Appendix A

Semi-Structured Interview Protocol

Q1: What is the contribution of the Collaboratives to team dynamics within general practice?

A. Can you describe who is in the team in this practice? And what is the role of everyone in this team?

B. *Before participation in APCC Program*, was the role of everyone in this team same or different (if so what was different)?

C. Currently, what things does the team do that helps it function as a team
   Prompts: What activities do you do to:

   Decide on team goals / or goals that you are trying to achieve with patients?

   Working out each other's' role?

   Reviewing progress of how you work together?

   How often do you meet as a team?

D. *Before participation in APCC Program*, did the team work in a different way to what you have just described or have things remained pretty much the same, if things have changed can you describe these?

Q2: What is impact of the Collaboratives on the role of practice nurses?

**These 2 questions if respondents have not talked about Practice Nurse role in their responses to the above questions*.

A. What is the role of practice nurse in your practice?

B. Have you noticed any *changes in the role of practice nurse after the Collaboratives*? If Yes how?

Q3: What are the characteristics of general practices that have a high performance on accreditation from the AGPAL database, particularly in safety and quality procedures?

Your practice scored highly on safety and quality in AGPAL database *and nominated by AGPAL surveyors as high performer.*

A. What are the things that this practice does that has enabled you to achieve this level of performance?

B. Would you consider this practice pretty much the same as practices generally, or is there something different in this practice?

C. What happens in your practice when someone makes an error? --for example, abnormal lab results are not seen, or the wrong dose of medication is given "slips, lapses, mistakes and near misses"

D. Have you instituted any procedures to improve patient safety? (e.g. significant incidents register, documentation of slips, lapses, mistakes and near misses, regular clinical meetings to discuss / and how to avoid in the future)

E. What do you believe are the major sources of error or harm?

F. Do you have any information about rates of error or harm?

G. What do you think it would take to replicate what you are doing? What do you think are the key factors to your success - the key lessons for others who would like to replicate what you have done?

H. What are the major barriers to replicating this elsewhere? What barriers have you overcome

I. How do you involve patients to improve safety in practice?
   - Patient focus group or client referral group
   - Patient surveys
   - Patients on boards or advisory groups
   - Complaint system or other feedback mechanisms
   - Examples of chronic disease management programs particularly with an aspect of shared decision making, promoting patient conversation or self-management in care (maybe get them to go into more detail about the specifics of the program/intervention)
   - Other interventions promoting patient involvement
   - Leaflets or brochures about involving patients in care

J. What do you think involving patients in safety should look like in the future?

Q4: What are the leadership and cultural characteristics associated with high performance in general practice, particularly in relation to safety and quality?

A. How do you define leadership in general practices?

B. What are good leadership characteristics?

C. Is there a relationship between your practice high performance and leadership? If Yes how?

D. How would you describe the day-to-day work environment for those in the practice? What does it feel like to work at?

E. To finish, could you share a story of about an improvement that you saw had a great effect here?

Appendix B: Clinical Microsystem Success Characteristics and Summary of Responses

Success Characteristic[13,14]	Summary of Responses
1. **Leadership:** The role of leaders is to balance setting and reaching collective goals, and to empower individual autonomy and accountability, through building knowledge, respectful action, reviewing and reflecting.	It was important that leaders set a vision for the organisation and that they were committed to drive the practice towards success, to be proactive and to lead by example by setting high standards. Leader commitment to innovation and improvement was mentioned specifically by a few. In addition, leaders were often referred to as "passionate" or "drivers". In one instance, this equated to vulnerability should such a leader depart: "I can't see another doctor jumping up to fill her shoes." (PM, RRMA 1). Effective leadership ensured continuity of culture over "generations of GPs" since the 1950s in one practice (PM, RRMA4). Being "up-to-date", "forward thinking" and "knowledgeable about the sector" were leader characteristics identified as assets, and there was mention of the willingness to listen to others' ideas as key. Having the owner visible in the practice was also mentioned as significant.
2. Organisational Support: The larger organization looks for ways to support the work of the microsystem and	Participants referred to organisational support in the form of their participation in the Australian Primary Care Collaboratives (APCC), while others cited the accreditation process as a key motivator of performance. The APCC provided change management training for the practice manager and a lead GP and financial support to attend. They provided computing support to extract aggregate data, analysis and practice-level feedback. They also provided a trained local

coordinate the hand-offs between microsystems.	facilitator able to support the practice through processes of change management. Accreditation while acknowledged as challenging was also regarded as a way of ensuring standards are being met. While organisational support was not an often used attribution, notable by its absence was mention of any support offered by mesolevel organisations such as Medicare Locals.
3. **Staff Focus:** There is selective hiring of the right kind of people. The orientation process is designed to fully integrate new staff into culture and work roles. Expectations of staff are high regarding performance, continuing education, professional growth, and networking.	Several participants noted an effective recruitment process ensured new employees would fit with the culture and values of the practice. Similarly, some mentioned the need to ensure staff were inducted effectively to the procedures in the practice. There is a business case for staff focus, with one participant citing the cost of staff turnover. Staff planning could ensure that doctors were not overloaded. One participant spoke of the decision to hire more nursing staff despite the increased cost to ensure a place "that I like to work" and which also ensured quality care for patients (GP, RRMA 4). Something that was borne out and appreciated by a later participant from that practice: "Nurses aren't cheap to have, but the practice here believes in the extra support, the extra time, the extra care, that we give." (PN, RRMA 4). Another participant referred to the way practice leaders sought to reward staff including remuneration practices and providing opportunities for additional responsibilities to provide further stimulation.
4. **Education and Training:** All clinical microsystems have responsibility for the ongoing education and training of staff and for	Several participants attributed their high performance fully or in part, to education and training. Most referred to the role they had in training external health services staff – medical and nursing. Many agreed it was a potent motivator to stay up-to-date with current best practice. While in favour of involvement with training medical registrars and students, one noted that this still came at a cost to business. Providing education for registrars could lead to the recruitment of those who

aligning roles with training competencies. Academic clinical microsystems have the additional responsibility of training students.	demonstrated alignment with the practice culture**.** The importance of training the practice's own nursing and reception staff to consistently adopt good practices that had been agreed by the medical staff was mentioned and finally, one participant spoke of how training also extended to offering training to other general practices.
5. Interdependence: The interaction of staff is characterised by trust, collaboration, willingness to help each other, appreciation of complementary roles, respect and recognition that all contribute individually to a shared purpose.	Participants cited their team's collective commitment to an overarching vision (often patient care or continuous improvement) as key to success. Teams were in several cases described as "inclusive" meaning ideas could be aired from anyone, breaking down silos. There was the sense from one participant that the interdependence that was operating was not always recognised: "So effectively, you've got the partnership up there, you got all the doctors there, but you've got this little machine underneath that's basically doing all the work for them, without them knowing all the, well half the time, what's going on." (PM, RRMA 2) Effective communication was also seen as key to interdependence, along with working for agreement, cooperation and understanding with some acknowledgement of the realities of occasional friction. While qualities like cooperation and trust were mentioned, one participant noted that collaboration did not exclude individual responsibility and accountability. High performing teams demonstrate honesty and trust. "We're comfortable to actually discuss our mistakes. I think it's important". (GP, RRMA 4) Interdependence leads to a belief that collectively, they can improve things and that hierarchical boundaries need not apply:

	"If someone's got an idea here, and that doesn't have to come from the top; it might be a nurse saying, 'Oh, I think this would be a really good idea if we could provide this for a patient.' Someone will go and run with it and investigate it, you know?" (PM, RRMA1)
6. Patient Focus: The primary concern is to meet all patient needs – caring, listening, educating, and responding to special requests, innovating to meet patient needs, and smooth service flow.	Participants spoke of instituting longer consultation times to address patient needs. One participant, for example spoke of scheduling 30 minute consultations in order to see beyond the presenting concern to other factors. The same practitioner acknowledged that such an approach might not be "manageable" for other practices (GP, RRMA 1). Another also looked past the patient's presenting problem to address "anything else that you know they've been thinking about" (GP, RRMA 2). Others took a wider approach to patient focus 'OK, we've got this demographic, what can we do?'" (PN, RRMA 1). Providing a number of patient services in one location, a "one-stop-shop" (GP, RRMA 4) was to primarily meet patient needs, another stating such an arrangement provided continuity of care. Several referred to their practices achieving a sense of a "medical home" for patients. This extended to an almost pastoral care of patients suggested by one participant. A patient focus also included drawing on staff's social capital of the community to be aware of individual patients' wider needs. Patient focus was also seen to influence staffing models; employing a team of nurses was also seen as demonstrative of dedication to quality care for patients. Ensuring patients knew that they

	were “not just a number” was also mentioned (GP, RRMA1). For one being patient focused meant viewing them as a consumers and providing an online appointment system for their convenience. For another it meant focusing less on patient wants and more on ‘needs’: the practice represented replaced the usual waiting room magazines with health promotional material.
7. **Community and Market Focus:** The microsystem is a resource for the community; the community is a resource to the microsystem; the microsystem establishes excellent and innovative relationships with the community.	There was an understanding that contributing to external community efforts kept the practice “in good stead” with everyone (GP RRMA 4). Having a community focus, meant visiting practice patients in hospital resulting in strong relationships with specialists so “that we can make sure that the patients are receiving the sort of care that we think they need” (GP, RRMA 4). Another participant described a free community outreach program - a weight clinic, and while this also illustrated a focus on patient needs, the program also promoted the services of allied health providers and was seen as “part of our community service” (PM, RRMA 1).
8. **Performance Results:** Performance focuses on patient outcomes, avoidable costs, streamlining delivery, using data feedback, promoting positive competition, and frank	Factors relating to performance results included a commitment to frank discussion by team members comfortable enough with each other to discuss their mistakes (e.g., psychological safety, Edmondson etc.). A team approach also was seen to promote perseverance by another as they learned to ask why for things that did not go smoothly rather than give up at unsatisfactory results. While a focus on performance results was often couched as a team responsibility one participant outlined their (perceived sole) responsibility for examining data. Others highlighted

discussions about performance.	how new tools had facilitated attention to performance results. There was mention of how attention to results was built into procedures, and accountability for staff performance made clear.
9. Process Improvement: An atmosphere for learning and design is supported by the continuous monitoring of care, use of benchmarking, frequent tests of change, and a staff that has been empowered to innovate.	Process improvement is demonstrated by a commitment to a continuous learning and redesign that is involves and is influenced by monitoring of results. Integral to this success characteristic is a staff who are empowered to innovate (Nelson et al). Participants singled out their practice's commitment to improvement as key to the secret of their success. The importance of reflection "the ability to look back and say, 'could we do this better?" (e.g., GP, RRMA 5) was referred to in various ways by many. The process of improvement was akin to a journey for some and participants spoke of building resilience and becoming so familiar with the process that they knew what to expect and demonstrated a sense of self-efficacy about the improvement process itself.
10. Information and Information Technology: Information is THE connector – staff to patients, staff to staff, needs with actions to meet needs. Technology facilitates effective communication and multiple	Success criteria in this classification are also grouped according to the integration of information with patients, with providers and staff and with technology. The importance of making information accessible to staff was noted. Data cleansing and access to information on practices, were other expressions of the integration of information with providers and staff. The introduction of patient held records was cited as partly responsible for the success of one practice along with the provision of apps (e.g., travel health) to provide integration of information with patients. A few mentioned specific IT tools that had streamlined their access to relevant information.

formal and informal channels are used to keep everyone informed all the time, listen to everyone's ideas, and ensure that everyone is connected on important topics.	

Appendix C: Clinical Microsystems Success Characteristics and Enabler and Barrier Summaries

Success Characteristic[13,14]	Summary Points Stated in terms of being an Enabler	Summary Points Stated in terms of being a Barrier
1. **Leadership:** The role of leaders is to balance setting and reaching collective goals, and to empower individual autonomy and accountability, through building knowledge, respectful action, reviewing and reflecting.	Participants spoke of the importance of having someone who was committed and passionate about quality improvement. The importance of having a good communicator that other members of the team felt they could talk too without fear of being sanctioned. The importance of having a vision and facilitating a sense of team mission was discussed. A couple of people talked about the importance of having leadership in all parts of the practice (e.g. administration, nurses, doctors) while others emphasized the importance of having both a clinical lead and an administrative lead, while another emphasized the importance of having one overall leader who oversees most things. Regardless of what position the leader was, they needed to have earned respect. Having energy and resilience were seen as key for effective leadership.	Participants effectively saw lack of leadership as the barrier or described positional leader deficits. Leaders may be too caught up in their own work, (e.g., GPs too interested in getting people through the door) to take on extra things. Lack of "buy-in" to change by senior practice members or practice owners were seen as a significant barrier. It was felt that resistance to change generally would be too high if there were no "driver". Lack of leadership meant that practices could be directionless without a vision or mission.

2. Organisational Support: The larger organization looks for ways to support the work of the microsystem and coordinate the hand-offs between microsystems.	References to the Australian Primary Care Collaboratives (APCCs) were coded under "organizational support" as it is provided from a body external to the general practice. Participants found participation in the Collaboratives as enabling teams to develop a shared mindset for improvement, and the experience gave them permission to change. Others found comparing their results (even when their results were unsatisfactory) with other practices was motivating. Others mentioned support in the form of education and organizational development. One noted that participation in only one wave of the Collaboratives was not enough. Only one participant mentioned Medicare Locals as a resource.	There were a number of barriers to participation in the APCC mentioned by participants. One participant spoke of the suspicion with which the program was held as a government plan to know their numbers. There was concern that some might fear negative comparisons with other practices through the program or that the autonomy to practice in the way that the practice thought best would be lost. Other practices might not become involved in the first place due to lack of interest or might not get involved if they did not receive payment to attend, or attendance regulated through means like accreditation. One participant commented that Medicare did not support nurses in general practice.
3. Staff Focus: There is selective hiring of the right kind of people. The	Three strong themes emerged: the importance of staff procedures that create role clarity and develop clear reporting lines with an open door	A lack of staffing focus can result in a lack of procedures and staff going off in their own directions. Staff might be disenchanted if too

orientation process is designed to fully integrate new staff into culture and work roles. Expectations of staff are high regarding performance, continuing education, professional growth, and networking.	policy for their concerns, highlighting the important of a clear induction process. Practice leaders need to know and understand the roles. Creating an atmosphere where staff want to work and part of that is creating a comfortable physical environment and partly a stimulating learning environment through the provision of staff development and training was a second recurring theme. A final theme focused on the enlargement of the practice nurse role to relieve GP burden and to allow nurses to utilize their skills. Designating nurses to specialized roles (e.g., community nursing) was mentioned.	many improvements are applied at once to the detriment of all. Cost was seen as a major barrier – it was acknowledged that providing for professional development, hiring a greater number of nurses, paying for staff to attend meetings outside of usual work time al cost money – and not all practices would be prepared to foot that bill. Finally, was the acknowledgement that staff do not always want to put in 100% - this participant noting from their experience of working in different practices.
4. Education and Training: All clinical microsystems have responsibility for the ongoing education and training of staff and for aligning roles with training competencies. Academic clinical microsystems have	Education and training were important part of staff focus – these went hand in hand. Investing time and money in training and development was seen as a key way of attracting and demonstrating loyalty to staff (with the hope that this would also be reciprocated). Education and training of medical students, interns and registrars was framed as a way of investing in	Participants suggested that not all practices were prepared to pay for professional development (including education and training). There was also concern that the increasing demands to support student placements and internships would result in some practices pulling back from or not taking on this responsibility as a lifestyle choice.

the additional responsibility of training students.	GP practice in the future with possible flow-on effects for the practice eventually.	
5. Interdependence: The interaction of staff is characterised by trust, collaboration, willingness to help each other, appreciation of complementary roles, respect and recognition that all contribute individually to a shared purpose.	Enablers included participative teams – where all members were given the chance to have input. Giving responsibility to all was key whether it was giving some leeway to team members wanting to trial a new idea or whether it was GPs allowing nurses to fully utilize their skills fully by taking up wider clinical roles within the practice. Acknowledging and respecting the knowledge and expertise of all in the team and Having the patient numbers to make a multidisciplinary team viable was noted. Communication was seen as critical to ensure team members were on the same page. Having a team that was open to change and consider new ideas was mentioned by a couple of participants.	Barriers to interdependence included an unwillingness to change and give responsibility to others. This was mentioned several times in terms of GPs not willing to give up clinical roles that nurses were able to do, and reluctance of some GPs to surrender any autonomy. The observation was made that in many practices there was a lack of a systems approach and a hierarchical organisational structure still existed. Lack of communication and willingness for team members to move beyond their own agendas was seen as a further barrier. There were financial costs that were seen as a barrier to a more multidisciplinary approach to care: while it may be desirable to include allied health in practices, limitations with the physical design of practices and fixed costs associated with rooms were mentioned as barriers.

6. Patient Focus: The primary concern is to meet all patient needs – caring, listening, educating, and responding to special requests, innovating to meet patient needs, and smooth service flow.	Having GPs who are "patient outcome driven" was seen as an enabler. Having a community nurse with local knowledge was seen as another through the ability to evoke patient needs effectively. Involving patients as ambassadors for practice initiatives (e.g. care plans) was cited by another. Having patient comfort in mind when designing and preparing the practice environment was also an enabler.	There were concerns that there was a financial burden to anything other than individual and quick medicine, while others suggested an unhelpful mindset that nothing other than quick medicine was possible or the target of getting numbers of patients through the door at the cost of anything else. One noted barriers to access to information about whose needs were not being served by the practice.
7. Community and Market Focus: The microsystem is a resource for the community; the community is a resource to the microsystem; the microsystem establishes excellent and innovative relationships with the community.	Having a stable patient based and having strong community focus was seen as an enabler for one practice in a small rural area. Gaining a positive reputation in the local area meant that another practice was also approached by the local hospital to trial things.	Important to understand that each practice has its own demographical profile and what worked for one, may not work for others within other areas. In addition there was a financial cost in having values around looking after the community that other practices may not work for others.

8. Performance Results: Performance focuses on patient outcomes, avoidable costs, streamlining delivery, using data feedback, promoting positive competition, and frank discussions about performance.	Having an almost obsessive approach to chasing the target was seen as an enabler.	A suggested barrier was the initial time it takes to set up systems.
9. Process Improvement: An atmosphere for learning and design is supported by the continuous monitoring of care, use of benchmarking, frequent tests of change, and a staff that has been empowered to innovate.	Enablers here referred to adopting a mindset of continuous improvement. Adoption of the PDSA approach was acknowledged for its role in making improvement "a way of life". Others extolled the virtues of starting small with one improvement goal and doing that well. Others advised that once improvement procedures were set up, that only small changes or "tweaking" was necessary. These participants had come to understand and trust the process.	Barriers to process improvement included trying too many changes at once, the time that it takes to set up changes and the concern that not many doctors are actually interested in making changes.

10. Information and Information Technology: Information is THE connector – staff to patients, staff to staff, needs with actions to meet needs. Technology facilitates effective communication and multiple formal and informal channels are used to keep everyone informed all the time, listen to everyone's ideas, and ensure that everyone is connected on important topics.	Having information systems in place and up-to-date was seen as an enabler, providing access to relevant up-to-date information. One participant saw cleaning the data as vital before making other improvements. This ensured access to staff resources. Several participants mentioned specific data tools they had found useful. Another mentioned the importance of having a website through which patients can access information.	Potential barriers were the time and resources involved in setting up information systems. It was also acknowledged that some general practices may serve a population who do not access the internet.