






ORIGINAL RESEARCH

Potential role of general practice in reducing emergency department demand: A qualitative study

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Abstract

Objective: To inform local, state and national strategies intended to reduce demand for ED care, the present study aimed to identify key factors influencing the current provision of acute care within primary healthcare (PHC) and explore the policy and system changes potentially required.

Methods: Semi-structured interviews with key stakeholders were audio-recorded, transcribed verbatim and analysed through content and thematic approaches incorporating the Walt and Gilson health policy framework.

Results: Eleven interviews were conducted. Five key considerations were highlighted, namely the barriers and enablers for general practitioners (GPs) in providing acute care, barriers to patient use of PHC instead of ED, suggestions for new PHC models and improvements for current ED

models. Additionally, economic issues relating to clinic funding and GP remuneration, complexities of state or federal funding and management of urgent care centres (UCC) were identified. Potential policy changes included GP clinics incorporating emergency appointments, GP triage, further patient streaming and changes to the ED medical workforce model, as well as linking hospitals with PHC clinics. Suggested system changes included improving rapid access to non-GP specialists, offering qualifications for urgent care within PHC, developing integrated information technology systems and educating patients regarding appropriate healthcare system pathways.

Conclusion: The present study suggested that while PHC has the potential to attenuate the demands for ED services, a whole-of-system approach focusing on realignment of priorities and integrated changes are needed.

Key findings

- Primary healthcare has the potential to attenuate the increasing demands for ED services.
- A whole-of-system approach is required focusing on realignment of policy priorities and integrated system changes.
- Changes should consider funding models and logistics, workforce and training requirements, medicolegal obligations, care coordination, and patient navigation and education.

Key words: *emergency department, general practitioner, health policy, primary healthcare.*

Introduction

Increasing demand for ED services in Australia requires efforts to alleviate the pressure.^{1,2} Factors that influence ED demand are multifaceted and include system, flow and policy issues, inefficient coordination of services, and complex patient and population factors.³ It is estimated that 7–40% of ED presentations are potentially avoidable if patients have enhanced access to appropriate primary healthcare (PHC) services.^{4–8} However, further evidence is needed to identify and evaluate what would be required to engage PHC to

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mitigate some of the non-urgent demand on EDs,⁹ and their cost-benefits within an Australian context.

Our research on the expanded role of PHC as a suitable alternative to the ED for acute care explored the factors influencing the growth in demand for emergency healthcare.^{2,5,10–13} One of the research outcomes was the potential to divert demand to PHC, but that would require significant re-engineering of PHC to meet patient needs.¹⁴ Utilising stakeholders' engagement, the aim of the present paper is to explore potential barriers, facilitators and challenges of engaging PHC as an alternative pathway to the ED care.

Methods

This exploratory qualitative study incorporated semi-structured interviews (Appendix S1) with relevant stakeholders working in Metro North Brisbane. With a population of over 900 000, this geographical area is serviced by four major public hospitals and a wide range of primary care providers, including general practitioner (GP) clinics, GP co-operatives, a medical hub and allied health services. Further details about the study context have been published elsewhere.^{5,12}

Using purposive sampling approach, the research team prepared a list of positions and stakeholders within the health system who could inform the project objectives. The list identified around 30 positions and 100 individuals including directors, chairs, CEOs, practitioners and providers (e.g. GPs, emergency doctors and nurses), and health minister's office (e.g. advisors). Of these, 80 were general practices in Metro North Brisbane who were identified through postcode check via service finder (<https://www.healthdirect.gov.au/australian-health-services>). Participants from different backgrounds were included to ensure an inclusive approach to analysing the problem and providing relevant and appropriate alternative solutions.

All the identified individuals were contacted in writing and invited to participate. Multiple follow-up contacts were necessary to engage the

interests of potential participants and make appointments. Despite efforts to schedule and complete interviews by the end of 2019, many appointments had to be rescheduled, and in 2020 more were cancelled because of the spread of COVID-19. Consequently, interviews were conducted over a long period between November 2019 and July 2021. Interviews were conducted by GST or DGM with the assistance of an experienced nurse researcher.

None of the respondents were involved in the research. Given the longstanding position of the members of the research team working in MNHHS, some interviewees knew at least one of the researchers through work relations, reputations, and/or publications. Being aware of this situation, the interviewers ensured they did not discuss their personal beliefs/opinions during the interviews, although we cannot rule out possible influence or bias. Nonetheless, considering the interviewees' high level of expertise, long experience and authority within the health system, we believe the participants provided their professional views and not socially desirable answers.

A summary of the preceding findings was sent to the participants, including information about GP-type patients in EDs and urgent or acute care.^{5,12,14} However, respondents were left to interpret these concepts from their own perspectives. Interviews were audio-recorded, conducted in-person, via telephone or Zoom and lasted approximately 30–40 min.

Ethics approvals were granted by Queensland University of Technology (170000768) and The Prince Charles Hospital (HREC/17/QPCH/170).

Data analysis

Audio records were de-identified and transcribed verbatim, following which data management, coding and analysis were conducted concurrently, word by word and line by line independently by GST, DL and KAW. Content and thematic analysis^{15,16} guided the data management and interpretation within the Walt and Gilson analysis framework,¹⁷

which describes interconnected elements of health policy including context, actors involved, content and processes/implementation. Consensus was reached on the themes identified. Data saturation was considered to have been reached when no new information was forthcoming within the interviews.

Results

Eleven interviews (coded 01–11) were completed. As Table 1 shows, the median experience was 20 years in the healthcare industry. Recurrent themes are summarised and presented with examples of direct quotes in Table 2. Five core themes emerged as below, represented within the Walt and Gilson framework.¹⁷

Theme 1: Policy context: Barriers to provision of acute care in PHC

Even though GPs can and do see patients with emergencies unexpectedly in clinic (02, 03, 08, 09), significant external barriers exist to providing planned acute care within a PHC setting. A key barrier is inadequate remuneration within the current fee-for-service Medicare model, which does not account for increased time and complexity required for acute care (01, 02, 04, 05, 06, 07, 10). Remuneration for after-hours acute care is not currently viable for GPs (06, 09, 10).

GP clinics are not often set up for acute care because of high costs of consumables and specialised equipment, which are not remunerated by Medicare (01, 04, 05, 07, 08, 10). Availability of staff is a limiting factor (04, 05, 06, 07) and fully booked days with standard patients allows little leeway for unexpected and/or extra time taken with higher acuity and emergency patients (01, 05, 06, 07, 08, 09, 10). There is an inability to offer patient observation because of staffing, time and space constraints (05, 06, 07, 08).

Competition within clinics and with neighbouring GP practices is a barrier because of the funding model that encourages episodic care, and GPs are hesitant to 'share' patients,

TABLE 1. Characteristics of study participants (n = 11)

	n (%)
Sex	
Male	8 (72.7)
Female	3 (27.3)
Experience in healthcare industry	
5–10 years	1 (9.0)
10–20 years	4 (36.4)
20–30 years	2 (18.2)
>30 years	4 (36.4)
Experience background	
Medical	8 (72.7)
Nursing	2 (18.2)
Pharmacy	1 (9.0)
Experience in current role	
<5 years	7 (63.6)
5–10 years	2 (18.2)
>10 years	2 (18.2)
Current role category	
Directly involved in ED policy making	4 (36.4)
General practitioner	6 (54.6)
Triage in ED	1 (9.0)

therefore referring to the ED rather than cross-referring to GPs with special interests (01, 03, 07).

Other barriers for procedural GPs include higher insurance premiums, risk of litigation, higher likelihood of Medicare audits (02), and limited opportunities to use skills in practice once trained (01). Of note, what could be considered a barrier to GP care is that if those non-urgent patients self-present to the ED first, the triage nurse is unable to advise them to leave the ED and see their GP, even if it appears highly likely their issue can be managed in an outpatient setting (11). If adopted, this approach would need to be managed cautiously, with more time to undertake a triage assessment to ensure critically unwell patients were not sent away from ED inadvertently (10).

Internal barriers for GPs in treating acute care patients include limited skill and confidence (01, 03, 05, 07, 10), other intrinsic interests

(01, 02, 03, 07, 08) and the changing inherent goals of general practice to include more of a long-term focus (01, 02, 03). One respondent disagreed with the notion that GPs needed additional further training but rather ‘just practical help’ (04).

Theme 2: Actors: Barriers to patient use of PHC instead of ED

From the participants’ perspectives, perceived patient decisions to choose ED instead of a PHC clinic is influenced by four main factors:

- Timely access: GP not available for on-the-day appointments (01, 05, 06, 08, 09, 10), particularly afterhours (01, 02, 03, 05, 06, 09). It was suggested patients felt they required immediate or urgent care and therefore did not want to wait for a GP appointment (01, 05, 06, 07).

- Convenience: ability for ED to provide all assessment, investigations and management as a ‘one stop shop’ (02, 05, 06, 07, 08, 09, 11).
- Patient perception that their GP was unable to manage their condition because of lack of skill or resources (01, 02, 05, 06).
- Cost: present to the ED because it is free (02, 10), another participant disagreed this was a factor (05).

Taking these factors into account, the role of patient education was discussed. GPs (01, 06, 08, 09, 11) and telephone services such as 13Health (05) have a role in educating patients about alternative health services for non-urgent conditions. Public health promotion campaigns (01, 05, 06, 08, 09) and the ability for patients to access a self-directed questionnaire/app, which screens and directs them to the appropriate place (05, 06, 10), are also ways to encourage patients to attend their GP rather than ED.

Theme 3: Policy content: Suggestions for a new healthcare model

Most participants felt that maintaining the status quo was not sustainable in long term (01, 02, 04, 05, 06, 07, 09, 10). The current disconnected federal-state responsibilities and funding model were not viable (02, 05, 06).

Alternative models discussed included dedicated, integrated health hub or day care unit (05) for less acute cases, or specific acute care centres where prompt care could be provided (07), incorporating a ‘one stop shop’ (04, 06, 10) where assessment, investigations and treatments can be performed and referred to a hospital if requiring admission. The workforce staffing such centres could include GPs (01, 06) and allied health (02). A key suggestion raised was the ability to train and provide ‘sub-acute’ doctors for urgent care, that is, not purely GP or emergency physician, but an ‘in-between type of qualification’ (02, 05). This could

TABLE 2. Summary of recurrent themes and representative example of direct quotes from study participants (n = 11)

Themes	Examples
<i>External barriers to provision of acute care in PHC</i>	
Inadequate remuneration	<p>...The way that GPs are funded through Medicare drives them away (01)</p> <p>...[GPs] are not remunerated according to what they do...for the work and effort they put in, simple as that (02)</p> <p>Remuneration fee for service, does not allow for spare capacity (04)</p> <p>...Especially with the time limit that Medicare rebates and the kind of item numbers that they have, it limits and disincentivise a lot of GPs... it's almost to the law of diminishing returns, the more time you spend with somebody, the less you're actually going to be paid for it (07)</p> <p>It's a lot of effort for not a lot of remuneration... gradual eroding of the overall value of the bulk-billed consult is causing a problem (10)</p>
Lack of equipment	They need to have the fluids, they need to have that stock, they need to have that equipment (08)
Staffing availability	I don't necessarily have any support, it might just be me and the receptionist (07)
Lack of time	<p>They'd like to see more but they've got one doctor on who's working (06)</p> <p>Don't have the time (02)</p> <p>Very high expectations that when [standard GP patients] come to see you they're going to be spending their full allotted time (07)</p> <p>The less comfortable you are doing that the more time it's going to take. And time is very important in general practice (10)</p>
No capacity for GP observation	<p>They need to lie down somewhere...general practice is not set up for that (05)</p> <p>There's no funding for that observation part as well (06)</p> <p>It does require that you have nursing staff who can keep an eye on those patients (07)</p>
<i>Internal barriers for GPs</i>	
Higher referral rates to that acute sector because you don't feel as though you're seeing as many of them (03)	
There's fewer and fewer and fewer GPs that do that sort of stuff (01)	
<i>Barriers to patient use of PHC instead of ED</i>	
Perceived patient reasons to use ED (from the respondents' perspective)	<p>Then we're closed, then they have to go up to emergency if they think it's a problem (09)</p> <p>They can't access anywhere else (05)</p> <p>They see it as really urgent so whether it's urgent or not, it's urgency from their perspective, not urgency from doctor or triage nurse's perspective, it's what they think and that's very important I think for us, that when we plan the service, we have to plan it from the patients' perspective as well and take that into account (07)</p> <p>The problem with sending someone back to a GP is if the GP can't do the full workup (11)</p> <p>EDs have become the department of convenience (02)</p>
Patient education	<p>You just basically say to them first step is the GP, or advertising the long hour centres (09)</p> <p>Consumers need that kind of information...go through the questions, look you probably don't need to go to an emergency department, you probably need to see a GP (05)</p>
<i>A new healthcare model</i>	
What's that alternative going to be, it is not the emergency department, it might be nearly emergency department but it's not run by ED consultants (02)	
<i>Current ED model</i>	
We are unable to support ambulatory services as we are continuously bed blocked and have no patient flow (04)	
We have to change our medical workforce model because that middle grade won't exist they're just not coming through anymore (02)	

TABLE 2. *Continued*

Themes	Examples
	Sometimes we have got to chase things up to see what happened in the hospital, like the patient cannot tell you very accurately what happened, what the diagnosis was (08)
<i>Enablers for GPs</i>	
Funding	...Whether there should be a new item for these sort of more urgent care presentations (07)
GP as triage	You can do a quick assessment, arrange appropriate imaging or patch them up (07) Potentially upgrading that to more of a telehealth type, video type format (10)
Emergency appointments	Having some spare slots in the day when you can just deal with on-the-day appointments (07)
Rapid access to advice	I still think the opportunity in primary health, unless they've got access or relatively rapid access to say more senior medical support, I think is difficult for them to take on the role of more acute management of patients (05)
Linking in with hospital	I would think it would be helpful having a clear program in terms of the people involved the hospital, I think making it linked with a particular GP or GP centre makes more sense (10) Change what the focus is based on what we're seeing in the data and the pressure on the system so that you're doing [preventative actions before] it's actually needed (03)
Improving training	Allowing [GPs] paid time to do other stuff, to improve their skills, we get paid as part of our award, why aren't GPs encouraged to develop their interest and become technologically better with whatever they're doing, they do that in their own time (02)
Expanded scope for ED nurse triage	Maybe do something like this as a gatekeeper to check them and if [patients] are suitable for primary care just tell them. Even if it's at midnight, and no GP available, they can say you can wait until tomorrow and then go to the GP (09)

GP/s, general practitioner/s; PHC, primary healthcare.

be offered by current medical colleges, or through the creation of a new college, for example a College of Urgent Care (01). A novel suggestion is for acute care clinics to be held in unused GP clinic rooms afterhours (06).

Issues with dedicated urgent care centres (UCCs) include funding for sourcing, set up and operation, governance (state *vs* federal), unclear scope of practise and ensuring no 'double handling' of patients who end up presenting to the ED anyway. It is also important to clarify that the area does not in fact need an extra hospital rather than an acute care centre (05). One participant opined previous standalone urgent care models have not worked, and a

successful alternative would need to be informed by patient needs and wants (02).

Theme 4: Policy process: Suggestions for improving the current ED model

Barriers to patient flow and 'bed block' are significant issues limiting EDs functioning (04, 05), impacting the care of all patients, not just lower-acuity ones. One suggestion is moving patients who no longer require acute hospital care (from both ED and inpatient wards) to hotel or residential care beds owned by the hospital (05).

Strategies for improving the workforce model include hiring salaried

GPs to work in EDs focussing on subacute patients (02, 09, 10), replacing junior doctors with more experienced registrars/consultants thereby enabling more efficiency (02), or extending nursing practitioners' scope of practice (05).

Further streamlined patient areas and specific GP-type stations within ED could also improve healthcare delivery (02, 11). Another significant issue identified is communication between PHC and ED sectors, with suggested improvements including prompt and accurate discharge summaries (02, 07, 08, 09, 10, 11), or seamless IT integration between GP clinics, community pharmacies and hospitals enabling 24/7 information access (02).

Theme 5: Policy implementation: Enablers for GPs in providing acute care

New Medicare item numbers to cover and incentivise management of acute presentations were repeatedly suggested (01, 02, 04, 05, 07, 08) as it is possible to manage lower acuity patients in a GP setting (09, 10). Improved Medicare funding could make hiring extra staff a viable option (06, 09) or provide the clinic the ability to assign a dedicated GP to triage, assess and refer (05, 07, 09, 10).

Having emergency appointments available at short notice within the GP clinic for acute care may aid in the timing issues (01, 07, 08, 10). In addition, appropriate access to education as part of ongoing professional development could improve barriers regarding clinician skills (03, 07), and paid time for this could provide incentive (02).

Linking in with the hospital is an important concept raised and includes providing GPs rapid access to non-GP specialists so patients do not have to attend ED just to access advice from a certain specialty (04, 05, 11), or by providing better access to direct admission once the GP has assessed the patient therefore bypassing the ED (01). Establishing linked relationships between PHC and hospitals could facilitate collaborative care (03, 04, 05, 10) and clarify what services GPs can provide in practice (05, 10).

By identifying key areas for pre-hospital intervention, GP clinics and hospitals can work together to reduce ED presentations. Sharing of ED data or hospital-held professional development (03) can provide information regarding timings of acute presentations. This can enhance certain preventative healthcare measures for specific conditions, for example COPD/asthma, in order to reduce those presentations to the ED (02, 03, 07).

Discussion

The identified key themes for consideration in managing the provision of acute care in non-ED settings have economic, policy and system

implications. From an economic perspective, Australian PHC is nationally funded,¹⁸ and the present study suggests that currently there are significant barriers to a GP's role providing acute care as this is not adequately remunerated in regards to time, staffing, equipment and training. Despite initiatives and integrated models of PHC, we are yet to see significant and sustained reduction in demands for potentially preventable ED presentations.¹⁴ If GPs are provided incentives (financial and others), this may facilitate interest and encourage scope of PHC to routinely extend to acute care, as was standard practise in the past.¹⁹

A reduction in unhelpful and unnecessary competition among PHC providers can lead to the creation of an established network of GPs. Those with defined special interests could also enable access to subspecialised advice in a PHC network, wherein GPs can cross-refer rather than just sending their patient to the ED. This also generates a system resilience that could withstand surge in demands such as during disasters or pandemics. Furthermore, GP-led patient observation and monitoring in clinic may provide substantial relief for ED patient flow.

Other economic considerations include the concept of state *versus* federal funding, and responsibilities for a new model of healthcare such as UCCs to ease ED patient load. Previous literature has suggested that walk-in clinics and GP co-operatives have potential to reduce ED presentations.²⁰ However, there is limited evidence to support practice or policy decisions on how GPs most effectively work within these service models.²¹⁻²³

At this stage, it is unclear whether opening separate UCCs is a viable option because of complexities in clinical management, governance and allocation of workforce and resources. A successful alternative needs to be clearly informed by patient needs and wants, which will require more research and differ according to patient population and location. The importance of meaningful and authentic patient engagement²⁴ in the co-planning, co-designing, co-

development, co-delivery and co-evaluation of ED solutions is currently seconded to the organisation-centric and place-based approach to providing care.

Suggested GP policy changes include the ability for clinics to offer daily emergency appointment slots with appropriate timing, and the potential for GP triage either at EDs or GP clinics. GP triage includes a brief assessment, ordering preliminary investigations and therefore directing the patient to be managed in ED or PHC (07). This is largely already being done in PHC. Alternatively, there could be a duty triage nurse at GP clinic, similar to the ED nurse triaging (07), who could direct the day's PHC patients appropriately. However, expanding the scope of ED/GP nursing triage to appropriately suggest patients wait to see their GP will require development of relevant governance protocols, ensuring adequate time and training to assess, and recognising potential training and medicolegal implications.

Australia's telephone health lines are staffed by nurses^{25,26} or emergency physicians; there is a telehealth service available as part of the national Health Direct 'GP call back' initiative. Previous studies suggest telephone triage may reduce patient workload for EDs.²⁷ However, some patients still decide to present to the ED contrary to telephone advice.^{12,28} Furthermore, phone triage commonly includes advice to present to the ED if the symptoms persist or worsen. While not inappropriate from a safety net perspective, this may potentially undermine confidence, thus some patients may present anyway since self-perceived urgency has been demonstrated as a major factor for presenting to the ED.^{11,12}

Suggested ED policy changes include further patient streaming, 'GP areas' (depending on local patient requirement and demographics), and more salaried GPs and other subacute doctors working within ED. There is a niche market for those in the workforce who are not on specialised training programmes (or experienced ED consultants who are looking to transition to retirement), and who can be utilised as highly-skilled staff

working independently in acute care. A policy of building professional networks by linking hospitals with GP clinics can enhance prehospital interventions using ED data or facilitate early patient discharge by ensuring adequate follow up, therefore freeing up ED beds and reducing access block.

Suggested system changes are improved ability for GPs to refer to on-the-day non-GP specialist clinics or prompt access to other specialist advice, enabling care to remain within a PHC setting. Theoretically GPs can contact the nearby hospital specialist for advice; however, it is unknown how commonly this is utilised in an urban setting. Offering urgent care training pathways is likely feasible under current colleges such as the Royal Australian College of General Practitioners, Australian College of Rural and Remote Medicine or the Australasian College for Emergency Medicine (rather than creation of a completely new urgent care College).

The capability to integrate IT systems nationally between primary care clinics and hospitals would ensure seamless transfer of patient information such as medical history and current medications. In addition, artificial intelligence may be useful in predicting surge in usage and treatment outcomes, workforce allocation and even potentially early identification of future pandemics.²⁹ Finally, public health promotion or education by GPs may result in more patients accessing alternate appropriate healthcare system pathways.

Limitations

The interviews coincided with the COVID-19 pandemic making it extremely difficult to schedule interviews, with a smaller sample than desired as we did not capture the views of a broader range of health professionals (e.g. allied health, emergency staff). However, the participants came with decades of experience within the health system, some working across both ED and GP sectors. The findings also corroborate the current knowledge about ED demand management, and as

such, we are confident in the robustness of the information.

The scope of our project was focussed to Brisbane Metro North area, to ensure that the patients would have access to both public hospitals and PHC. Therefore, caution needs to be exercised when generalising the findings to other geographical and social contexts where population demographics and access to hospital and primary health services may differ.

In the present study, we did not impose a specific definition of concepts such as 'GP-type patients' or 'acute care' as these are contentious and out of the scope of our project. Future studies are required to seek to understand what these concepts mean from the perspectives of care providers and recipients.

Although we surveyed patients in our earlier studies (results published),^{10–12} they were not included in this qualitative phase because of logistics. Future recommendations for research include a larger sample size with broader stakeholders (including ED and GP patients, and community members) to enable further exploration of the key issues identified.

Conclusions

The findings contribute to the understanding of ED demand management through expanded PHC. Major barriers including workforce, funding and competing actors require economic, policy and system changes to improve the provision of acute care in non-ED settings.

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Author contributions

KAW: analysis and interpretation of data, drafting of manuscript, revision/publication editing. DL: conceptualisation, methodology, investigation, analysis and interpretation, review and editing. GST: conceptualisation, methodology, investigation, data collection and management, interpretation, review and editing, supervision and administration. GF: conceptualisation, methodology, acquisition of funding, supervision, interpretation, review and editing. FBK: conceptualisation, facilitating data collection, interpretation, review and editing. DGM: conceptualisation, acquisition of funding, data collection, interpretation of the findings.

Competing interests

None declared.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Supporting information

Additional supporting information may be found in the online version of this article at the publisher's web site:

Appendix S1. Semi structured interview guide.