such as training issues and incentives used. The questions were reviewed at project proposal stage by university staff and external examiners and the supervisors approved the final set of questions. Time for questionnaire completion was limited to no longer than ten minutes to increase response rates (Sinkowitz-Cochran, 2013) ; the final estimated completion time was seven minutes. The questionnaire included a combination of open and closed questions to elicit the required information and comprised twenty-two questions.

The level of measurements were primarily categorical, such as a code for each employing authority, and ordinal using a rating scale (Liamputtong, 2013). The response format used was numerical rating scales for the categorical questions and a seven-point Likert scale for the ordinal questions, with some free text boxes for open ended question responses. To reduce recall bias and facilitate cognitive processing, questions regarding recent practice state specific timeframes, such as within the last twelve months (Sinkowitz-Cochran, 2013). The researcher ensured effective design and format of the questionnaire, easy navigation and a contingency question that employs skip logic to skip to the next section if not relevant to the respondent (Sinkowitz-Cochran, 2013). The questionnaire was reviewed by the supervisors, tested by a pilot group, and refined prior to distributing to the participants.

3.5.4 Pilot testing the questionnaire

Following final drafting of the test questionnaire, the researcher self-tested the functionality in both computer and mobile phone views and received confirmation from a colleague that the emailed link worked. The draft questionnaire was pilot tested on a small group of five people, who were not participants in the research, to check for any issues arising such as navigation and readability, to provide face validity and reduce measurement error (Liamputtong, 2013). The pilot group consisted of two academic researchers and three WA Health staff employees who worked independently of the researcher to reduce researcher bias. The WA Health employees were chosen by the researchers' line manager who was an Executive Director, and comprised staff from administrative and clinical roles, not project managers. They were testing the survey instrument rather than being subject matter experts in project management. The pilot group tested the web link, reported on ease of navigation through the questionnaire, and noted the time taken for completion. The testing phase was followed by a discussion between researcher and pilot group to probe for any further issues arising from testing (Artino, LaRochelle, Dezee, & Gehlbach, 2014). The pilot test commenced on the 05/09/2017 and concluded on the 13/09/2017.

As shown in Table 4, feedback and /or responses were provided from the test group and actions were implemented as appropriate.

Table 4 : Test Group Feedback

Feedback received from	Feedback and method	Actions
Academic researcher #1	Email: completed the survey and proceeded to Q16 when I answered 'No' in Q9. It took me 4 minutes in total and very easy to follow.	Nil required – link and skip logic work. Shorter completion timeframe due to skipping questions 10-15.
Academic researcher #2	Email: took about 12 minutes. One point might be that I couldn't go backwards to change a response. Also, I felt some issues weren't explored and may have liked the chance to add further comments that I wanted to raise that were not fully addressed in the survey.	Amended the formatting in Qualtrics to enable the back button and make the notes visible to the respondent – researcher had chosen the wrong setting and it was the note boxes for the administrator, not the free text boxes for the respondents to enter comments.
WA Health employee #1	Verbal feedback: link worked, answered yes at Q9 – no problems, no changes required. Did not take long – few minutes.	Nil required. Especially wanted to test the link from a WA Health computer to check if the firewall would allow access to Qualtrics.
WA Health employee #2	Verbal feedback: link worked, answered yes at Q9. All seemed ok – did not take long only a few minutes.	Nil required.
WA Health employee #3	No feedback and unable to contact as went on leave; however, could see a 5th response in the survey tool.	Nil-presumed all ok.

The data analysis for the pilot questionnaire was generated using Qualtrics™ software, Version 2017, Copyright® (2017). A report was generated from Qualtrics™ with the pilot test results for analysis, and then these responses were deleted from the system to enable a clean start for the formal data collection phase. The pilot testing was a worthwhile exercise as it proved the link worked from health and non-health computers, that the skip logic worked at question 9, and also raised some formatting and functionality issues for resolution. This testing phase instilled confidence that the questionnaire was ready for circulation to the participant group. A final questionnaire was

produced, including feedback of any changes required from the testing phase, before being distributed to the participants.

3.5.5 Participant recruitment – focus group

A group email list was developed which included the contact details for all one hundred participants; however, email addresses were entered into the blind carbon copy (Bcc) field to protect participants' identities from each other and the list was deleted once the questionnaire closed. The email contained a short introduction to request completion of the questionnaire, provided the web link to the questionnaire and included the Participant Information Sheet as an attachment ([Appx 5](#)). A reminder email was sent two weeks later, as it is indicated that this may increase response rates by up to 40% (Oppenheimer et al., 2011). The questionnaire was open for a total of three calendar weeks: 17/11/2017 to 10/12/2017 and then the contact list was destroyed as documented in the research proposal to ensure participant confidentiality.

Analysis of the response rates by date in Figure 2 demonstrates that 23 out of 30 responses (77%) were received from the date of the initial email request and 7 out of 30 responses (23%) were received from the date of the reminder email request. Therefore, had the reminder email not been sent, this could have resulted in a loss of 7 respondents (23%).

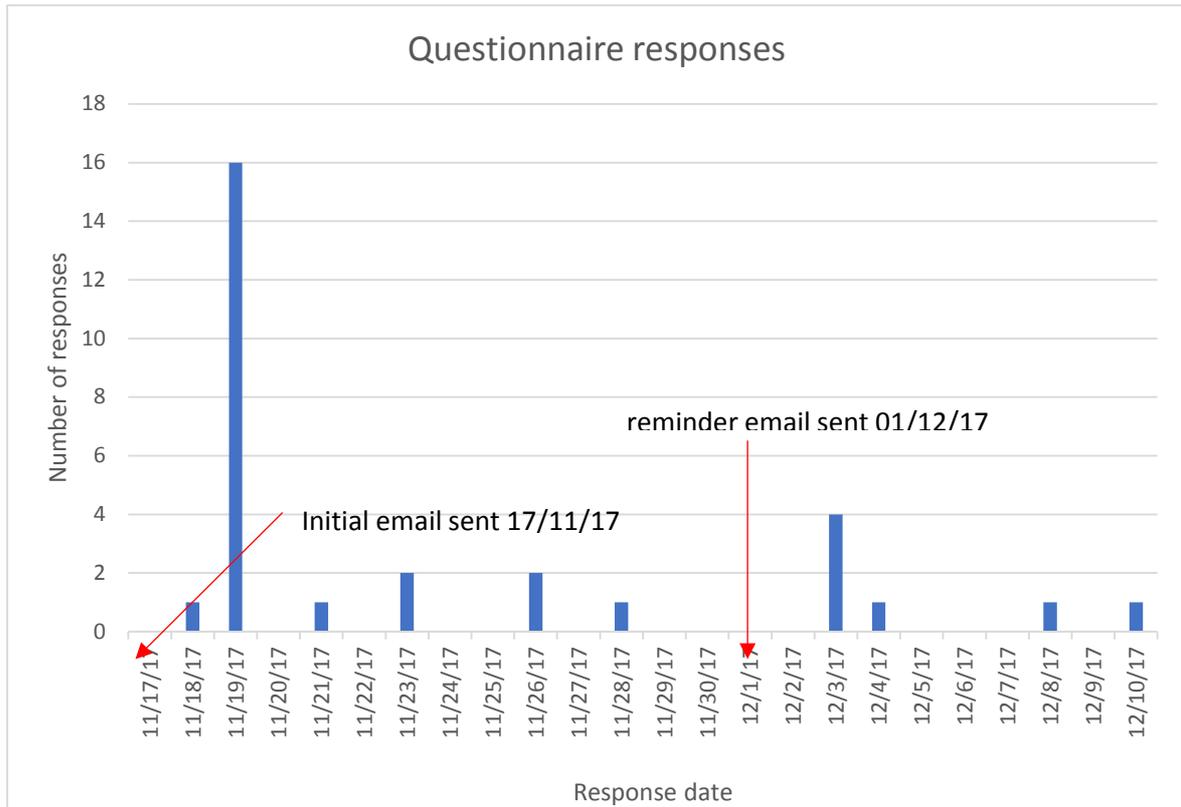


Figure 2. Dates of questionnaire responses

3.5.6 Data collection

Once the questionnaire officially closed, a report of responses entered was automatically available from Qualtrics™. In order to reduce non-response bias, the percentage of participants contacted who completed the questionnaire was monitored and has been reported on (Rea & Parker, 2014). Participant data was non-identifiable as no personal details were requested and each respondent was given a code number only (1-30).

3.5.7 Data analysis

The Qualtrics™ software automatically generated a response report with pre-populated graphs and tables displaying basic univariate (one variable) statistics, which formed the initial descriptive analysis including response rates, question responses and specific variables. Univariate data was described using proportions while bivariate (two variable) categorical data was analysed using the Statistical Package for the Social Sciences™ (SPSS) software, version 25,

(IBM Analytics, 2016), to test for non-random associations between the sub-populations in the study.

The response data was analysed using Mantel-Haenszel chi-square test for independence in SPSS™ to look for associations between two categorical variables, with statistical significance set at the 5% level ($p < 0.05$) (Pallant, 2013). For this type of analysis, two categorical variables with two or more categories are required e.g. involved patients (yes or no) and qualification in PRINCE2® (yes or no). Crosstabulation exercises were performed in SPSS™, concentrating on the purpose of this study to assess if patients had been involved in healthcare projects. The researcher selected only those variables which would answer the guiding hypothesis for the crosstabulation exercises as a framework, rather than randomly trying all available and possible variable comparisons and computations. Further analysis of all crosstabulated variables was performed in SPSS™ by selecting Fisher's Exact Probability Test (FEPT) to determine the significance (*p value*) as this tests the association between two categorical variables when the cell sizes are small i.e. if less than five respondents had a particular qualification (Pallant, 2013). Use of FEPT provided increased specificity to validate the findings in this small sample size.

A simple online chi-square calculator (Preacher, 2001) was used to perform a one-sample chi-square analysis; otherwise known as a chi-square test for goodness of fit (Pallant, 2013). This compared the proportion of cases from the project staff population sample with the overall population sample to test for differences in the proportion in each category. This analysis provided clarity as to the validity and generalisability of the findings from the small sample group of project staff when compared to the overall population group. Yates *p value* is also reported where relevant, if expected cell frequencies were less than 10, to reduce any upward bias (Preacher, 2001).

It was important to further review the questionnaire responses to identify any gaps in addressing both the guiding hypothesis and the research questions,

thereby assisting with formulation of appropriate questions for the focus group. A spreadsheet was populated using Excel™, version 15 (Microsoft, 2018), with parameters and steps as shown in Figure 3. This enabled colour coded mapping to link questionnaire questions and responses back to the guiding hypothesis or research questions. This mapping exercise assisted the researcher to visually identify any white cells which denoted a 'gap' in knowledge. Themes were then identified from these gaps which enabled structured questions to be developed for the focus group, closing the knowledge gaps and ensuring the research questions had been answered.



Figure 3. Mapping exercise

3.6 Phase 2 - Qualitative

This section describes the key processes completed during the qualitative phase of this study.

3.6.1 Sampling

The participant sample for the focus group were staff from one HSP (SMHS), using a nested sampling technique, which is an approach that uses participants

from the quantitative strand in the qualitative strand (Polit & Tatano Beck, 2014). The advantages of using nested sampling is to gain insight and perspectives, corroborate results, elaborate findings, strengthen conclusions and to initiate further investigation if conflicting results are apparent (Schatz, 2012). Focus group participants were selected using set selection criteria, as random sampling can create a more biased sample in small qualitative projects (Schatz, 2012). The selection criteria included project staff who were employed in SMHS and only those staff who completed the questionnaire.

Due to the vast geographical nature of WA, it would be inconvenient to request that all WA Health participants travel to a central location in Perth for a one-hour meeting. The focus group was therefore limited to one HSP; however, this health authority (SMHS) comprises five hospitals with representative services to those of the wider WA Health system including rural, general, specialist and tertiary hospitals, with a proportionate casemix of planned and unplanned adult and paediatric patients, general and mental health services.

3.6.2 Participant selection

The questionnaire results demonstrated that twelve out of twenty SMHS staff had completed the questionnaire. As the questionnaire was anonymous, the researcher could not identify which SMHS staff members had responded. Therefore, on 31 January 2018, all twenty SMHS staff were emailed a request to participate in the focus group, with the stipulation that they had to have previously completed the questionnaire. Staff email addresses were entered into the blind carbon copy (Bcc) field of the group email request to protect individual's identity in this initial phase. The whole group were contacted as the researcher was not aware if staff did not respond to the invite as they didn't complete the questionnaire, or if they were not particularly interested in attending the focus group. This process limits researcher bias as staff self-selected to attend the focus group, and the researcher was unable to mandate that certain staff attend if they were unwilling.

The focus group had no minimum number set, as it was the rich narrative required rather than large numbers ; the maximum limit was set to ten participants in order to allow each person an equal voice for contribution, and enable a manageable group size for the researcher (Polit & Tatano Beck, 2014). The approved research proposal set out one focus group with a maximum of ten staff. The first ten participants to respond to the email would be included, which potentially meant that two staff would be unable to participate, as twelve staff completed the questionnaire.

3.6.3 Focus group design

A focus group adds further qualitative data to the research study, as it has been suggested that some staff may be not be fully aware of their perspectives until they interact in a group with others (Redmond & Curtis, 2009). A focus group can be designed with a structured, unstructured or semi-structured approach (O'Leary, 2014). A semi-structured focus group approach was chosen by the researcher so as not to be too formal and rigid (structured), or too free-flowing (unstructured), but to have a simple framework to achieve and guide the desired output of answering the questions. A focus group guide was used ([Appx 8](#)), with set questions arising from findings within the questionnaire responses, but also allowing the flexibility to probe emerging issues or concepts as they arise (Sinkowitz-Cochran, 2013).

To provide a framework, the questions were formulated using introductory, transition, focus, summarising and concluding questions, as described by Liamputtong (2013). The questions were developed before the focus group convened, to ensure that the group achieved its outcomes (Athifa et al., 2010). The questions were derived from analysing the results from the questionnaire and mapping the responses against the research hypotheses and research questions, to determine any gaps or identify any areas that required further information (Figure 3). These questions were discussed with supervisors and entered onto the interview guide ([Appx 8](#)). In preparation, the researcher

rehearsed facilitating the focus group and tested the audio equipment that was on loan from the university.

3.6.4 Participant recruitment

Although ten was the maximum number set for the focus group, only nine responses were received; of these nine, six staff confirmed their willingness to attend the focus group. A formal calendar invitation was distributed to the six staff who agreed to participate, which included the Participant Information Sheet as an attachment ([Appx 5](#)) and a reminder that consent forms would need to be signed on the day. The focus group was booked four weeks in advance as Rabiee (2004) suggested that this would assist with non-attenders, and the researcher also sent a reminder email three days prior. The focus group was scheduled for a maximum of sixty minutes and was held in a private meeting room within a SMHS facility for participant convenience (Frels & Onwuegbuzie, 2013).

3.6.5 Focus Group meeting

On the day of the focus group, one person had to take urgent annual leave and one person had to attend a compulsory executive level meeting at short notice; therefore, four staff in total out of the six available attended the focus group. Two staff were from Rockingham General Hospital and two staff were from Fiona Stanley Hospital.

All four participants were provided with a copy of the Participant Information Sheet ([Appx 5](#)) and they each signed a written consent form ([Appx 7](#)) prior to the focus group questions commencing. The researcher retained the hard copy of the consent form for research records and emailed a copy of the signed consent to each participant following the focus group. All participants were reminded of the purpose of the focus group, advised that they could leave the focus group at any time and to advise the researcher if they felt unwell, or wanted clarification of any questions. Each person introduced themselves, advising where they worked and their background in project management.

The researcher performed the role of interviewer / moderator during the focus group, taking field notes and documenting non-verbal cues as appropriate. Skills required were active listening, group management ensuring mutual respect, and implementation of appropriate probing techniques to elicit more useful or detailed information (Polit & Tatano Beck, 2014).

The researcher asked for verbal agreement of all parties to commence the questions and to switch the audio recording on. The focus group was audio recorded using a digital voice recorder, as it has been suggested that video recording may be too intrusive for some people (Krueger, 2006). Also, this research was capturing the perspectives of staff in the form of their views and opinions and audio recording was more than sufficient to record the content of the discussions; the researcher was not specifically researching behavioural changes, facial grimaces or non-verbal cues that would require visual analysis.

3.6.6 Data analysis – focus group

The audio recording from the focus group was transcribed verbatim into a word document by the researcher to facilitate in-depth researcher knowledge of the data, rather than using a private transcription company (Krueger, 2006). Field notes were also taken by the researcher during and immediately after the focus group.

To enhance credibility, member checking was offered where participants check the written transcript of the audio recording, ensuring it conveys the participant intent (O'Leary, 2014), and was an accurate representation of the participants experience (Liamputtong, 2013). The transcription was emailed to participants for verification on the 14 March 2018. Two participants emailed validation responses: one confirmed the content and had no changes; one had some minor changes required to spelling only. The other two participants did not send validation response emails. Verification was completed by the 20 March 2018 and the audio recording was destroyed to further protect participant confidentiality, as per the approved research proposal.

Following participant verification, the transcription was imported into NVivo™, Version 12 (QSR International, 2016), for data management and manual coding utilising a six phase thematic analysis (Braun & Clarke, 2006). Thematic analysis is “a method for identifying, analysing and reporting patterns (themes) within the data” (Braun & Clarke, 2006, p. 79). The first phase involves the researcher familiarising with the data, transcribing the text, re-reading the text and making initial notes. Descriptive codes or labels were then assigned to items of interest and related codes were then grouped into categories to develop overarching themes that addressed the research questions. A thematic map was generated with clear definitions and naming for each theme.

The researcher used a code for each participant P1, P2, P3 and P4 rather than their name, and left blanks where within the discussion people had referred to each other by name during the focus group. Demographic details of focus group participants were not formally collected as this was not the intent of the research, and therefore ‘cases’ were not required in NVivo™. Following thematic analysis potential nodes and related sub nodes were identified in NVivo, as shown in Figure 4. These nodes and sub-nodes were continuously worked on and re-themed as the analysis evolved (Figure 8).

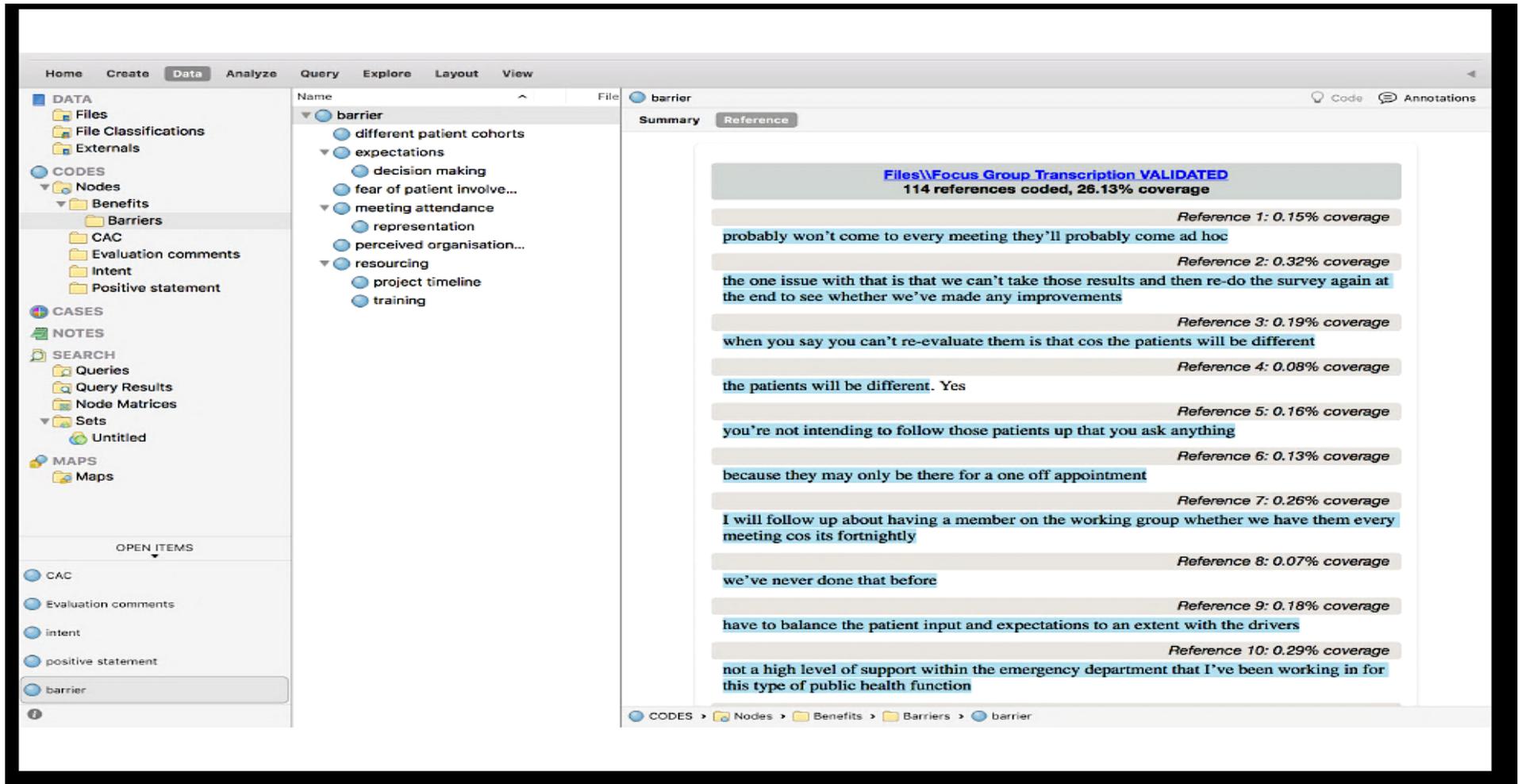


Figure 4. NVivo initial themes – nodes and sub-nodes

3.7 Phase 3 - Data Synthesis

Synthesis relates to “mixing different ideas, influences, or things to make a whole that is different, or new” (Cambridge University Press, 2018). The quantitative and qualitative data sets were reviewed and compared to check for emerging themes and any suggestions of inter-relationships (Houghton, Murphy, Shaw, & Casey, 2015). The results may have converged, leading to the same conclusion, be complementary to each other or be divergent or contradictory (Heale & Forbes, 2013). As described by Creswell (2014), the researcher may employ various strategies to deal with divergent results, such as declaration as a limitation, further exploration of the data or collecting additional data. The researcher employed an iterative approach to analysing the results from each phase to assess for potential new findings. A defined methodology or framework was not available for use, as this was more of a review, comparison and conclusion conducted solely by the researcher.

3.8 Ethical considerations

The researcher conducted this study in accordance with the recognised national code of conduct (NHMRC, 2007), and the university code of conduct (The University of Notre Dame, 2007). The researcher declared no known conflict of interest regarding this study. The study was conducted with due diligence to the research merit, integrity, justice and beneficence (NHMRC, 2007).

3.8.1 Researcher bias

The researcher’s position as a Project Coordinator in SMHS had been declared on the Participant Information Sheet ([Appx 5](#)), to ensure participant awareness and reduce the possibility of internal influence. At the focus group, participants were advised to answer questions honestly and openly, as the researchers’ role would not influence the process or have any detrimental effect for participants’ employment. The researcher was not in a position of power or influence, however any staff perceptions of this require a level of reassurance and clarification.

The questionnaire was tested prior to implementation to avoid leading questions and imposed bias. Focus group participants were offered an opportunity to review the transcript, ensuring discussions were captured correctly. The researcher was open to contrary findings and supervisor review and feedback.

3.8.2 Conducting research in WA Health

As of late 2016, all research projects conducted in WA Health were managed on an internet based platform for review and approval, and have strict criteria and operational directives or policies for both ethics and site authorisation approval, before data collection can proceed (Department of Health, 2018d). This study was granted all necessary approvals as described in the following sections, prior to commencement.

3.8.3 Ethics approval

This study was classified as Low Risk Research, as the only foreseeable risk to participants was minor discomfort in the form of potential anxiety induced by the focus group situation (NHMRC, 2015, p. 13). The University of Notre Dame ethics approval was granted via the School of Nursing and Midwifery Research Committee and the Human Research Ethics Committee (HREC) ([Appx 2](#)), followed by ethics approval from the SMHS HREC (South Metropolitan Health Service, 2016) ([Appx 3](#)).

3.8.4 Site authorisation

It was mandatory that site authorisation approval was received for each site in the study prior to conducting research at any site in WA Health (Department of Health, 2018d). This study received site authorisation and an approval letter from the SMHS Chief Executive on behalf of all WA Health sites ([Appx 4](#)). Data collection only commenced once ethics and governance approvals were completed and official approval letters were received. The governance framework delayed the commencement of this study as the necessary approvals stretched from December 2016 to November 2017; however, the researcher was diligently following policy in the different organisations,

understands the importance of good governance in research, and is Good Clinical Practice (GCP) certified (WA Health Translation Network, 2018).

3.8.5 Research participants

The researcher showed respect to all participants involved in this study by valuing each person's contribution, using courteous communication and listening to participants beliefs and perceptions (NHMRC, 2015). The Participant Information Sheet ([Appx 5](#)) was provided to all study participants. This included key information to inform their decision to participate or not, thereby ensuring informed consent (Sinkowitz-Cochran, 2013). When the participants proceeded to complete the questionnaire, this provided their implied consent, as they chose to participate (NHMRC, 2015). A signed written consent form was compulsory for all focus group participants, to provide further information and demonstrate their willingness to proceed with the discussions ([Appx 7](#)).

There were no costs reimbursed or incentives provided to participants of the questionnaire or the focus group as the 'incentive' was more of a subject matter interest, networking opportunity, professional development and collegiate information sharing, rather than financial or other gain.

3.8.6 Summary

This chapter has detailed the methodology, design and approach used for this study and the ethical framework applied for its conduct. The findings from the three phases of the study are detailed in the following chapter (4).