Challenges facing primary health care in federated government systems: Implementation of Primary Health Networks in Australian states and territories

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Abstract
In many federated countries, there is divided health system responsibility that can affect primary health care (PHC) policy and implementation, and complicate collaboration between PHC actors. We examined an Australian policy initiative, Primary Health Networks (PHNs), which are regional PHC organisations, to examine how they collaborated with state and territory PHC actors, and what factors enhanced or constrained collaboration. For PHNs we surveyed 66 staff, interviewed 82 staff, examined board membership, and analysed documents from all 31 PHNs. We also interviewed 11 state and 5 federal health bureaucrats. We mapped the PHC system in each state, and conducted team thematic analysis of the qualitative data collected. We found variation in how well PHNs collaborated with state and territory actors, ranging from poor relationships through to strong cooperation and co-commissioning. This was affected by factors to do with the state health department, geography, PHN funding and regulations, ambiguities in the federal/state divided responsibilities for PHC, and the extent of use of collaboration mechanisms and strategies. Resourcing and supporting such collaboration mechanisms, and increasing regional funding flexibility of funding would increase the potential for regional organisations to successfully navigate ambiguities in responsibility and foster a more integrated, cohesive PHC system.

Keywords
Primary health care, health policy, health care reform, Integrated Health Care Systems, federal government

Introduction

Primary health care (PHC) is a crucial cornerstone of health systems, making a large contribution to population health and health equity [1]. It is a frequent focus of reforms, driven by desires for cost efficiency and containment, and improvements in efficacy, equity, integration, and coordination [2]. One challenge many federated countries face to reforming PHC is divided responsibilities between the federal government and the states, territories, or provinces, though little is known on how to overcome this issue to improve PHC system integration and performance. This paper explores this issue in Australia. We use the term PHC to refer to the comprehensive approach to treatment, disease prevention, and health promotion in the Alma Ata Declaration [3], which includes primary care [4].

Governance of PHC
A review of European federated systems [5] found that in all six countries included there was some influence on the health system by the national government, regional authorities, and local authorities. In Canada, there is a federal transfer of funds, and the responsibility for PHC rests with the provinces [6, 7]. In New Zealand, England, and Scotland, responsibility for PHC lies with the national government [8]. In the US, the health care system is a mix of federal, state, local, and private funding, with substantial variation in health systems between states [9]. One of the advantages of federated systems is their potential to contain costs, and

for state governments to be more accountable to communities [5, 10]. Possible negatives are the resultant variation between jurisdictions, fragmentation, and challenges in coordination, cooperation, and information sharing [5, 10].

There has been little research on how PHC policy change can help overcome issues raised by divided responsibilities. This paper presents an examination of a major Australian federal initiative, Primary Health Networks (PHNs), analysing how they interacted with state health systems. The aim is to generate learnings about PHC policy implementation in Australia and for other federated countries.

The Australian PHC system

Australia is a federated country with six states and two territories (hereafter states) and a population of 25.3 million. Responsibilities for funding and oversight of PHC are shared between federal and state governments. These ambiguities in responsibility go back to before Federation (in 1901), when states and "friendly societies" (somewhat resembling private health insurance) were responsible for health care, yet some public health measures became federal responsibilities. The health system evolved with the federal government taking responsibility for funding primary medical care, and states overseeing tertiary care. Additionally, there are 140 Aboriginal community controlled services which operate as non-government organisations, receiving federal and state funds [11].

A prominent feature of Australian PHC debate has been a 'blame game' between governments over responsibility for PHC, with arguments that the lack of clear government responsibilities contributes to fragmented, poorly coordinated care, cost shifting strategies between governments, underdevelopment of PHC, and inefficiencies [12-15]. Duckett and Willcox [15] describe the Australian health system as "contested terrain" (p. xxiiv) with pervasive value and policy conflicts.

State government PHC. Each state has its own health department, and regional bodies, variously called Local Health Networks (LHNs), Local Hospital Networks, Local Health Districts, Health Service Regions, Health Organisations, or Hospital and Health Services (hereafter LHNs). LHNs coordinate the hospitals and other state-managed health services, which may include state-managed PHC services, such as community health centres in Victoria, or services targeting particular gaps in access to PHC, e.g. in rural or regional areas, Aboriginal and Torres Strait Islander PHC, or sexual health.

Federal government PHC. The bulk of primary medical care in Australia is provided by fee for service private general practice, funded by the federal universal scheme Medicare. Divisions of General Practice were established as regional structures to support PHC in 1992 by the federal government. Their focus was on general practice, and they did not require strong interaction or relationships with state health structures. State and federal PHC tended to work in parallel, with little collaboration [16].

In 2011, the federal government established 61 Medicare Locals, with a wider remit than Divisions of General Practice, and a broader focus and membership, including allied health [17]. One driver was reducing state-federal divided responsibilities for PHC, however it was not successful in negotiating this through the Council of Australian (state and federal) Governments, with states retaining responsibility for some PHC services outside of general practice, such as multidisciplinary community health centres. The Medicare Locals' mandate was for regional population health planning, integration, collaboration, which required a much greater relationship with state PHC actors [18].

After a change in federal government, Medicare Locals were reviewed [19], and replaced in 2015 with 31 PHNs. One of the criticisms Medicare Locals faced was their variable

performance, including in addressing health system fragmentation [19]. PHNs' mandate emphasised commissioning clinical services, with seven stated priorities (mental health, Aboriginal and Torres Strait Islander health, population health, health workforce, digital health, aged care, and alcohol and other drugs [20]). Their mandate still included population health planning, and relationships with state health systems and departments [21], though there were no overarching agreements between the state and federal governments defining the role of PHNs [22]. There has been little research attention on these relationships with state systems, a gap that this paper aims to address.

The PHC landscape in Australia is summarised in Figure 1 below.

[Insert Figure 1 about here]

Theoretical approach

This research was underpinned by institutional theory [18, 23, 24] which emphasises that institutional fields – here, the PHC landscape in each state - are shaped by ideas, actors, and institutional forces [24]. PHNs' actions are shaped by regulative (legal, rule-setting), normative (guiding values and norms about what ought to happen), and cultural cognitive (pre-existing frames for how things are done) forces [24]. Actors can encompass individuals, organisations, or groups or associations of people [23]. We adopted Phillips' et al.'s [25] institutional theory approach to collaboration as a "co-operative relationship" within the dynamics of an institutional field "that relies on neither market nor hierarchical mechanisms of control" (p. 24).

PHNs are an implementation of federal policy, and thus we drew on policy implementation theory [26, 27], which concerns how policy decisions are put into practice, the policy instruments chosen, and the response of on-the-ground actors [26]. We also draw on realist evaluation principles [28, 29] – that interventions can be considered as offers that states may react to in different ways [30]. Realist evaluation emphasises that the same mechanism (the establishment of PHNs) can lead to different outputs (practices and health outcomes) in different contexts (the PHC institutional fields in each state) [28, 29].

We sought to understand:

1. How did the PHNs interact with the PHC field in each state?
2. What factors enhanced or reduced collaboration between PHNs and state PHC fields?

Materials and methods

This research was part of a four-year project which undertook data collection with PHNs and other stakeholders. This paper draws on a survey and interviews with PHN staff and board members, analysis of PHN board membership and publicly available documents, and interviews with state and federal actors (see Table 1).

[Insert Table 1 about here]

Analysis

We mapped the key actors in each state, from government websites and literature, and provided these to interviewees for feedback. We coded PHN documents for indications of collaboration with state PHC actors, and produced summaries for each state. Interviews were recorded and transcribed, and participants were offered the opportunity to review their transcript. We conducted team-based thematic analysis on the interview transcripts and documents assisted by QSR NVivo 12. Coding frameworks were developed from team discussions based on the theoretical frameworks, and emerging themes were added during analysis. A subset of transcripts for both PHN and state interviews were double coded to maintain rigour, and differences resolved by discussion. Themes were compared and contrasted across states [31]. We developed summaries for each state of collaborations, state and PHN actors' judgements of the quality of relationships, and the identified drivers of that quality, drawing on all research methods. Emerging findings and state summaries were discussed in regular team meetings, different perspectives debated, and alternative explanations considered, ensuring constant monitoring of analysis and interpretation [32].

Results

1. *How did the Primary Health Networks interact with the PHC institutional field in each state?*

The mapping of PHC fields, and interviewees' descriptions illustrated the complex systems PHNs operated within. Figure 2 shows a composite map of the states, showing common elements, and variation.

The variation was largely in the structuring and level of state PHC activity. State PHC activity ranged from a normative and funding commitment to community health services and health promotion, through to jurisdictions that saw their remit as only tertiary care, funding very little PHC or health promotion. This variation was the result of state government policy decisions over several decades. Since the federal 1973 Australian Community Health Program was halted only a few years after it commenced, the role of states in PHC has been varied [15]. In some instances states continued to fund community health services while others did not [33].

[Insert Figure 2 about here]

Our interest in this paper is PHNs' relationships with the key state actors of the health department, and the LHNs. We have reported elsewhere on PHNs' minimal collaboration with local governments [34].

In interviews, federal bureaucrats saw PHNs as "*a delivery mechanism for reform activities*", and vehicles for integration, with the hope that they would be "*able to do the things that we find difficult nationally*" on a local scale, including building relationships and getting access to data. As such, the regulative environment encouraged, and expected, PHNs to have a relationship with state actors.

Analysis of PHN documents showed many indications of engagement and collaboration between PHNs and state actors. One common example was on the development of 'Health Pathways', which sought to improve integration and referral pathways between general practice and hospitals. Examples of cooperation included data sharing, such as LHNs providing hospital service utilisation data to PHNs. Many PHNs were working towards co-

commissioning with state PHC, and there were a small number of examples where co-commissioning was happening.

However, there was considerable variation in the extent to which PHNs interacted with state actors. Drawing on the state and PHN interviews, and PHN documents for each state, we evaluated the relationships between PHNs and the state actors. In one state (South Australia) relationships were identified to be poor. In another (Queensland) there were poor relationships that had begun to improve over the past year, there was modest cooperation in two states, and in four states there were strong, cooperative relationships.

We asked PHN survey respondents about their engagement with state departments of health and LHNs on a 5 point scale (1=not at all effective to 5=very effective). The average response by state ranged from 4.2 (just above 'somewhat effective') to 4.9 (just below 'very effective'). The ranking of different states matched the judgements from the qualitative data, though with less breadth, and the survey data variation was not significant, $F(7,263)=1.24$, $p=.281$.

The quality of the relationships between state PHC and PHNs, and key drivers, are summarised in Table 2.

[Insert Table 2 about here]

Table 2 shows that in some states, positive relationships were facilitated by regular meetings with CEOs of the PHNs, LHNs and/or health department. Some PHNs developed agreements such as Memoranda of Understanding with state PHC structures. In the strongest examples, PHNs brought actors together:

> *"[The Aboriginal Community Controlled health organisation peak body], government, and private sector working together through the PHN is quite revolutionary*" (PHN interviewee).

Other states indicated fraught relationships, citing conflict over one actor wanting too much control over another actor's work, insularity in government departments, and tensions in governance structures, e.g.

> "*I know they [LHNs] thought they should be involved in our board … [but] we see ourselves as an independent organisation, not as an arm of [state health department]*" (PHN interviewee).

We found 62% of PHNs had at least one state or LHN representative on their board (some PHNs had 2 representatives, one PHN had 3) - either practitioners, managers/executives, or LHN board members. There were also state PHC actors on PHN clinical or community councils, and steering, advisory or working groups.

2. *What factors enhanced or reduced collaboration between PHNs and state PHC?*

Different state contexts, histories, and geographies affected collaboration. In rural areas, there was more evident need for collaboration because the normal 'market' of health services was not viable: "*The reality is, when it comes down to a remote community where the primary health care centre is the only health service, those divisions [between federal and state/territory] become fairly meaningless ... So you try to pool your funding*" (State interviewee). Good relationships were sometimes historic, carried over from Medicare Locals to PHNs. In states with a strong Aboriginal community controlled sector, they were a critical third actor, and were associated with continuance of a strong relationship between all three

parties (PHNs, state actors, and ACCHOs). In one jurisdiction, the ACCHO peak body co-led the PHN with the state department of health.

The areas of the state PHC institutional field that PHNs engaged with was in part driven by federal government priority areas, e.g. mental health was a common priority between PHNs and state PHC systems.

In two states (the two judged to have the poorest relationships with PHNs), state government austerity-inspired cuts had considerably weakened state health promotion and PHC activities. Another state, while having a strong PHC system, felt that decentralisation had led to greater complexity, making it harder for PHNs to engage.

Some states had policy and funding that reflected strong prioritisation of PHC. In one of the strongest states, this included: community health services, an Aboriginal health and wellbeing framework, refugee and asylum seeker health services, and alcohol and other drug services. Other states viewed their role in PHC as more residual – filling gaps caused by "*market failure*" (State interviewee), for particular populations or areas.

In the poor performing state, the state did not perceive a normative expectation that they had a role in PHC, and instead were more focused on hospitals: "*In primary health primarily the policy or the framework for how that is, operation wise, is set by the Commonwealth… our governance primarily sits within tertiary acute services*" (State interviewee). This view signalled greater disinterest in PHNs, and less sense of responsibility for the performance of PHC. The main interest in PHNs was whether they could integrate PHC services with acute care. The PHNs reported struggling to engage this state: "*They sort of don't really want to work in collaboration with us*" (PHN interviewee) and that it "*has been no mean feat to get them involved in actually talking about where can we actually work together to improve some of this stuff*" (PHN interviewee). The state judged as having initially poor but recently improving relationships had undergone austerity cuts to its state PHC system, but these had begun to be reversed by a new government, and the PHN found the cultural cognitive and normative nature of the state system changing, away from being "*a fairly insular beast*" (PHN interviewee), to a more cooperative partner.

Threats to collaboration. The unclear division of responsibilities between federal and state governments was frequently mentioned. Responsibilities were particularly blurry around rural services, and Aboriginal and Torres Strait Islander health, where both governments invested, but not necessarily in a coordinated manner. One interviewee reflected "*Some of that blurred line does lead to a service delivery issue where we're both funding a similar service*" (State interviewee). In other cases, it led to the state having to fund services that they felt ought to have come under federal remit:

> "*Where does the state government's responsibility end and the federal government's responsibility begin can be quite complicated and we, as a state, end up providing things like in-reach into nursing homes or residential aged care facilities, for example, to provide what is primarily a primary health care service which, by a stricter definition would be the responsibility of the commonwealth government*."

One interviewee saw a positive to these unclear responsibilities: "*It also probably gives a level of rigour too. If there's a blaring thing standing out that one government's not seeing, that's being brought to the forefront by the other one. So, to a point it gives an opportunity for more debate*" (State interviewee).

State actors acknowledged that most of the money flows into the acute system (a clear state responsibility), leaving little funding for PHC: "*It's the same in every jurisdiction… our hospitals take the cream, then you get what's left… we're nowhere near that level of sophistication that they're going to turn around and say 'okay, we're not going to give any*

more money to hospitals'." This was a particular barrier in the poorest performing state, where a new metropolitan hospital had just been built at considerable cost.

That PHNs had "*quite specific funding buckets and quite specific funding requirements"* (State interviewee) was a challenge. This prevented local tailoring of PHC: "*how local communities might go about that may very well be different if they had the choice*" (State interviewee). Federal interviewees conceded that funding had been too constrained, and that "*true flexible funding*" was required to respond to local needs.

Some state actors felt there was a lack of clarity in PHNs' goals and contributions to the system. In the states with more positive collaboration, state actors were more positive about what the PHNs could offer: "*we see them as a major vehicle for us to help resolve some of those issues [integration of systems, of data, continuity of care]*." (State interviewee). One of the hopes of state actors was that PHNs could facilitate collaboration with general practice. While some felt PHNs provided this "*to a degree*" (State interviewee), others found that even PHNs' have "*got a hard job influencing GPs because GPs are private businesses*" (State interviewee). The business oriented, fee for service structure of GPs was widely seen as a barrier to an integrated PHC system. The PHNs were unable to influence this barrier: "*I think it's really tricky for them [PHNs] to work with the GP sector. I think the GP sector are copying the industry private businesses"* (State interviewee).

High turnover of staff, reported in state and PHN systems, was noted as threatening the development of relationships and trust, as other literature has noted [35, 36]. However, the case of the states whose relationships with the PHNs improved following changes within the state system show that turnover can also yield opportunities for collaboration.

Collaboration mechanisms. We found PHNs and state PHC actors had implemented a variety of mechanisms to foster good relationships and collaboration:

- Contributing to each other's governance, e.g. reciprocal board membership, allowing information sharing and further collaboration.
- Seeking boundary alignment between PHN catchment areas and state LHNs.
- Collaboration instruments, e.g. Memoranda of Understanding to formalise expectations
- Explicating shared priorities between states and PHNs, e.g. in bilateral agreements between federal and state
- Regular executive meetings between state PHC actors and PHNs, such as quarterly meetings between CEOs.
- In one state, there was a very effective example of a staff member seconded from the state PHC system to the PHN, who then returned to the state system and fostered greater understanding and collaboration.
- In two states, PHNs combined to employ a coordinator, who was a former state public servant and so understood the state system, and served as a valued contact person for state actors.
- Both being part of broader collaboration vehicles, e.g. one state had regional 'collaboratives' involving PHNs and state PHC actors in addressing local needs

States with positive relationships tended to have more collaboration strategies than states with poorer relationships. State and PHN actors from PHNs and states valued collaboration benefits such as data sharing, work on integration (especially between primary and tertiary health), and movement towards co-commissioning of services. One state actor described the ultimate goal as PHNs and state becoming "*co-system managers*" (State interviewee).

Discussion

We found that a federal PHC initiative – PHNs - was implemented nationwide into variable state PHC fields, and achieved cooperation with other PHC actors with varying degrees of success. PHC in Australia clearly remains a 'contested domain' [15]. The nature of the state health departments, the demographics and health needs of the population, and the nature of the institutional field varied between states, as did strategies for collaboration, and quality of relationships. As health system integration is a central policy goal globally, addressing factors that constrain or support integration when responsibilities for PHC are divided are vital [5].

Our application of institutional theory highlighted key institutional forces shaping collaboration. There was a general normative commitment from interviewees to collaboration for the good of the PHC system, with few exceptions. That those exceptions came from the states that focused most on the tertiary system reflected Mur-Veerman et al.'s finding that "Integration is suppressed when the acute care sector dominates and is not interested in the integration of services" [5, p. 181]. While the PHNs' regulatory environment espoused support for collaborating with state PHC actors, we found considerable barriers to collaboration in that regulatory environment. Inflexibility of PHN funding was a common complaint. Such constraints reflect a broader regulatory tension between the federal government desiring strong control over the PHNs, while designing them to be meso-level organisations with regional priorities and responsiveness. The strict controls placed on PHN operations reduced the scope for PHNs to adapt to their state PHC institutional fields. The structure of private, fee for service general practice also remains a barrier to a more integrated, coordinated system.

PHNs employed a range of strategies to foster good relationships with state PHC actors, and a more supported, resourced approach to this may have accelerated collaborations and positive system outcomes. There was evidence for the potential for cultural-cognitive forces – 'the way things are generally done' to be positive or negative for collaboration. This was illustrated by the turnaround in one state where changes in the state system was reported to lead to cultural change that allowed greater collaboration in ways that did not appear to be solely due to regulatory changes. The importance of relations and culture reinforces Philippon and Braithwaite's [10] argument that as well as structural and governance solutions to health system concerns, more attention needs to be paid to cultural frames of reference.

A realist approach [28, 29] was useful in understanding how a nationally consistent implementation could lead to variability in different states. The different contexts meant that PHNs had to adapt to each state institutional field, and that the state actors varied in their perception of what the PHNs could offer their PHC system. The ambiguity reported in PHN aims contributed to some actors having more ambivalence towards what the PHNs could offer, and this was associated with a more cautious approach to collaboration. The PHNs were driven, in part, by Federally imposed priorities, some of which matched state priorities, but there was little evidence of a cooperative process to developing either state or federal goals and priorities. A more collaborative approach would identify shared goals, and provide greater policy support for local collaboration.

In contrast to literature finding negative, "blame game" effects from the ambiguities in the Australian split of health care responsibilities [12-14], we found some positive effects. The overlap in responsibilities meant there were two governments who could potentially identify service gaps, and act to fill them. The impact of austerity cuts in two states highlights the benefits of having two governments with responsibility for health – where one government may offset the weaknesses of the other, at least to the extent that funding and mandate allows. As such, the ambiguities in responsibility can give greater latitude to street level

bureaucrats to implement policy in a way that is tailored and responsive to state needs. While a desire to reduce duplication in services is understandable, we found that where state actors strove to demarcate federal and state responsibilities, this hindered rather than enhanced collaboration.

Our research highlighted the effect of neoliberal approaches to health systems [37, 38] – firstly how austerity cuts had hampered some states' engagement with PHNs, leading to poor collaboration (improving in one state following some rebuilding of state PHC), and secondly, how the more managerial approaches to responsibilities and performance indicators in those same states led to less cooperation and more insular approaches. The finding that collaboration occurred more freely in rural areas, because of clear "market failure" – suggests that in urban areas, a focus on market mechanisms may undermine collaboration. Our research has previously found concerns that PHNs' commissioning role risked prioritising competition over collaboration between services. This is a symptom of the general neoliberal approach of applying private sector mechanisms to the public sector. This research contributes to literature raising concerns for how "neoliberal epidemics" [38] affect health systems.

A limitation of this research is that there were a few gaps in our data for some states, and we interviewed a small number of participants from each state. State health systems are broad and complex, and participants would not be across all details of their systems. This may lead to under-reporting of collaborations. However, the document analysis was designed to complement the interviews and to help fill these gaps.

The research occurred when PHNs were relatively new, so ways of working were not always fully developed, and it was not possible to trace participants' judgements of success through to PHC indicators in each state. However, this allowed us to examine the establishment of relationships, which provided valuable insights. While we have elsewhere critiqued shortcomings in the PHC vision of PHNs [21, 39, 40], our findings here suggest they are contributing to improved collaboration in the health system, which we would expect would lead to improvements in health care, particularly at the nexus between primary and tertiary care. This integration may also improve accessibility for populations experiencing disadvantage [41]. This opportunity to improve integration is a strength of what regional PHC organisations can contribute to health systems. To support this, based on our findings we would recommend that the Federal government provide resources and support to PHNs to encourage collaborative mechanisms between states and PHNs, and increase the flexibility of the funds they provide to PHNs to allow PHNs more scope to tailor solutions to their state context. We recommend that both Federal and state governments develop more cooperative policy environments that foster work on shared goals to improve the health of the population.

Conclusions

Good quality, well resourced and coordinated PHC is critical to the health of populations [1]. For federated health systems to achieve this, greater attention needs to be paid to how national policies are implemented in different jurisdictions, and how state and federal PHC actors can collaborate for the good of the PHC system. Federated health systems can provide valuable checks and balances to ensure gaps in services are identified and addressed, if ambiguities in responsibilities and aims can be successfully navigated, and collaborative strategies such as reciprocal board memberships and multi-actor agreements are supported and resourced. Some of the most crucial barriers to a well-coordinated federated PHC system and poorest performance in our study derived from the negative effects of neoliberal practices in the health system, which had led to austerity cuts in some jurisdictions, and managerialism and regulatory environments that were not conducive to collaboration. The tension for national uniformity needs to be balanced with flexibility to adapt to state contexts. Achieving this balance is crucial given one of the cited benefits of

multi-level, federated health systems is complementing nationwide health systems with greater responsiveness to communities.

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Figure Captions

Figure 1. Primary health care landscape, and population size, for each Australian state and territory (Australia with States - Outline by FreeVectorMaps.com). PHN = Primary Health Network, ACCHO = Aboriginal Community Controlled Health Organisation.

Figure 2. Composite map of the common and varying elements of the institutional PHC field in different states and territories (including tertiary services that PHC often needs to integrate with). PHC = primary health care. GP = general practice. PBS = Pharmaceutical benefits scheme, MBS = Medical benefits scheme. *Italicised, grey highlighted text* indicates the areas of high variability between states.

Table 1
Summary of methods conducted in the study

Method (Year)	Description	Participants
PHN survey (2016)	An online survey was emailed to the CEOs of all PHNs, asking them to complete it themselves and forward on to their executives, board members, clinical councils, and community advisory councils. Questions were developed by the research team specifically for this project, and were adapted from our previous survey of Medicare Locals [42]. Questions covered engagement with other areas of the health system and sectors outside of health, governance, and funding. Three follow up emails were sent at three weekly intervals.	66 participants from 17 PHNs (55% of PHNs).
PHN Interviews (2016)	Potential interviewees were purposively selected from six PHNs, all from different states. These PHNs were selected to maximise diversity, and their willingness to participate. We sought to interview senior executives, and chairs of boards, clinical councils, and community advisory councils. Questions covered the same domains as the surveys, but probed for more detailed understandings of successes, challenges, and context. Semi-structured interviews were conducted over the telephone.	Of 82 people invited from the six PHNs, 55 people (67%) agreed to participate in an interview.
PHN Board membership (2017)	Board membership was collated for all PHNs from their websites and annual reports, and classified according to whether they had a state health department or LHN affiliation.	31 PHNs
PHN Document analysis (2017)	Primary Health Networks' needs assessments (2016 or 2017 as available), 2017 activity work plans (for core funding), and 2016-17 annual reports from all 31 PHNs examined for examples of collaboration with state actors.	91 documents: 3 for each of the 31 PHNs (except 3 Western Australian PHNs, governed by the same organisation, produced one annual report between them). One PHN did not publish or provide an annual report, so their strategic plan was analysed instead.
State/Territory and Federal Actor Interviews (2017)	A purposive sampling strategy was employed to identify appropriate senior bureaucrats from state and federal health departments with knowledge and experience of PHC policy in their respective jurisdiction. Potential interviewees were identified through internet searches of health department websites, including organisation charts where available, and also through recommendations from our networks. Initial contact was via email, with follow up emails and phone calls. Semi-structured interviews were conducted over the telephone, guided by an interview schedule developed in consultation with the research team to address the research questions.	11 interviews with health bureaucrats from 7 out of 8 states, plus 1 telephone interview and 1 focus group with 4 Federal health bureaucrats

Table 2
Summary of key characteristics and findings for each state

State	Relationship	Contextual factors	Strength/nature of state health department	State role in PHC	Collaboration strategies pursued
1. Western Australia	Very positive	PHNs all run by one consortium, provided 1:1 correspondence with state health department	Strong capacity for PHC and collaboration	Clear role in delivery of PHC esp. in rural/remote areas	Memorandum of understanding, data sharing agreement. Co-commissioning services with state mental health system. State actors sit on PHN councils.
2. South Australia	Poor	One of the previous three Medicare Locals won the tender for the PHN, creating difficulties for relationships with the other two regions. Federal partnership agreement with state reported to have been "*messy*" (PHN interviewee)	Had been through recent, extensive budget cuts to public health/health promotion/primary health care. High staff turnover. Less collaborative outlook compared to other state departments.	State health department did not see itself as having a role in primary health care.	Memorandum of Understanding with one LHN, in process of establishing with others. Tensions over LHNs not having membership on PHN boards.
3. Northern Territory	Very positive	High Aboriginal population, rural/remote challenges. One territory wide PHN.	Collaborative, equity-focused, strong health department.	Extensive role in PHC, especially for Aboriginal people, and in rural/remote areas, often co-funded with Federal government, and mental health, women's health, and alcohol and other drugs.	Reciprocal membership on boards/committees. Health department is formal member of PHN. Quarterly CEO meetings with LHNs. State and PHN actors members of Aboriginal health forum.
4. New South Wales	Modest	Inherited good relationships with state and Aboriginal	Change in key health bureaucrat has improved	PHC largely seen as a federal issue. Some health promotion activity.	Reciprocal membership on clinical councils with LHNs. Data sharing.

		community controlled sector from Medicare Locals.	potential for collaboration with PHNs.		
5. Victoria	Positive	State PHC system was the most complex, with the most state PHC actors.	Cited as more decentralised governance structures, seen as focused on collaboration.	Very strong and historic commitment to PHC and health promotion, including community health centres, primary care partnerships	PHN CEOs meet regularly with Minister for Health 1 state actor seconded to PHN – mutual learning
6. Tasmania	Very positive	Recent restructure was disruptive, but now there is the simplicity of 1 PHN, 1 state department of health, and 1 LHN for the state. Previous health assistance package enabled past collaboration	Historically state department strengthened by health assistance package. This enabled past PHC activity and collaboration - has expired but legacy seen to live on.	State as commissioning body that procures from LHN or elsewhere. State does not take responsibility for PHC, but provides some PHC services to reduce hospital utilisation.	Advisory council brings together state department, PHN, and LHN. See themselves as "*co-system managers*" (PHN interviewee). Memorandum of Understanding between state and PHN
7. Queensland	Becoming positive	3 PHNs are co-run by the LHN equivalent "of their own volition" – not encouraged by state department.	Had received considerable austerity cuts to health promotion / PHC structures. Recently reported to have moved away from being insular, difficult to engage.	Sees PHC as federal responsibility, but funds a few sexual health and community health clinics.	CEOs of PHNs and LHNs meeting regularly. Chair joint health forums, joint board dinners. PHN coordinator position as contact person.
8. Australian Capital Territory	Very positive	One territory-wide PHN, ongoing relationship with state since Divisions of General Practice and Medicare Locals.	Strong capacity	State funds considerable PHC – prevention, health promotion, e.g. obesity strategy	Regular governance meetings – coordinating committee with state department.

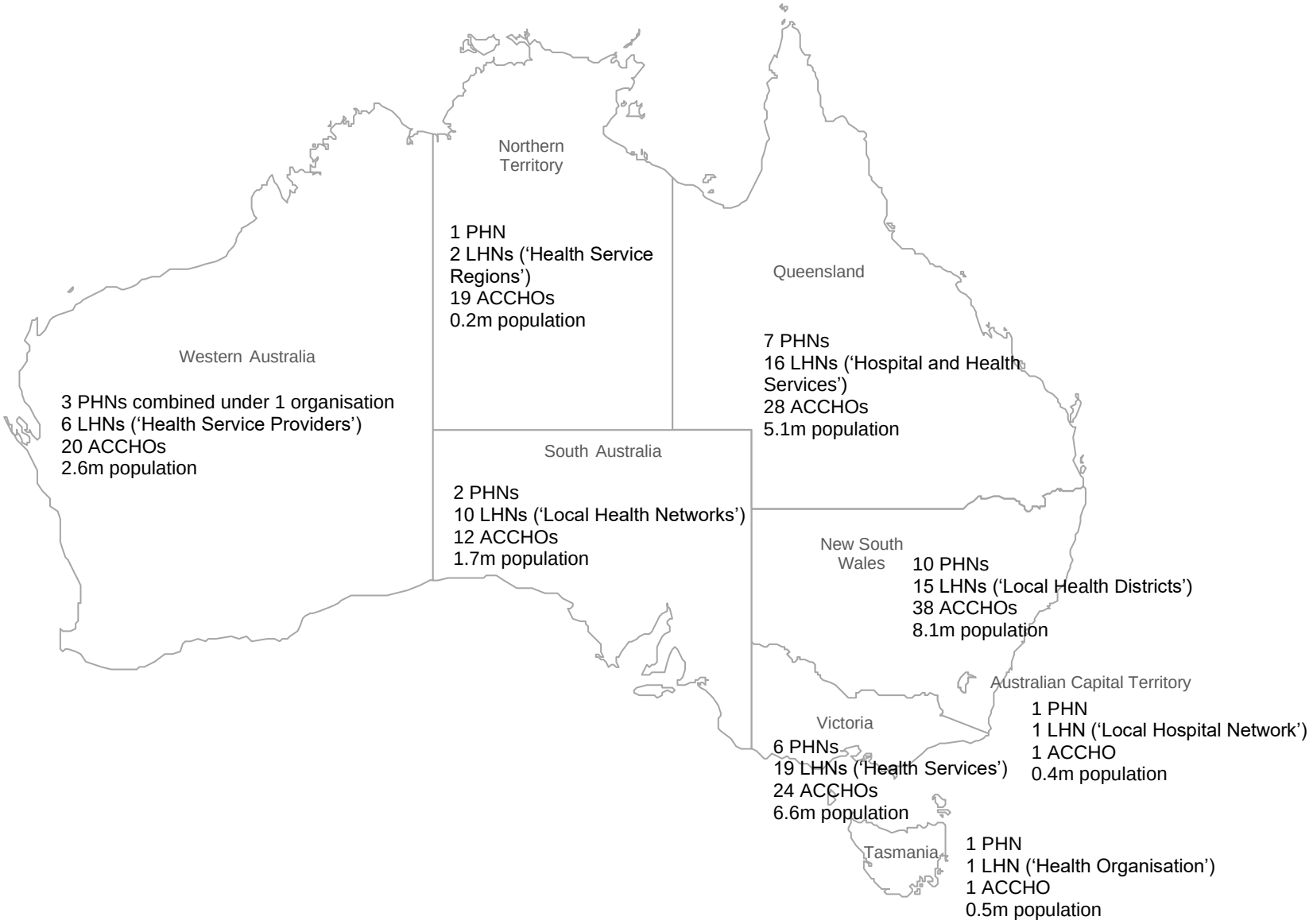
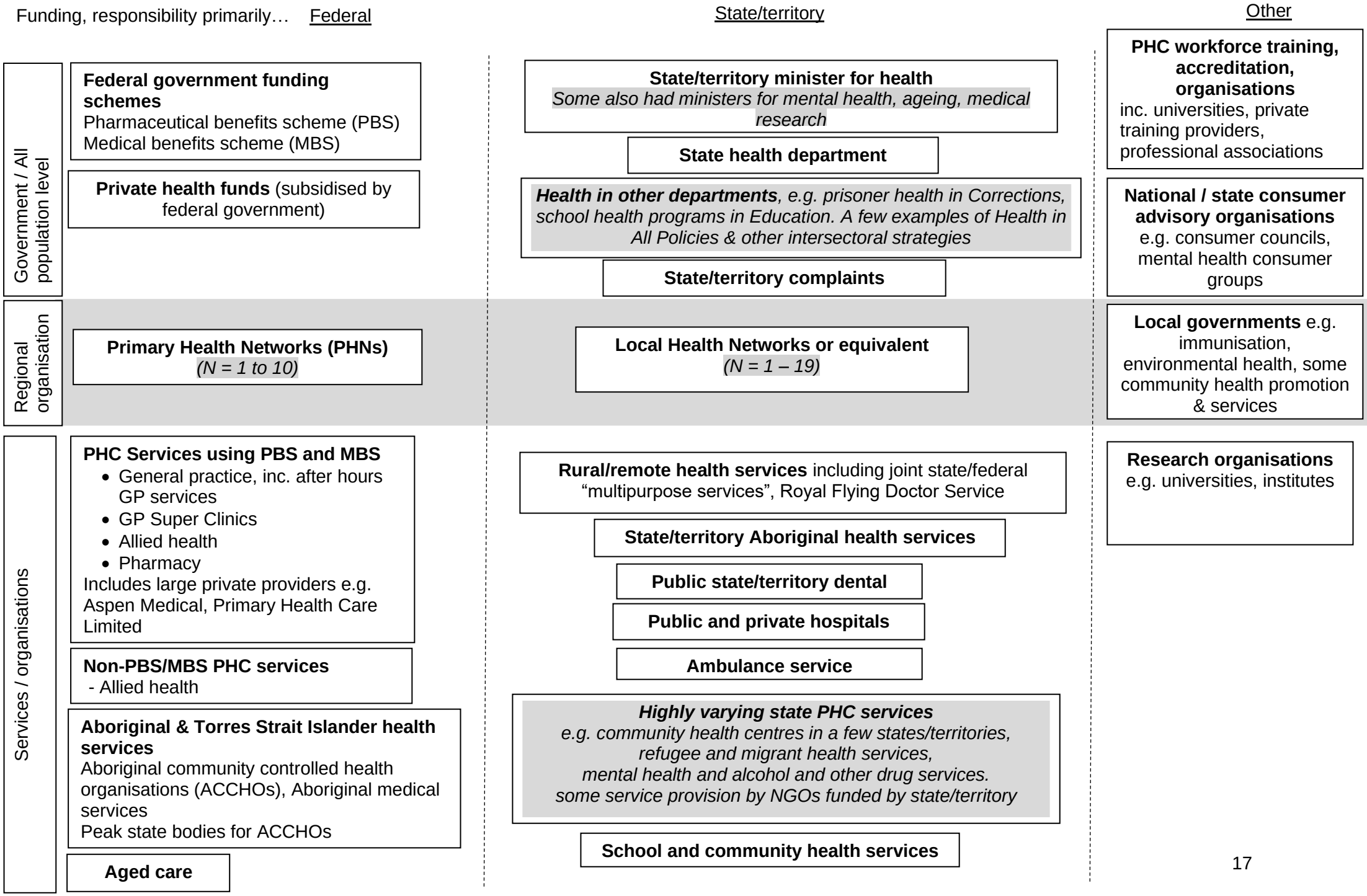

Northern Territory
1 PHN
2 LHNs ('Health Service Regions')
19 ACCHOs
0.2m population
Queensland
7 PHNs
16 LHNs ('Hospital and Health Services')
28 ACCHOs
5.1m population
Western Australia
3 PHNs combined under 1 organisation
6 LHNs ('Health Service Providers')
20 ACCHOs
2.6m population
South Australia
2 PHNs
10 LHNs ('Local Health Networks')
12 ACCHOs
1.7m population
New South Wales
10 PHNs
15 LHNs ('Local Health Districts')
38 ACCHOs
8.1m population
Australian Capital Territory
1 PHN
1 LHN ('Local Hospital Network')
1 ACCHO
0.4m population
Victoria
6 PHNs
19 LHNs ('Health Services')
24 ACCHOs
6.6m population
Tasmania
1 PHN
1 LHN ('Health Organisation')
1 ACCHO
0.5m population

Figure 1.


Funding, responsibility primarily…
Federal
State/territory
Other
Government / All population level
Federal government funding schemes
Pharmaceutical benefits scheme (PBS)
Medical benefits scheme (MBS)
Private health funds (subsidised by federal government)
State/territory minister for health
Some also had ministers for mental health, ageing, medical research
State health department
Health in other departments, e.g. prisoner health in Corrections, school health programs in Education. A few examples of Health in All Policies & other intersectoral strategies
State/territory complaints
PHC workforce training, accreditation, organisations
inc. universities, private training providers, professional associations
National / state consumer advisory organisations
e.g. consumer councils, mental health consumer groups
Regional organisation
Primary Health Networks (PHNs)
(N = 1 to 10)
Local Health Networks or equivalent
(N = 1 – 19)
Local governments e.g. immunisation, environmental health, some community health promotion & services
Services / organisations
PHC Services using PBS and MBS
General practice, inc. after hours GP services
GP Super Clinics
Allied health
Pharmacy
Includes large private providers e.g. Aspen Medical, Primary Health Care Limited
Non-PBS/MBS PHC services
- Allied health
Aboriginal & Torres Strait Islander health services
Aboriginal community controlled health organisations (ACCHOs), Aboriginal medical services
Peak state bodies for ACCHOs
Aged care
Rural/remote health services including joint state/federal "multipurpose services", Royal Flying Doctor Service
State/territory Aboriginal health services
Public state/territory dental
Public and private hospitals
Ambulance service
Highly varying state PHC services
e.g. community health centres in a few states/territories, refugee and migrant health services, mental health and alcohol and other drug services. some service provision by NGOs funded by state/territory
School and community health services
Research organisations
e.g. universities, institutes