Integrating the Canberra Hospital ED with after hours primary health care services – Final Report

Capital Health Network

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1 Executive Summary

Background to the scoping study and business case

The Australian Capital Territory has an established range of after hours primary health care services, encompassing multiple primary care, emergency and advising services. While there is a range of after hours services available, the services are not well integrated. The aim of the primary care services and emergency department (ED) integration scoping study is to assist the Capital Health Network (CHN) and local healthcare services to reduce avoidable low acuity ED presentations through improved integration of the Canberra Hospital (TCH) ED with after hours primary care services.

The study involved data analysis, literature review, and consultation with ACT Health sector stakeholders. Despite the range of services available in the ACT, our data analysis indicates that high levels of ED usage by lower acuity patients (particularly among younger age cohorts and by repeat patients) identify room for improvement in how patients access and perceive the role of the ED. These findings are supported by the literature review and consultation with multiple key stakeholders.

Recommendations for improved integration

Based on the literature review, data analysis and initial consultations, ten potential options for improved integration were identified and workshopped with key stakeholders. The workshop reached clear agreement that – of these ten options – four recommended interventions should be worked up in a business case. The proposed interventions comprised three shorter term actions and one longer term, dual-part action. The project Reference Group confirmed that the four options should be scoped and, if financially viable, pursued.

The focus of this study and the business case is on the after hours period. However, introducing the recommended interventions solely in the after hours period could be confusing for patients and service providers, and could compromise their effectiveness, as well as the value for money of establishing the services. Accordingly, the business case recommends that the changes are made available across the full operating period of the relevant services.

Shorter term recommended interventions

The three interventions below are recommended to be pursued. Their implementation would involve some establishment and start-up costs, but the business case found that savings that are likely to accrue would justify these initial costs.

Development of a comprehensive online service directory for the ACT

Research and consultation emphasised the importance of patient awareness of their healthcare options and effective communication and access to information regarding primary care services. It was observed that there are low levels of awareness within the community about the availability and variety of services. Accordingly, there is a need for an authoritative, comprehensive service directory for primary care services in the ACT. The proposed model is the development of an online, interactive directory for the ACT, which lists opening hours, locations, cost and service availability and, wherever possible, any specialised focus of service providers or personnel. For the directory to be successful it would need to be hosted and maintained by a single organisation, with maintenance funding available to ensure it continues to be accurate and useful.

Paramedic-led diversion to alternative primary care services

The second proposed intervention focuses on referring and diverting lower acuity patients who access ambulance services to more appropriate care alternatives. It involves the cooperation of CHN, the ACT Ambulance Service (ACTAS) and ACT Health.

The opportunity to coordinate with ACTAS to reduce divertible, lower acuity transports to the ED was unanimously supported by stakeholders. It was perceived as a quick win to reduce lower acuity ED presentations in both the shorter and longer term. Analysis of ACTAS data indicated that over 20 per cent of after hours call outs to the ambulance do not result in transport to the ED, and over 60 per cent of Triage Category 4 and 5 patients who arrive at the ED via ambulance are not admitted. These figures suggest significant potential to reduce ED presentations.

The recommended approach focuses on diverting patients from ED at three points in their contact with ACTAS: at the point of their initial call, following initial assessment by a paramedic, and transporting patients to a service other than ED. Implementing this approach would involve developing protocols for assessment and management of patients at each point, and processes for transporting and receiving patients at other service locations.

Adoption of improved aged care services

To reduce rates of presentation, admission and bed block among older patients, it is recommended that a model for aged care outreach through TCH is identified, designed and implemented. This approach would provide care and support to older people in residential aged care or their own homes and reduce the need for them to attend ED or be admitted to hospital. To ensure the success of this intervention, it will be necessary to provide support and education for outreach support staff and GPs, and to coordinate with Calvary Hospital's aged care outreach programs to ensure that the new model minimises duplication and geographical overlap.

While there is limited evidence available about the financial impact of programs of this nature, results available indicate a positive impact on patient care as well as savings for service providers. For example, the "Hospital in the Nursing Home" (HiNH) intervention program undertaken in two Queensland hospitals achieved a 17 per cent reduction in ED presentations from RACF residents, a 47 per cent reduction in hospital admission per RACF bed, and a 36 per cent reduction in the adjusted hospital admission rate per ED presentation following the intervention. Achieving similar results would result in significant improvements in the health care system for older people. These results would lead to significant savings, particularly through reduced inpatient admissions.

Longer term recommended interventions

Further integration of the Walk-in Centres

Walk-in Centres (WICs) provide nurse-led, one-off treatment for people with minor illnesses and injuries. Two WICs currently operate in Canberra, and the ACT Government has announced establishment of three more. There are currently no doctors or medical imaging facilities in the WICs.

Research and consultation has indicated that services similar to WICs, but which also include general practice and medical imaging capacity have been successful in treating a wider range of patients than the ACT WICs and diverting patients from ED. For example, for the Urgent Care Centres operated by St John's Ambulance in Perth that include GPs and x-ray, data indicates that 30-44 per cent of patients attending the UCC would have gone to ED if the UCC was not an option.

Analysis of potential demand for GPs and x-ray at the WICs indicates that it is highly unlikely that there would be sufficient demand currently to justify inclusion of GPs and x-ray service at all WICs. However, data suggest that a single GP and x-ray service at one WIC would be well used, and it is recommended that this approach be pursued. The Belconnen WIC currently has the infrastructure in place to commence x-ray services and is located close to the areas of Canberra with the highest population growth. It would be a logical location to include these services and test whether there is demand to support expansion to other WICs.

There are likely to be significant concerns raised by GPs about competition from the WICs, and to assist to manage these concerns it will be important that WICs maintain their current minor illness and injury scope of practice and do not become equivalent to a standard general practice. There is also the potential to establish arrangements with local GPs to manage patients who present with conditions at the WIC whose conditions are out of scope.

Staging and implementation

All of the interventions proposed above would have a positive impact on the ACT after hours primary health care system, and each could be implemented separately or in conjunction with any other. However, there is a likely compounding benefit associated with implementing all four interventions.

To build and implement a model incorporating all four interventions would require staged implementation with the likely indicative timeframes:

- Development of the online service directory could commence in the first 3 months, with online publication occurring within the first 6 months. The service directory would need to be maintained on at least a monthly basis thereafter.
- Paramedic-led diversion and referral could be introduced within the first 6-9 months, led by a partnership between CHN, ACTAS and ACT Health.
- Changes to aged care services at the Canberra Hospital could commence within 6-9 months, with assessment for full roll-out occurring after a 12-month trial.
- Alterations to the WICs could occur in a staggered manner.
    - Introduction of medical imaging services could occur within 12 months, including procurement, installation and recruitment of radiographers.
    - Given the need for significant negotiation with the local GP community and medical peak bodies, the coordination of WICs with local general practices and the commencement of the Belconnen WIC offering medical services may take 18-24 months to establish.

2 Introduction

The aim of the primary care services and emergency department (ED) integration scoping study is to assist the Capital Health Network (CHN) and local healthcare services to reduce avoidable low acuity ED presentations through improved integration of the Canberra Hospital ED with after hours primary care services. The study has developed options that aim to support lower acuity patients to seek and receive the right care at the right time.

To achieve this, the study involved data analysis, literature review, and consultation with ACT health sector stakeholders. Despite the variety of services available in the ACT, our data analysis indicates that high levels of ED usage by lower acuity patients (particularly among younger age cohorts and by repeat patients) indicate that there is significant room for improvement in how patients access and perceive the role of the ED (Section 3.1). These findings are supported by the literature review and consultation with multiple key stakeholders and have led to the development of recommendations for improvement (Section 3.2).

2.1 After hours primary care services in the ACT are offered by multiple independent providers

The Australian Capital Territory has an established range of after hours primary health care services, encompassing multiple primary care, emergency and advising services. These include public EDs at the Canberra Hospital (TCH) and Calvary Hospital (Calvary), as well as ambulances, pharmacies, general practices (GP), the Canberra Afterhours Locum Medical Service (CALMS), the National Home Doctor Service. The ACT is also the only Australian jurisdiction with two publicly run Walk-in Centres (WICs), with three additional WICs in planning and development. Though there are multiple primary care alternatives to ED in the ACT, this scoping study has been commissioned in response to concerns that consumer usage of after hours primary care services results in significant numbers of avoidable low acuity presentations to EDs, and particularly to TCH ED.

The after hours period is defined as any time before 8am and after 6pm weekdays, before 8am and after 12pm Saturdays, and all day Sunday and public holidays. The services available across this period are not homogenous. For example, the ACT Health WICs operate from 7.30am to 10.00pm seven days a week, and are therefore available for some, but not all of the after hours period. Similarly, a number of extended hours general practices are also available for part of the after hours period. In addition to the hospital EDs, the Canberra After Hours Locum Medical Service (CALMS) and the National Home Doctor Service provide home visiting and/or clinic-based services across the full after hours period.

2.2 After hours primary health care delivery in the ACT would benefit from greater integration

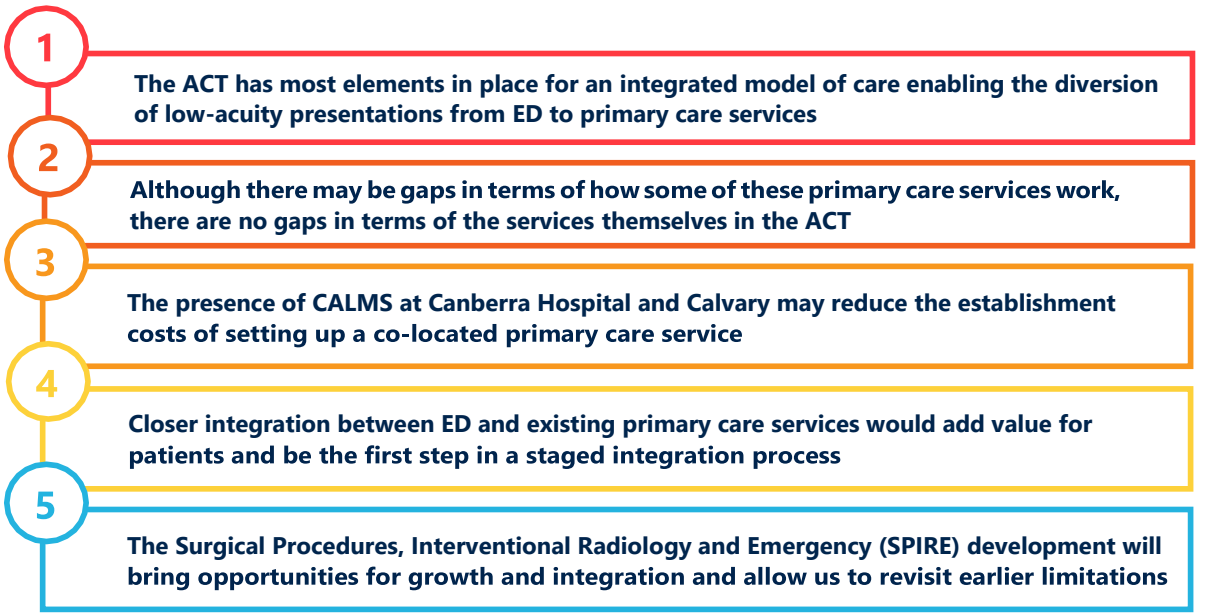
The recommendations in this document aim to support development of a more integrated health system. Since the late 20th century, research has suggested that more integrated models of ED and primary care services would reduce the demand for emergency hospital care by redirecting lower acuity presentations to other care providers. This in turn would increase the capacity of EDs to provide care for urgent and emergency cases, help lower work stress, reduce time-delays for required treatments, and lower ED overcrowding.

The elements of successful models of integration between EDs and primary care services after hours incorporate and address many of the key directions of national health reform in Australia, including:

- Informing and empowering consumers, enhancing consumer experience of care;
- Developing a greater focus on early intervention and provision of service away from hospital settings;
- Ensuring that the health system operates effectively and efficiently for people with chronic health and mental health conditions;
- Enabling access to quality care for groups of vulnerable people;
- Improving the efficiency and effectiveness of health services; and
- Improving system effectiveness and efficiency, through the greater integration of the health and social care system, including residential aged care.

Achieving improved integration is certainly possible in the ACT context – indeed a number of aspects of the existing ACT system are well positioned for further integration. Specifically, there are five key enablers which support the continued development of integrated care in the ACT (Figure 1).

Figure 1: Enablers for successful integration in the ACT context



However, despite offering multiple service options to patients, there is agreement among stakeholders that the current after hours primary health care system is not optimally integrated to support well-informed and appropriate healthcare choices. Namely, there is an ongoing bias towards attending ED as a default in the after hours period.

This is not an ACT-specific phenomenon – throughout the world, EDs represent trusted, front-of-mind services that provide all-hours, low-cost multipurpose healthcare. However EDs, by necessity, focus on short-term episodic care, whereas GPs have a greater emphasis on continuity of care and longer-term relationships with patients. Attending ED as a proxy for regular access to primary care services, and limited integration or continuity of care between providers, can result in less optimal care for patients.

To enable better continuity of care, reduce congestion and wait-times within EDs, and lessen the burden on Canberra Hospital emergency doctors, nurses and other staff, it is necessary to promote further integration at the system level, supported by awareness raising at the patient level. Numerous factors.inform a patient's choice to go to ED, and to make the most appropriate choice they must be supported by a wide availability of services and an easily navigable system.

2.3 Our methodology harnessed local expertise to develop solutions

To structure the scoping study, Nous used a three-step methodology to collate and test findings and collaborate to develop solutions. Our approach drew on ACT data, as well as knowledge of and engagement with stakeholders, and our previous experience in the sector. Notably, this report and its recommendations build on the findings from a previous scoping study on further integration of the ACT Ambulance Service and primary health care services in the ACT. That study was commissioned by CHN and carried out between May 2017 and February 2018.

To build on the findings from the ambulance integration study, Nous pursued a methodology grounded in desktop research, data analysis and interview and workshop consultations with key stakeholders. The methodology for the study is described in Table 1.

Table 1: Nous' three-stage methodology

	Stage	Components
	1 Research and analysis	• Literature review • Stakeholder consultations • Data analysis
	2 Development of draft options	• Consolidate and test findings • Workshop draft options with key stakeholders • Consolidate feedback and refine proposed interventions
	3 Finalise preferred options and develop business case	• Finalise preferred options • Conduct cost-benefit analysis • Finalise business case

This document is the outcome of this process, and consolidates findings drawn out over the course of the scoping study. A list of organisations and key individuals involved in the Reference Group and broader consultation process, and consulted with in each stage of the project, can be found in Appendix A.

3 Business Case

It is clear from our research that integrated patient-centred care has the potential to improve patient experience, continuity of care, and the efficiency of the health care system as a whole. Though the ACT is relatively well served by after hours primary health care options, evidence identifies clear areas for improvement in service access and provision of care.

A note on lower acuity presentations

It is important to note that there is no way to determine with certainty which presentations in the dataset can be deemed lower acuity patients – not all lower triage categories (or Cat 4 & 5) presentations are necessarily low acuity, and not all higher triage categories are necessarily more suited to treatment in the ED context. The triage scale assess urgency rather than complexity. The following summary, therefore, uses triage categories 4 & 5 (Cat 4 & 5) presentations – and particularly non-admitted Cat 4 & 5 presentations by repeat Cat 4 & 5 patients – as a proxy for lower acuity presentations, to indicate the extent to which ACT residents could benefit from more informed or streamlined access to alternative services. Lower acuity is therefore used to refer to a broad group of patients and does not capture nuances in individual presentations. Nonetheless, our proxy definition identifies a similar proportion of lower acuity patients to a 2013 Australian longitudinal study which concluded that 10-12 per cent of patients attending EDs are suitable for general practice.[1]

A note on data timeframes

For the scoping study, Nous analysed ACT Health and Calvary Hospital data from mid-2012 through to mid-2017. The majority of insights in this document focus on the two-year period 2015-2016, using data from TCH ED and ACTAS, as well as data from the WICs from mid-2011 through to mid-2017, with a focus on the financial year July 2016-June 2017. The majority of the ED-related statistics below are specific to TCH ED, excluding the sections on ACTAS and the WICs. Aggregation of data means that reference to ED in these sections refers to both TCH and Calvary. These two years (2015-16) were selected to reduce the extent to which the data reflected unusual circumstances of a single year. Restricting the analysis to recent years' data also ensured that the data, particularly activity volumes, are reflective of current activity. All costs and savings are calculated on an annual basis, taking the average per year across any period considered.

3.1 Inefficiencies in the current after hours primary care system reduce timeliness and appropriateness of care for patients

Areas for improvement in primary care service integration in the ACT are made clear by data from TCH, the WICs and ACTAS. Our analysis indicates that increasing usage of ED services includes increases in attendances by lower acuity patients, many of whom do not wait for treatment or are not admitted, and who could receive more appropriate treatment elsewhere. Moreover, it indicates that there is significant room to increase the number of patients who can have their care episode completed at a WICs and patients who could be more appropriately referred by ambulance professionals to services other than ED.

Emergency departments in the ACT are highly utilised and experiencing growing presentation rates

Over the last five years, a majority of ACT residents have attended a local ED (approximately 380,000 unique patients between July 2012 and June 2017). Over 54 per cent of the overall 654,000 presentations were made by Cat 4 & 5 patients. Over this period, the growth rate for ED presentations has continued to increase across both hospitals, but with significant growth at TCH – growth from the financial year 2015-16 to 2016-17 was 9.5 per cent. This growth has occurred across all triage categories but is most pronounced among Cat 3 & 4 patients.

The highest overall numbers of ED attendance are concentrated among children under 6 years old and 18-36-year-olds are particularly overrepresented, especially among Cat 4s and 5s. This phenomenon is present across both hospitals, with a pronounced increase in attendance by these cohorts in the after hours (AH) period. These trends suggest a disproportionate bias among young parents, young adults and university students, and adults in their early thirties to default to ED attendance in the after hours period.

Every day, more than 90 triage category 4 and 5 patients present at ED and are not admitted to the hospital, including five patients who do not wait for treatment

A proxy for ED usage by lower acuity patients is the significant number of Cat 4 & 5 patients who present to ED and are not admitted, including those who do not wait for medical treatment. Between January 2015 and December 2016, Canberra Hospital ED had 157,000 presentations (86,600 AH). Of these presentations, approximately 6 per cent did not wait for treatment (8 per cent AH).

There were 85,480 presentations (46,450 AH) specifically among Cat 4 & 5. Within this group, the single most common diagnostic category was 'did not wait' – in the 2015/16 after hours period, 3,700 Cat 4 & 5 patients did not wait to be seen by an ED doctor. Averaged across the two-year period, this equates to five Cat 4 & 5 patients per day who present to TCH ED after hours and do not wait.

Furthermore, in the same period nearly 70,000 Cat 4 & 5 patients presented at TCH and were not admitted (37,000 AH). Rates of admission were lowest among lower acuity presentations by patients aged 18-36 (15 per cent admitted after hours). By contrast, over 70 per cent of Cat 4 & 5 patients aged over 75 were admitted across all periods.

This pattern indicates potential for use of alternative services other than ED – patients may be accessing the ED for a presenting problem that is not sufficiently urgent to receive timely treatment at the ED or to require any follow-on care at the hospital level. The high admission rate among older patients identifies a parallel but opposing problem – that lower acuity elderly patients, irrespective of their presenting problem, may be overrepresented in hospital beds after hours and contribute to high levels of hospital use or bed block.

Every day, more than 50 presentations at the TCH are by repeat Cat 4 & 5 patients

In addition to patients who do not wait for treatment, our analysis identified a significant cohort of patients who presented at the ED with lower acuity presenting problems more than once over the two-year period. Nearly 40 per cent of the presentations made to TCH ED in 2015-16 were by repeat patients, i.e. individuals who visited ED more than once in the two-year period. Though many of these individuals present for reoccurring healthcare needs that require emergency care, there were also a significant number of patients who presented to TCH ED more than once in this period and who were triaged, at each presentation, as Cat 4 or 5.

Specifically there were 38,000 presentations by 14,000 repeat Cat 4 & 5 patients (20,700 AH). In the after hours period, on average, nearly one in ten of these patients did not wait for treatment, and the overall admission rate to TCH was 20 per cent. Following 'did not wait,' the three most common diagnostic

categories were generalised abdominal pain, unspecified viral infections and generalised lower back pain. This pattern of repeat presentations for lower acuity conditions (particularly for lower-urgency pain presentation and cold and flu-like symptoms) suggests a trend of using the ED as an alternative to GP services. This is an average of 2.7 presentations per repeat patient and amounts to an average of 52 presentations per day.

Changes to after hours services could support one third of ambulance call-outs and one-third of WIC patients to seek more appropriate care

In 2015-16, approximately 60 per cent (35,800) of all ACTAS responses were after hours (AH), and over 20 per cent (7,250) of all after hours call outs did not result in a transport to ED. Across all periods, this translates to 11,850 ambulance call-outs not resulting in transport to the ED.

An additional 60 per cent of triage category 4 and 5 patients (Cat 4 and 5) who arrived at ED by ambulance after hours were not admitted to hospital. Furthermore, of all Cat 4 and 5 patients arriving at ED via ACTAS after hours, over 8.5 per cent did not wait to be seen by a doctor. This compares with the overall 'did not wait' rate of 9 per cent among Cat 4 and 5 patients arriving after hours and implies that there is no material difference in the likelihood of waiting to see a doctor, regardless of whether or not the patient arrived by ambulance. These patterns are consistent with a practice by patients of using ambulance services as transport after hours.

When combined, the proportion of after hours ambulance call-outs not resulting in transport or for patients who do not require urgent ED care or admission is approximately 35 per cent. This comprises over 3,600 patients who do not receive hospital transport, and over 2,600 patients who arrive at ED with a condition assessed as Cat 4 or 5 and not requiring admission to hospital. There is potential for these 6,200 patients to receive more appropriate care if they are referred or diverted to alternative services or provided medical advice beyond the decision to transport or not transport, earlier in their care pathway.

There is similar potential to improve services to WIC patients. In the financial year 2016-2017, 70 per cent of WIC patients had their episode completed through treatment at the WIC. This figure drops to 67 per cent in the after hours period, indicating roughly one-third of WIC patients are referred elsewhere for their care. Specifically, 17 per cent of patients were referred to their GP (16 AH), 8 per cent to ED (11 AH), 2 per cent to medical imaging (1.5 AH) and 1.5 per cent to CALMS (3 AH) for follow-on care. It is likely that these referrals do not accurately capture the movement of patients – for example, depending on their perception of urgency, the 8,200 patients referred to their GP after hours are likely to attend ED if their GP is not available. Smoother connections with alternative services, as well as adaptations to the variety of services provided in-house at WICs, could significantly reduce the number of patients diverted to the ED.

3.2 Further integration is supported by domestic and international literature as well as local stakeholders

This review integrates research findings from studies, trials and reports written and published in Australia and New Zealand, as well as throughout the UK, the US, Canada, and several European nations. Both international and national literature provides possible models for streamlining and improving primary health care network integration in the after hours (and business hours) period. The literature review is included in full in Appendix B, with key findings summarised below.

- Models for ED-PCS integration are framed around three main approaches: co-location, diversion, and integration between services.
- Each model has its limitations and advantages and the decision to adopt a certain model is contingent on the broader context within which public hospital EDs function, the range and

accessibility of primary care services that are available, as well as environmental, social and resourcing factors.

- Findings of the literature review suggest that integrated patient-centred care can lower ED demand.
- Integrated patient-centred care is being pursued nationally and internationally to improve patient experience, continuity of care, and the efficiency of the health system as a whole.
- Research indicates that diverting patients away from the ED can improve access and care across the system.
- EDs attract high levels of demand from the public as they are generally trusted and are a one-stop-shop that provide all-hours, low-cost multipurpose healthcare.
- Patient perceptions regarding the urgency of their condition as well as a lack of knowledge or access to alternative service options also contributes to a steady inflow of patients at EDs. Consequently, EDs are commonly overstretched and often operate close to capacity.
- Informed patients are better served if they are supported by a wide availability of services and an easily navigable system, rather than attempts to change overall patient health-seeking behaviour.
- The research is largely positive about the impact of interventions to improve ED and primary care service integration, noting that there were no observations of a reduction or worsening of outcomes following integration.

Throughout the scoping study, the vast majority of stakeholders expressed support for integration. The ACT stakeholders who were interviewed and participated in a workshop are identified in Appendix A. Providers in New South Wales, South Australia and Western Australia operating alternative service models were also interviewed. Consultation suggests support for various elements of integration, including:

- Better visibility of the availability and variety of after hours services, including up to date information that can be accessed by consumers.
- Shared triage arrangements (via phone or in person) that streamline the patient pathway and improve the appropriateness of referrals, particularly in co-located models.
- A broader range of services at WICs, following evidence elsewhere in Australia that general practice and x-ray could reduce ED presentations by lower-acuity patients.
- Improved, on the scene care for residents of aged care facilities. There was interest in exploring the extent to which services such as Hospital in the Home (HITH) and Rapid Assessment of the Deteriorating Aged at Risk (RADAR) could be extended and streamlined to reduce ED admissions of aged care residents.
    - Stakeholders showed an interest in Calvary's piloting of the Geriatric Rapid Acute Care Evaluation (GRACE) program which prevented an estimated 40 hospital admissions in Nov-Dec 2017. The model has been implemented elsewhere with similar benefits observed and sustained over a longer period of time.
- Stronger communication and streamlining between service providers. Physical access to clinical services as well as access to data and data sharing among primary healthcare services need to be improved to ensure 'right care, right time' for patients no matter their entry point to the health care system.

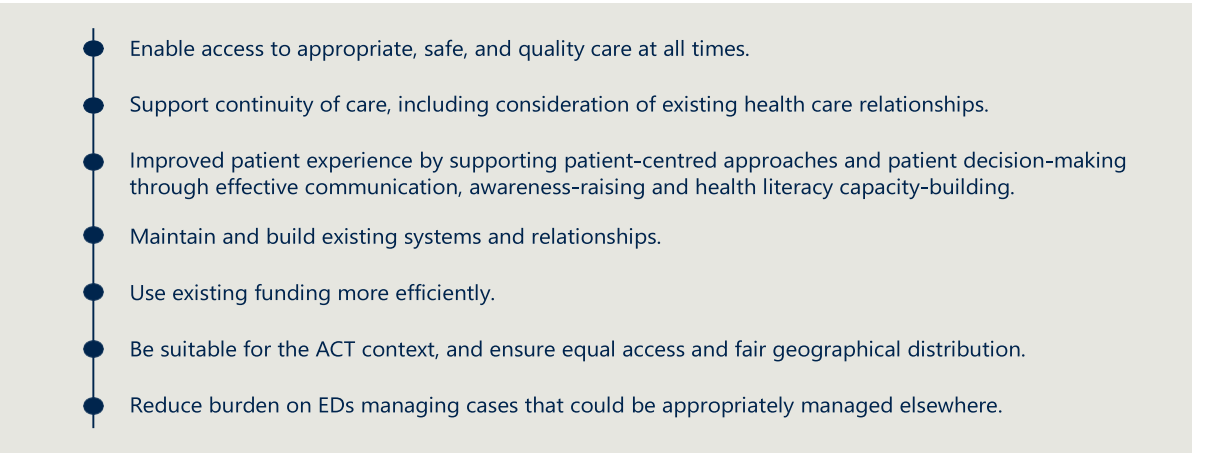
Stakeholders also provided additional insight into demand patterns and the context for services in the ACT. A 2017 report by Health Care Consumers Association (HCCA) analysed the results from over 1,000 survey respondents in the ACT, and the survey showed that overall, consumers are relatively satisfied with the current services and noted that new services are not nearly as important as improvements to and between existing ones. [2] Additional insights from the survey are as follows:

- The most common reason for using after hours services is out of necessity, because the need for care arises in the after hours period, and not due to convenience.

- The key factors influencing patients' choice of service are clinical expertise and range of services available as well as opening hours, proximity, waiting time and out-of-pocket costs.

Ultimately, there was consensus among stakeholders that an improved, integrated model should meet certain criteria as illustrated below.

Figure 2: Criteria for an improved, integrated primary health care system



The interventions proposed within this document are shaped by, and respond to, these criteria.

4 Proposed interventions

To achieve the above criteria, there is a need for a better integrated model for after hours primary health care service provision in the ACT. To achieve this, Nous proposed and received feedback on ten potential interventions for the ACT context. A summary of the proposed intervention, the rationale for why it was proposed and the feedback from stakeholders is summarised in Table 2. Options that are not pursued as part of this business case, but which nonetheless have implications for the future of primary care services in the ACT, are briefly described.

Table 2: Proposed interventions to improve integration in the ACT

	Intervention
	1 **Develop and update a comprehensive after hours service directory** Option to develop an online service directory for existing primary care services in the ACT (which collates details on service variety, availability, and accessibility). This was proposed to address reported low levels of consumer awareness and access to information regarding care options other than the ED, particularly in the after hours period. There was strong stakeholder support for this intervention, which is proposed as part of the business case. The intervention is described in detail in Section 5.1.
	2 **Introduce paramedic-initiated diversion for patients who do not require transport to ED** Option to develop protocols for ACT Ambulance Service paramedics to refer or directly transfer patients to after hours primary care services other than the ED. This was proposed to provide lower acuity patients who access ambulance services with clear referral to services that can cater to their needs, and to streamline access to these services through transport where appropriate. There was strong support for this intervention, which is proposed as part of the business case. The intervention is described in detail in Section 5.2.
	3 **Expand successful aged and palliative care programs to the Canberra Hospital** Option to extend on the scene care for older patients and those that are residents of aged care facilities in the ACT. This was proposed to improve the coordination of existing aged and palliative care programs in the ACT as a means to prevent or reduce ED admissions of elderly patients. Another benefit of this option is its potential to improve the healthcare journey of senior patients. There was strong support for this intervention, which is proposed as part of the business case. The intervention is described in detail in Section 5.3.
	4 **Adapt the CALMS model to improve coordination with ED** Option to increase coordination and integration between the current CALMS services at Canberra Hospital and the ED. This was proposed to institute shared triage capability between CALMS and ED, to allow for referral between services, review CALMS operating hours and improve physical connection between services. There was limited support for this intervention as it would require substantial reconfiguration of the current service arrangements, and would continue to attract patients to the Canberra Hospital campus. This option has not been pursued in the business case.
	5 **Expand the Canberra Hospital co-located pharmacy offering** Option to adapt the private pharmacy currently located next to the Canberra Hospital ED, extending its opening hours and recruiting an after hours nurse practitioner. This was proposed to improve co-located offerings for low acuity patients at the ED in need of medication or non-emergency medical advice, who could consult with the pharmacist or nurse practitioner in lieu of an emergency physician. There was little support for this intervention as it did not represent good value for money, and was perceived to worsen the 'honeypot' effect of having multiple health services in proximity to the ED. The 'honeypot' effect was perceived as particularly strong for this option as the pharmacy would not operate 24 hours. This option has not been pursued in the business case.

	Intervention
	**6 Tailor Healthdirect advice to the local availability and variety of services** Option to enhance the capability of Healthdirect to provide callers with localised and current information on the availability and variety of services other than the ED. This was proposed to upskill Healthdirect nurses to provide tailored advice to callers, and to develop warm transfer capacity from triage to service providers. There was no support for this intervention as Healthdirect was seen as risk averse, and that the return on investment in Healthdirect was unsatisfactory. A common perception among stakeholders was that Healthdirect does not reduce ED presentations. Based on these observations, stakeholders suggested that funding for the service should be withdrawn and reallocated elsewhere. This option has not been pursued in the business case.
	**7 Establish pathways for primary care to have streamlined access to specialised services** Option to streamline the pathways for patients to access specialised services via bypassing the ED. This was proposed to allow for patients to get access to a specialist group without having to go through ED. An example of streamlined access is for patients to access medical imaging if referred by an alternative primary care physician. There was consensus among stakeholders that patients should have streamlined access to specialised services, however it was determined as out of scope for this project due to the complexity of reconfiguring internal and external processes as well as IT systems. This option has not been pursued in the business case.
	**8 Include a purpose-built primary care service as part of the SPIRE development** Option to include a purpose-built primary care service as part of the Surgical Procedures, Interventional Radiology and Emergency (SPIRE) Centre development. This was proposed to develop a purpose-built primary care clinic integrated with the ED in SPIRE, to replace current facilities. There was limited support for this intervention as it would continue to attract patients to the Canberra Hospital campus, with little evidence from models elsewhere to suggest it would reduce ED attendances. This option has not been pursued in the business case.
	**9 Add capability to the Walk-in Centres and integrate with local general practice** Option to add capability to the ACT Health WICs through two key interventions. Firstly, by introducing an after hours medical imaging and radiology service. Secondly, by integrating with local general practices and practitioners to provide medical services alongside nurse-led care. There was strong support for this intervention, which is proposed as part of the business case. The intervention is described in detail in Section 5.4.
	**10 Establish pathways between after hours GPs and ED to enable direct transfer of patients** Option to enable the direct transfer of patients between GPs and ED. This was proposed to reduce or eliminate additional waiting and reassessment for patients moving between after hours GP practices and ED. Stakeholders offered limited support for this intervention as there was uncertainty about whether pathways between after hours GPs and ED would work in practice. There was also concern about whether the pathway would be underutilised and that patients would still have to be triaged at the ED even if they visited a GP beforehand. This option has not been pursued in the business case.

The choice to pursue or not pursue these individual interventions was a collaborative decision, led by the feedback provided by stakeholders at the scoping study workshop and confirmed by members of the Reference Group following further discussion and analysis of feedback. The options recommended to be pursued are described and scoped in detail in Section 5.

4.1 Barriers to access for outpatient services are an additional factor contributing to after hours ED usage

Though the question of access to outpatient services goes beyond the scope of this report, stakeholders consistently indicated that difficulties accessing specialist outpatient services contributed to after hours use of ED. This was felt to be the case across a broad range of specialties. Stakeholders believed that patients attended ED to respond to exacerbations of symptoms and to access pain medication and that these attendances could be significantly reduced if more timely access to specialist outpatient services were available.

In the ACT there are extended waiting times for public outpatient services in several specialty areas. These areas are typically characterised by high numbers of referrals and high numbers of follow up consultations with patients that exceed the capacity of the clinics to manage within recommended waiting times. There is capacity for patients to seek more urgent appointments if their condition deteriorates, but with sudden exacerbations and increases in pain levels, particularly after hours, the ED is often the only option for treatment. Stakeholders indicated strong support for action to address this, potentially focusing on:

- Reducing the number of referrals and the effectiveness of initial outpatient consultations through improved guidelines and information for GPs to guide more appropriate referrals and recommended pre-referral pathology and diagnostic imaging
- Reducing the number of follow up appointments with patients by establishing guidelines for referral back to GPs for continuing medical management
- Phone based access to specialist advice for GPs to support continued management of patients and reduce referrals
- Access to rapid assessment clinics for specialties with high volumes of presentations to ED.

4.2 Establishing a private Emergency Medicine Clinic adjacent to the ED should be considered

A suggestion emerged in the scoping study regarding the possibility of establishing a privately-run, lower acuity alternative to the ED on the Canberra Hospital campus. Specifically, this would be a small, private emergency medicine clinic catering to urgent but lower acuity patients expected to be discharged or not to wait at the ED. Similar models operating in Australia charge a non-reimbursed facility attendance fee of between $150 and $300. At arrival at the existing public ED triage, patients in the target groups would be offered the alternative of attending the adjacent private emergency medicine clinic, with open disclosure regarding the costs. If they chose to do so, they would be discharged from the public ED, register at the adjacent private ED, pay up front, and are seen by a senior emergency physician, avoiding the waiting time and receiving senior assessment.

Pursuing this option would require identification of a private operator and floor space for the service, and goes beyond the scope for this project. Nonetheless, it would be a viable and direct route to reduce low acuity presentations to the TCH ED through a co-located alternative. It would also avoid the 'honeypot' problem of a co-located, bulk-billed GP service, as the need for a co-payment would deter opportunistic use of the service. Though this option has not been pursued in this business case, it has promise to reduce over presentation at ACT EDs and we believe merits research and a targeted business case of its own. This could be done as part of the SPIRE planning, or as a separate exercise.

5 Recommended interventions

Building on the proposed interventions summarised above, the following section describes the four specific actions recommended to improve integration in the ACT primary care system. Among the ten interventions proposed to stakeholders, it is these four interventions that received the highest level of popular support from stakeholders and the Reference Group. These interventions – three shorter term actions, and one longer term action – are summarised in Table 3.

Table 3: Proposed interventions for the ACT

Shorter term	
	Development of a comprehensive online service directory for the ACT • Develop a comprehensive online service directory of the primary care services offered across business and after hours periods in the ACT, including details on any specific services provided by each service provider • Maintain and update the directory to continue providing up-to-date information
	Paramedic-led diversion to alternative primary care services • Develop ACT Ambulance Service protocols for referral and diversion of ambulance patients who do not need to be transported to the ED • Support training for paramedics to refer patients to appropriate primary care options • Scope physical transportation to alternative services and establish necessary partnerships
	Adoption of improved aged and palliative care services • Develop on the scene care for aged and palliative care patients living in their homes and for residents of aged care facilities to avoid ED presentations • Expand, coordinate and integrate existing programs of this nature between providers • Prioritise approaches that will reduce average length of stay for aged care patients that present at the ED
Longer term	
	Further integration of the Walk-in Centres • Introduce in-house x-ray services, provided at the WICs and assessed by partnering radiologists located off-site • Integrate GPs into the WICs to provide medical services, and pursue further integration with local general practices and GPs

The majority of stakeholders expressed significant support for these options, both individually and as a suite of interventions. The project Reference Group agreed that the four options should be scoped and, if financially viable, pursued.

Given that the different interventions have varying lead times, costs, affected organisations and implementation challenges, the options are considered individually below (Sections 5.1, 5.2, 5.3, and 5.4). These sections provide an outline of the intervention model, Nous' recommendations for implementation, and anticipated financial implications of pursuing the model. The interventions are then brought together in Section 6, which proposes a staged implementation process and sets out system-wide implementation considerations.

A note on the applicability of after hours findings

The focus of this study and the business case is on the after hours period. However, for the recommended changes, introducing these interventions solely in the after hours period would be potentially confusing for patients and service providers and could compromise their effectiveness, as well as the value for money of establishing the services. Accordingly, the business case recommends that the changes are made available across the full operating period of the relevant services, whether for a 24 hour or shorter period. The costings have been undertaken on the same basis.

5.1 Development of a comprehensive online service directory

Research and consultation repeatedly emphasises the importance of patient awareness of their healthcare options and effective communication and access to information regarding primary care services. Low levels of awareness within the community about the availability and variety of services are regularly observed, in Australia and overseas. For example, a 2012 survey conducted in the UK stated that between 30 and 50 per cent of people reported that they did not know that after hours alternatives to the ED existed, or if they did know that they existed, were unsure if these services were available (Penson et al. 2012).

In the ACT, recent research by the Health Care Consumers' Association (HCCA) concluded that wide advertisement of after-hours services other than the ED (including details on availability and care they can provide) is an important initiative for reducing ED presentations.[3] To address this, it is necessary to have a resource that informs the public about the availability of alternative services that they can access for conditions that do not require emergency response.

Model

Community knowledge of the availability and variety of services is central to any effectively integrated health care system. Accordingly, the need for an authoritative, comprehensive service directory for primary care services in the ACT has been well recognised and supported by stakeholders over the course of this project. Nous recommend that an online, interactive directory is developed for the ACT context, which lists opening hours, locations, cost and service availability and – wherever possible – any specialities of service providers or personnel. For ease of access among the public, it could be overlaid over an easily navigable and familiar online map system – for example, Google or Bing Maps. This service would serve as an entry point to the health care system for all ACT residents, whether they are new arrivals looking to find a regular GP or long-term residents unsure of changes to services available in their local area.

There were several criteria that stakeholders stated as necessary to the success of the system. These aim to ensure that the service directory is useful, and represents a marked improvement from comparable services in the past. Specifically, the directory must be:

- Easy to find – located in a freely accessible internet location, discoverable via keyword searches and search engines, and hyperlinked in all useful health services and ACT Health websites.

- Easy to use – using a simple, interactive and attractive interface, with clear guidance for usage.
- Provide useful and relevant information – including location, hours and types of services, as well as billing processes and out-of-pocket costs.
- Be maintained – there must be a single, dedicated and appropriately resourced organisation tasked with commissioning the development of the directory and with updating it on a regular basis.
- Act as a hub – the service should be a central location that can direct ACT residents to related resources, for example, the *What's happening in your Emergency Department right now?* website run by ACT Health and contact details for Healthdirect.
- Explicitly name the health services available at each service providers – for example, the directory should note varieties between services provided at WICs (for example, if they offer physiotherapy, what types and during which hours) or at ACT pharmacies (whether they employ nurse practitioners, asthma specialists, etc.).
- Wherever possible, provide a value-add to the information that is already available – it will ideally provide information on the specialisations of different services and allow users to apply filters to find personalised information. For example, a breakdown of GP practices by doctors' sub-specialisations, gender, consultation hours, languages spoken etc.

This listing would be widely accessible online, but would also be provided specifically to any phone-based referral or health advice services, so that consumers accessing alternative health information sources could be easily referred to the same information. This would also enable consumers without access to the online service or reduced digital literacy to benefit from the new service.

Recommendations

The directory will provide an authoritative source of information for finding services in the ACT region, and therefore will offer a useful service to residents. However, the usefulness of this service will be directly related to it visibility: it will only be useful is a significant proportion of the ACT population know that it exists and where to access it. Therefore marketing and communication will be a key to success. If the service directory is established, it should be accompanied by a broad advertising campaign, that seeks to reach ACT residents of all demographics across multiple platforms. Groups that are particularly overrepresented at the ED after hours could be specifically targeted, for example 18-36 year olds, via social media advertising or physical marketing at educational institutions, community hubs, and other high-traffic locations.

To ensure clear oversight and regular updates of the service, it is necessary that a single organisation takes responsibility for the development and maintenance of this service. There must also be dedicated resourcing for this organisation to ensure ongoing upkeep, as out-of-date information will nullify the value of developing the resource.

Prior to development, a decision must be made as to whether the directory is a redesign of an existing service – presumably ACT Health's find-a-health service – or a new investment. There are benefits to both models, and given the amount of overhaul required to improve the useability of find-a-health service to meet the above criteria, it is unlikely that one would be more difficult or costly than the other. If the service was built upon the find-a-health service platform, it would be governed by ACT Health.

However if the service directory is envisioned as a new development altogether, CHN – the ACT's sole primary health network – is the most logical choice to take on this role. Though CHN would have primary responsibility for commissioning or building the directory, and for maintaining it following establishment, it will need to work in partnership with ACT Health and ensure timely and open information sharing about service changes. Nous proposes that the costs of developing and maintaining the service be covered by ACT Health, as a notable proportion of the savings from improving public awareness would accrue to ACT

Health through more informed use of their services. This would require negotiations between both parties to determine the model and KPIs for the service.

5.2 Paramedic-led diversion to alternative primary care services

The second proposed intervention focuses on the ACT Ambulance Service (ACTAS), and builds on the findings that emerged from Nous' previous scoping study on ambulance integration. Specifically, it involves referring and diverting lower acuity patients who access ambulance services to more appropriate care alternatives. It involves the cooperation of CHN, ACTAS and ACT Health, and includes the establishment of agreements between service providers.

The opportunity to coordinate with the ACT Ambulance Service to reduce divertible, lower acuity transports to the ED was unanimously supported by stakeholders. It was perceived as a quick win to reduce lower acuity ED presentations in both the shorter and longer term. Analysis of ACTAS data indicated that over 20 per cent of after hours call outs to the ambulance do not result in transport to the ED, and over 60 per cent of Cat 4 & 5 patients who arrive at the ED via ambulance are not admitted. These figures do not capture the additional number of people who call the ACTAS Communications Centre (Comcen) requesting an ambulance whose call does not result in dispatch. Together, this indicates a significant cohort of patients who may have been more appropriately referred to alternative services for their healthcare needs. Coordinating with ACTAS to provide this advice and referral has the potential to reduce their call outs not resulting in transport, the number of lower acuity presentations to ED via ACTAS, and the timeliness and appropriateness of care for their patients.

Model

At the appropriate stage in the care pathway (discussed below), there is a range of services to which ACTAS could refer or transport patients. Throughout the after hours period, referrals are possible to Healthdirect or the National Home Doctor Service, as well as referrals to all other primary health care providers for next day visits. Physical locations available for referral or transport during some of the after hours period include the WICs, CALMS, extended hours GPs, and pharmacies with Nurse Practitioners.

There are three stages in the care pathway where ACTAS staff patients could assess and refer patients to services other than the ED. A summary of these options is presented in Table 5 (overleaf).

Table 5: Points of diversion to alternative primary health care services

	At point of call handling	At paramedic assessment	At point of transportation
Approach	The diversion process could begin at point of first contact with the ambulance service, when a patient or carer calls Triple Zero to request an ambulance dispatch. In those cases where Comcen staff (supported by a clinical manager) currently make the decision not to dispatch, they could instead provide a referral to an alternative primary care service. If an effective alternative option is not clear, the Comcen staff member could inform the caller about their options and guide them to available resources (for example, the online services directory).	Increased diversion to alternative services could also take place at the point where an ACTAS paramedic is already with a patient, but decides that they do not need to be transported to the ED. As paramedics are already fulfilling the patient assessment process, there is a clear opportunity for them to advise or provide information to patients about their healthcare options. Though many paramedics may already do this in practice, it would be beneficial to formalise and encourage this process among ACTAS staff and provide them with formal guidance and training on how to do so.	On-scene paramedic-led diversion could be taken a step further – the ACTAS paramedic could make an assessment on the most appropriate alternative service, and with the patient's agreement, transport them directly to that service. For example, ACTAS could develop a relationship with the WICs whereby urgent but not emergency patients could be transported directly. By going beyond referral or provision of alternative information, this would be particularly valuable in circumstances where the patient was unable or unlikely to transport themselves.
Impact	**Moderate**	**Moderate**	**High**
Cost	**Low**	**Low**	**Moderate**

A complementary point to note is that the paramedic referral process would be further supported by an extended care paramedic (ECP) program, should it be introduced to the ACT as per the recommendation in the ambulance integration scoping study. As ECPs have more comprehensive diagnostic training and a greater scope of practice than the existing ACTAS paramedics, they would be well-placed to refer a patient to an alternative service.

Recommendations

The first step necessary in ensuring the success of this intervention is the development of clear protocols and guidelines. These protocols – which may include a matrix of lower acuity presenting problems, matched against business and after hours services that are equipped to provide care for them – would ensure the quality and consistency of referrals provided by both Comcen staff and paramedics. The use of these protocols for referral would be significantly assisted by the development of the online service directory, which could supplement the internal documents by providing a resource that can be shown or recommended to patients.

The second important consideration is the need for clear communications to patients, and to the ACT community in general, that ambulances are neither of the following:

1. A fast track to access an emergency department. Arrivals by ambulance are subject to the same triage process as walk-in clients, and waiting period is based on the urgency of the condition not the mode of arrival.
2. An ED-specific service. The ambulance service and its staff are equipped to help you find the most appropriate and timely care for your needs.

This messaging should be promoted through regular channels, such as the ACTAS website and ACT Health information sources, and acknowledged by call-handlers when referring patients who are not dispatched ambulances or prior to dispatch for lower acuity callers.

The key risk associated with this intervention is the misuse of the ambulance as a 'taxi' service. Though the significant out-of-pocket costs associated with ambulances should deter any patient without private health insurance from calling or using the ambulance service without significant need, this is not the case for people with ambulance cover and must be considered in the design and communication of the changes to ambulance transportation. If the intervention is implemented, ACTAS should collect data about which patients and what types of presenting problems are commonly represented among patients transported to services other than ED, in order to observe if there is a perverse pattern of service use developing. There will be a need to use monitoring to understand which cohorts use this service repeatedly. Following initial data collection and analysis, ACTAS could then refine communication and operation of the service to reduce the risk of inappropriate use.

5.3 Adoption of improved aged and palliative care services

The third area of intervention that received strong support from stakeholders focuses on aged and palliative care programs in the ACT. This involves the continuing expansion, coordination and integration of existing HITH and palliative care programs in the ACT, as well as the introduction of home-based aged care outreach for older ACT residents, particularly those who are likely to use TCH's ED services.

The objectives of home-based support are three-fold: avoidance of ED presentation for patients, earlier discharge from ED, and earlier discharge from the hospital for longer stays. The opportunity to reduce ED presentations, hospital admissions, and average length of stay for older patients had universal support by stakeholders. The benefits of providing on-the-scene care for this group of patients received unanimous support from stakeholders who recognised that older patients experience significant disruption and anxiety when seeking treatment away from their residential care setting for non-life-threatening issues.

Model

HITH and palliative care programs running in the ACT are currently disconnected with each other: they are not structured around a single program or organised to ensure geographical efficiency. Accordingly, stakeholders voiced support for expanding, coordinating and integrating existing programs.

There is potential for HITH to have greater utilisation given patients' relative familiarity with this program and the experience of medical practitioners and non-medical staff with HITH at Calvary and TCH. Noting that HITH is currently in the process of review, stakeholders identified four issues with HITH in its current form:

- Duplication of HITH between Calvary and TCH, i.e. overlaps regarding the geographic reach of their respective HITH programs
- HITH does not operate 24/7 which creates a service gap for after hours care
- Not all eligible patients are referred to HITH
- Unrealised potential from direct GP referrals that can circumvent the need for patients to present themselves at EDs to access HITH.

Stakeholder consultations indicated that there is already work underway to increase coordination of HITH programs between Calvary and TCH, and these observations on the issues above can feed into the work that is in progress to facilitate greater utilisation of HITH. Accordingly, no specific recommendations about HITH are included in this business case.

Stakeholder consultations also indicated a desire to review palliative care across the ACT region. Namely, stakeholders observed the potential for improved integration between the home-based palliative care at Calvary and ACT Health's Link team, who provide after hours community nursing services. Though this is out of scope for the current scoping study, it is worthy of further consideration by ACT Health if revisiting any of its current palliative care service arrangements.

There is strong support for introducing a diversionary approach at TCH to prevent ED presentations for older patients. Calvary's piloting of the GRACE program has demonstrated improved emergency care for people living in five RACFs through dedicated services in the form of enhance support, guidance, direction and treatment by nurses for residents, either in the RACFs or when they present to the hospital. This program has been operating since October 2017 and it is too early to draw firm conclusions, but initial findings indicate that it is successfully reducing ED presentations, admissions to hospital and length of stay for residents when admitted. Stakeholders indicated that there are a number of similar models to the GRACE program that have been successful, and strongly supported identification and implementation of an appropriate model for TCH.

Recommendations

To reduce rates of presentation, admission and bed block among older patients, an appropriate model for aged care outreach through TCH should be identified, designed and implemented. To ensure the success of this intervention, it will be necessary for TCH to offer this service to patients living in their own homes as well as those in RACF. It will also be necessary to provide support and education for outreach support staff and GPs, to improve their ability to adapt to the new mode of delivery and facilitate communication between medical and nursing staff. Finally, it will be necessary to coordinate with Calvary Hospital's aged care outreach programs to ensure that the new model minimises duplication and geographical overlap.

In determining this model, decisions will also need to be made on the following points:

- Whether the outreach support program will be offered 24/7 or only on certain days and times
- The extent to which the outreach program will collaborate with GPs to ensure care is provided in patients' residential settings as well as to ensure continuity of care
- The range of services that the outreach program will offer and the staffing model.

	3-month pre-intervention	3-month post-intervention	1-year post-intervention
Results	• ED presentations pre-intervention in RBWH and LH are not significantly different	• ED presentations in RBWH reduced significantly • ED presentations in LH increased significantly • Hospital admission rate per RACF bed at RBWH lowered significantly • Hospital admission rate at LH increased	• ED presentations in RBWH reduced significantly over 1-year, while presentations in LH increased significantly • Hospital admission rate per RACF bed at RBWH lowered significantly over 1-year • Hospital admission rate at LH increased over 1-year
Comments	• Post-intervention results showed notable decreases in ED presentation rate, hospital admission rate per RACF bed, and hospital admission rate per ED presentation for RWBH. • Control hospital LH showed increased ED presentation rates, hospital admission rates per RACF bed, and hospital admission rate per ED presentation. • Comparison between RWBH and LH demonstrates that the aged care outreach HiNH program reduced numbers of ED presentations and hospital admissions for RACF residents.		

5.4 Further integration of the Walk-in Centres

The ACT Health WICs were a major focus for stakeholders in this scoping study. The Government's planned increase to the number of WICs and their potential to provide an altered range of services were identified by stakeholders as a significant opportunity to improve the integration of the ACT's primary health care services. Stakeholders supported the opportunity to adapt the current WIC model by improving the variety of services offered in-house, and coordinating with other primary health care services.

The range of services that stakeholders discussed coordinating with WICs included allied health and diagnostics, as well as warm transfers to other services. There was also significant long-term interest in developing a WIC model which incorporates elements of the successful Urgent Care Centre (UCC) model being used by St John's Ambulance in WA. This service is staffed by a blend of nurses, doctors and paramedics and offers x-ray, pathology and plaster, urgent dental and stitches onsite, in addition to the existing primary care capabilities of services such as the ACT WICs. More detail on the potential of the UCC model is provided in our literature review in Appendix B.

As a first step, however, stakeholders emphasised improved service offerings within the WICs as well as two-way integration between WICs and nearby GPs.

A note on the necessity of a WIC publicity campaign

Our proposed changes to the WIC model indicate and reinforce the need for greater public awareness about the existence and role of the WICs themselves. A common theme of the consultation process was low public awareness and understanding of WIC services, which leads to low rates of utilisation compared with other primary care services. Any alterations to the current or future WIC model must take this into account. Improved usage of WICs, regardless of their profile of service offerings, must be supported by active investment in community awareness raising.

5.4.1 Introducing medical imaging capacity to the WICs would reduce ED congestion and improve waiting times for patients

Model

Referrals to medical imaging are the third most common form of referral from ACT WICs, following referrals to ED and GPs. Between mid-2011 to mid-2017, roughly 1 in 40 WIC patients was referred elsewhere to receive medical imaging. Though the need for after hours pathology providers was also mentioned as a possibility for expanding the role of the WICs, there was a strong belief among key stakeholders that the introduction of medical imaging capacity would create the greatest positive impact for patients.

International and national literature states that patients who undergo medical imaging have longer ED visits, and are a factor that compromises the achievement of the four hour target for treatment.[67] Reducing the number of lower acuity patients who need to attend the ED for imaging could improve the likelihood of achieving the four-hour target, as well as reduce waiting times and improve experiences at the individual patient level. For example, the St John Ambulance WA UCCs, which offer medical imaging services on top of a nurse and GP-led urgent care service, have an average wait time of 30-45 minutes to see a doctor. A similarly reduced waiting time would also be possible at the ACT WICs, as there are no high acuity patients being treated there, and lower-acuity but nonetheless urgent care needs will receive medical attention relatively quicker.

The ideal model for the ACT involves introducing x-ray facilities to all five WICs. Operating these services within the WICs would require in-house radiographers with initial interpretation of images being undertaken by nursing and/or medical staff (if available – see below) within the WICs and formal reporting of the images being undertaken by Canberra Hospital radiologists.

Recommendations

Though CHN is currently running an extended hours trial of private, after hours medical imaging services, the Reference Group agreed that it would be most beneficial to provide a public alternative to ED for medical imaging needs. Regardless of expanded hours, it was noted that private after hours services cannot compete with ED as a free and reliable 'one stop shop.' It was agreed that an alternative option with no out-of-pocket costs would be necessary to alter behaviour, and draw lower-acuity patients with imaging needs away from the ED

However, following research and cost-benefit analysis, Nous concluded that the introduction of x-ray would not be feasible across all WICs. Due to the start-up costs of developing this service offering, however, x-ray should be offered across the business and after hours periods wherever it is put in place For this reason, the recommendation is to introduce medical imaging capacity at one of the WICs. Belconnen Health Centre, located immediately adjacent to the Belconnen WIC, has a radiation-equipped room that – due to the relocation of one of the service's day programs – will soon be unoccupied. This offers an opportunity to establish the first WIC-based x-ray service, in a location where a significant part of the establishment cost is reduced. For the purposes of testing demand and success of the program, the WIC should begin with a single x-ray machine, with potential to expand to other WICs depending on client uptake. It is important to note that the introduction of medical imaging capacity would not change the scope of service that WICs offer to the public – x-rays would be for minor injury and lower acuity patients only,

Stakeholders also emphasised that expanding the capability of WICs should be done in conjunction with integrating WICs and local GP practices (Section 5.4.2). This was proposed to prevent competition claims and concerns, and to promote collaboration within the local health care service system in each of the jurisdictions that WICs operate or are planned.

5.4.2 Integration with local GPs and GP services

Model

Seventeen percent of WICs attendees after hours are referred to a GP and do not have their treatment completed in a WIC. To address this, stakeholders indicated support for integrating WICs and local GP practices in conjunction with expanding their internal capability. Stakeholders noted that a two-way integration between WICs and GPs would be necessary so as not to trigger competition claims and concerns about disadvantaging the local GP community.

There are three different approaches to achieving this integration:

- Employ doctors to work on a sessional basis in WICs
- Call for EOIs for GPs to partner with WICs and provide medical input on a part-time basis
- Establish a cooperative arrangement with local GPs and a roster to cover the WICs staffing.

A brief summary of each approach, as well as an indication of relative impact and cost, are provided in Table 17.

Table 17: Approaches to integrating the WICs with local ACT GPs

	Sessional employment	Part-time partnership	Full-time cooperative
Approach	Option 1: ACT Health employs doctors to work on a sessional basis in WICs. • Define the parameters of staffing and role • Seek local GP community buy-in and support	Option 2: ACT Health calls for EOIs for GPs to partner with WICs and provide medical input on a part-time basis. • EOIs should be communicated on a rolling basis to ensure that a diverse range of GPs can bid to partner with WICs regularly	Option 3: Establish a cooperative type of arrangement with local GPs and a roster to cover the WICs staffing. • Integrated with the local area so that patients are referred to a GP in the local area to ensure continuity of care.
Impact	Moderate	Moderate	High
Cost	High	Low	High

For each of the options above, two factors are essential. Firstly, a well-defined scope of practice must be laid out to determine the scope of the services that WICs would offer in the future. For instance, stakeholders discussed the potential that WICs could offer allied health services, onsite x-ray, diagnostics, and warm transfers to other services. The experiences of St John Ambulance WA's UCCs provides an opportunity to learn about how they defined their scope of practice which resulted in them offering radiology onsite. Secondly, protocols for exchange of information between WICs and patients' GPs need to be made to ensure continuity of care as well as to reduce concerns from the local GP community. Building trust and confidence with GPs in the local community is fundamental for the success of the integration between WICs and GPs, irrespective of the approach adopted for this integration.

In the course of considering this intervention, it was suggested that the introduction of emergency physicians to the WICs would also contribute to a reduction in divertible presentations at ED. In this model, people who are attracted to the ED would be able to receive the same care from a similar,

experienced emergency physician at an alternative location. Though our research suggests that the introduction of GP services would have the most positive impact at the WICs, this should be considered as a longer-term option to be pursued in addition to the GP program.

Another suggestion during the scoping study suggested the inverse: the introduction of full time GPs to the ED environment. This was increase the capacity of the ED to respond to lower acuity presentations and create a formal stream through which to channel these presentations. It would also be integrated within the ED proper, creating a more cooperative model than the current GP-referral model to the ED-adjacent CALMS service. Though there is some merit to this idea, there are potential adverse effects of attracting greater numbers of lower acuity patients to the ED. This is an issue discussed in detail in our literature review (Appendix B). Accordingly, this intervention has not been pursued in this business case.

Recommendations

The approach preferred by the Reference Group was direct employment of GPs in WICs. This would be a simpler option to implement and maintaining the service would not rely on arrangements with a group of external GPs. The Government commitment to new WICs is based on the current WIC model, and there is no commitment to funding GPs in the WICs. The opening hours of the WICs translates into four standard four-hour medical shifts a day per WIC, or 1,460 sessions per annum. Across all five planned WICs, this translates into 7,300 sessions. At an average of 15 minutes per consultation, it would be possible for GPs to see over 116,000 patients per annum, more than the likely total number of patients across all five WICs.

Given this, and the significant cost of hiring and retaining a GP in the WIC setting, the Reference Group recommended that one GP be engaged initially at an existing WIC for the full operating hours of the WIC to trial the GP service. The Reference Group noted that the trialling of this intervention would assessment of the success of the service and the potential to expand GP availability to other WICs as activity increases. The Belconnen WIC is recommended for this trial, as it is located in close to Canberra's fastest-growing population areas, but is more centrally located than Gungahlin.. This would also allow for both medical imaging and the GP trial to be run out of the same, centralised location, to create a 'super' WIC, and to reduce confusion about which WICs offer which of the different services.

There are likely to be significant concerns raised by GPs about competition from the WICs. To assist to manage these concerns it will be important that WICs maintain their current minor illness and injury scope of practice and do not become equivalent to a standard general practice. There is also the potential to establish arrangements with local GPs to manage patients who present with conditions at the WIC whose conditions are out of scope. We recommend partnering with nearby GPs to provide unscheduled appointments for patients referred from WICs. This option would provide more closer access to GP services, generate more visibility for the partnership between the WIC and local GPs, and help build trust and confidence in the partnership. The onward referral service would reduce the potential for patients referred to GPs from WICs choosing to attend ED instead, and provide an opportunity for local practices to establish relationships with new patients.

The partnership between the WIC and local GPs would not include stipulations about billing practices. Any patients that are referred onto a local GP would be subject to the billing practices of that general practice. This approach would ensure that referral from WICs do not create a new pathway to access bulk billed GP services.

Referrals from the WIC to specific GPs could raise concerns about anti-competitive practices and to manage this, we recommend that ACT Health release an EOI relating to this partnership. This EOI would call for GPs interested and available in taking on patients from WICs. There would also be the need to arrive at an agreed definition around how quickly an appointment could be organised for a patient referred to a local GP. For instance, if a patient arrived at a WIC and their condition was determined as out of scope, they would be given the option of choosing among the available GPs that are prepared to make rapid appointments available. Once the patient has selected a GP, the WIC receptionist would call up the GP receptionist and inform them about the patient. diverted from the ED, or about 30 patients per day. This would constitute more than 10 per cent of the daily ED presentations.

As recommended above, a single GP working across the full working hours at the Belconnen WIC would have the capacity to see about 23,000 patients per annum, and would be able to manage the up to 19,000 patients (8,300 currently referred from WIC and 10,500 redirected from ED) calculated above as the additional workload that GPs in the WICs could be expected to manage.

There is likely some double counting in the 19,000 figure, given that a proportion of the 8,500 patients currently referred from WICs will attend ED and be counted in the low acuity patients attending ED.

6 Implementation plan

There are a number of points that will need to be considered in the implementation of the above recommendations. The following points relate specifically to the ACT context and provide guidance as to the key areas for attention during the phased implementation process.

6.1 A staged approach will ensure that individual changes are well-received and that the system remains coherent

All of the interventions proposed above would have a positive impact on the ACT after hours primary health care system, and each could be implemented separately or in conjunction with any other. However, there is a likely compounding benefit associated with implementing all four interventions, to benefit from the flow-on effects between them. For example, the publicization of the online service directory could be used to inform ACT residents of changes in the services provided at the WICs.

To build and implement a model incorporating all four interventions would require staged implementation with the likely indicative timeframes:

- Development of the online service directory could commence in the first 3 months, with online publication occurring within the first 6 months. The service directory would need to be maintained on at least a monthly basis thereafter.
- Paramedic-led diversion and referral could be introduced within the first 6-9 months, led by a partnership between CHN, ACTAS and ACT Health.
- Changes to aged care services at the Canberra Hospital could commence within 6-9 months, with assessment for full roll-out occurring after a 12 month trial.
- Alterations to the Walk-in Centres could occur in a staggered manner.
    - Introduction of medical imaging services could occur within 12 months, including procurement, installation and recruitment of radiographers.
    - Given the need for significant negotiation with the local GP community and medical peak bodies, the coordination of WICs with local general practices and the commencement of Belconnen WIC offering medical services may take 18-24 months to establish.

6.2 Implementation of these interventions should take numerous considerations into account

- **Costs and savings**
  The financial calculations indicate savings that can be realised through implementation of the recommended initiatives, however it is important to note that the services involved are experiencing increasing demand. Although an absolute reduction in costs to the ACT health system is possible, a reduction in the rate of demand growth is a more realistic outcome of implementing the above changes. Accordingly, the savings may be best characterised as offsetting future growth costs, rather than overall reductions in expenditure.

- **Funding sources**
  Funding for the four interventions will vary depending on the type of the intervention, its scope, the range of stakeholders involved, staffing requirements, and capital expenses

  For each of the interventions, the potential funding avenues are likely:

  - *Development of a comprehensive online service directory for the ACT:* Costs to be shared between ACT Health and CHN.
  - *Paramedic-led diversion to alternative primary care services:* Costs to be absorbed within the current operating capacity of ACTAS.
  - *Adoption of improved aged care services:* Investment by ACT Health.
  - *Further integration of the Walk-in Centres:* Investment by ACT Health.

- **Partnerships**
  The range of partnerships required differs for each intervention due to their type, scope and complexity. For each of the interventions, the key partnerships are as follows:

  - *Development of a comprehensive online service directory for the ACT:* This intervention requires a partnership between CHN and ACT Health to ensure that the service directory is visible, current, and is communicated effectively to ACT residents to maximise its value.
  - *Paramedic-led diversion to alternative primary care services:* The primary partnership for this intervention requires the cooperation of CHN, ACTAS and ACT Health, and includes the establishment of agreements between service providers. Partnerships will also need to be forged with WICs, CALMS, extended hours GPs, and pharmacies given the paramedic-led diversion to alternative primary care services.
  - *Adoption of improved aged care services:* The outreach programs for aged care would require partnerships between ACT Health, TCH, Calvary, RACFs, and GPs.
  - *Further integration of the Walk-in Centres:* The main partnership for this intervention is between ACT Health, WICs, TCH, Calvary, and local GPs.

- **Workforce and education**
  Any changes to the workforce and training requirements as a result of the interventions would need to take a collaborative approach, with ACT Health and CHN engaging with medical, nursing, paramedic, allied health, and support staff. A collaborative approach would be beneficial to meet future needs and to ensure the sustainability of the interventions. In addition, appropriate community awareness building is integral to a successful implementation process.

  - ***Providers***
    A wide range of staff and service providers would be impacted by the recommendations outlined in this document. These include ED staff, WICs staff and other primary care service providers, paramedics, aged care program staff, RACF staff, and administrative staff at ACT Health, and Calvary. To support long-term success, it is necessary to provide appropriate information and support for staff about changed arrangements.
  - ***Consumers***
    The success of this intervention to a considerable degree rests upon embarking on a clear, visible and sustained communications strategy. Multiple channels including social media, print and radio, and digital media should be used to broadcast the new service offering at the WIC.

In addition, the WICs should also tap into their base of existing patients to advertise the GP services including the partnership between the WICs and GPs. A territory-wide education campaign on the appropriateness of different primary health care service offerings as well as their cost and availability would complement implementation of the recommendations of this business case. For example, ACT Health could conduct a communications campaign to inform ACT residents about.the comprehensive online service directory. ACT Health could also examine the recent NSW Health "Is Your Urgency an Emergency campaign," in which lower acuity callers to Triple Zero were asked to actively engage in the decision making process in order to enable NSW Ambulance to get them the most appropriate care. The communications campaign highlighted the range of treatment pathways for non-urgent conditions and that not all calls require a paramedic to respond.[10] A similar campaign could support consumer knowledge and uptake of adapted service in the ACT.

- **Infrastructure**

  An integrated primary care model structured around diversion of lower acuity patients to services other than ED is limited by the potential capacity of alternative services. This is particularly the case if diversion results in physical transportation of patients to alternative locations, away from the EDs. Nous anticipates that the proposed interventions will not cause an unmanageable increase in demand for any alternative service in the short-term. However, some small adjustments may need to be made – for example, if ambulances begin transporting to physical locations such as the WICs, it is necessary that agreed processes are in place for their arrival.

- **Organisational environment**

  The recently announced change to split ACT Health into two agencies – one focussed on policy, the other on operations – will have to be considered for each of the interventions as it may impact decision-making including funding approval and disbursement. Another consideration that will have to be negotiated for the intervention relates to the Walk-in-Centres, in particular whether Medicare billing would be made available for GP services offered at the WICs.

Appendix A Project Overview

The scoping study was conducted between October 2017 and April 2018. The scoping study, and the associated business case, was commissioned and funded by the Capital Health Network.

The Nous project team consisted of the following members:

Team Member	Role
Ian Thompson	Project Director
Nishank Motwani	Project Manager
Jillian Masters	Consultant
Thida Sheriff	Project Coordinator

A.1 Project governance

The scoping study was overseen by a project Reference Group. The following individuals were involved in the Reference Group for all or part of the project's duration:

Organisation	Steering Committee members
ACT Health	Catherine Eadie Narelle Boyd Nicole Slater
CALMS	Celia Wilson
Canberra Hospital and Health Services	Gareth Davies Gregory Hollis Samuel Scanlan Suzanne Smallbane
Capital Health Network	Angelene True Julie Porritt

The final Reference Group meeting was held on 1 May 2018.

A.2 Stakeholder consultation

Nous consulted with numerous stakeholders – including service providers and consumer representatives – throughout the research process. Consultations were held with members of the following organisations:

	Steering Committee	Interviewed	Workshop
ACT Ambulance Service		✓	✓
ACT Health	✓	✓	✓
Canberra Hospital	✓	✓	✓
Mental Health, Justice Heath and Alcohol & Drug Services			✓
Policy and Stakeholder Relations	✓	✓	✓
Walk-in Centres		✓	✓
Calvary Public Hospital		✓	✓
Canberra Afterhours Locum Medical Service (CALMS)	✓	✓	✓
Pharmacy Guild of Australia		✓	✓
Capital Health Network	✓		✓
Health Care Consumers Association ACT		✓	✓
St John Ambulance Australia (Western Australia)		✓	

The final stakeholder workshop was held on 28 February 2018.

Appendix B Literature review

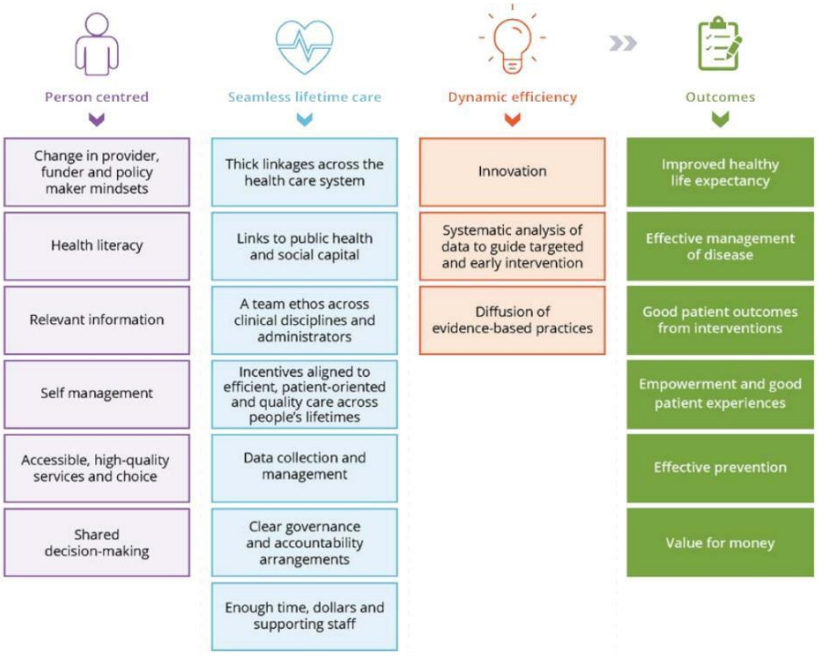
Multiple themes emerged over the course of our review of both the domestic and international literature on primary health care integration. The following section provides a brief overview of these themes, which are structured according to our key lines of enquiry (Section 4) for the project.

As noted in the Capital Health Network and ACT Health's *After Hours Joint Commissioning Report*, many aspects of after hours service utilisation and impediments to improving service delivery in the ACT are consistent with national and international experience. The reliance on EDs as a default source of after hours care often stems from the perception of urgency by members of the public as well as a lack of knowledge or access to alternative service options. This is particularly the case for people caring for children or members of other vulnerable groups who are more likely to interpret a non-urgent condition as cause for immediate attention from a medical professional.

1 Background

Improved integration of primary care services is being pursued in a number of countries to improve patient experience, continuity of care, and the efficiency of the health care system as a whole. A variety of interventions have been used to achieve this. In Australia, seeking greater integration in the health care sector has been a policy objective in all jurisdictions for at least 20 years.[1] The Productivity Commission recently stated that "health policymakers have embraced the concept of integrating the actions of, and information from, the different parts of the health and community sector to provide care suited to the personal circumstances of the patient — 'integrated patient-centred care'. The objective is fourfold – to improve health outcomes while at the same time delivering a higher quality service to patients, lowering costs and ensuring the wellbeing of the health workforce." [2] These potential benefits to the health system and its stakeholders benefits are modelled in **Figure 3**.

Figure 3: Fourfold benefits of integrated healthcare



An integrated system may be particularly valuable as the people who access ED most frequently often share other challenges including lower income, social isolation, mental illness, substance misuse, and chronic medical co-morbidities.[3] An integrated model that bridges hospitals, primary and community care for frequent ED users is most likely to serve the needs of these patients. Such a multidisciplinary model is better equipped because patients have access to multiple services through one coordinated system comprising physicians, nurses, dieticians, social workers, counsellors, therapists, harm reduction workers

[1] Commonwealth of Australia, Shifting the Dial: 5 Year Productivity Review (Supporting Paper No. 5 – Integrated Care), Canberra: Productivity Commission, 2017.
[2] Ibid.
[3] Kahan D, M Leszcz, P O'Campo, SW Hwang, DA Wasyelnki, P Kurdyak, DW Harris, A Gozdzik & V Stergiopoulos, "Integrating care for frequent users of emergency departments: implementation evaluation of a brief multi-organizational intensive case management intervention," BMC Health Services Research 16.156 (2016): 1-9.

and even patient support or client support workers. Though collaboration between sectors that do not traditionally work together is challenging, this can be tackled by strong endorsement by health executives and policymakers, commitment and joint decision-making by hospital agencies and primary service providers, and buy-in and information exchange among ED staff and partner services. [4]

Though the value of integrated healthcare has been discussed in a number of Australian publications, a recent in-depth summary can be found in the Productivity Commission's 2017 paper *Shifting the Dial: 5 Year Productivity Review – Integrated Care*, available online at www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review-supporting5.pdf.

1.1 Context

Integration has been largely touted as a response to high levels of use of EDs, for a variety of emergency, urgent and non-urgent conditions. Throughout the world, EDs and their equivalents attract high levels of demand from the public: they are generally trusted, front-of-mind services that provide all-hours, low-cost multipurpose healthcare. For these reasons, they are also commonly overstretched. This is certainly the case for many Australian EDs, which have experienced ongoing and steepening increases in demand and are often operating close to capacity.[5]

Since the late 20th century, researchers have suggested that more integrated primary care service and ED models would reduce the demand for emergency hospital care by redirecting lower acuity presentations to other care providers. This in turn would increase the capacity of EDs to provide better care for urgent and emergency cases, help lower work stress, reduce time-delays for required treatments, and lower ED overcrowding. Accordingly, if the objective for hospital EDs is to reduce their burden and improve patient satisfaction and outcomes, the strategy should focus more on enhancing adequacy of care, and less on matching healthcare-seeking behaviour to the services. Any new model of integrated care should be adapted to meet the unique characteristics of each ED and the patients it serves.

In Australia, it has been regularly observed that increases in ED demand are buoyed (and may indeed be driven) by the quantity of presentations by patients with GP-type conditions. Reported reasons include relative distance from the EDs and primary care facilities, lack of awareness of other facilities, perceived seriousness or urgency of care, judgement that EDs will give better care, poor availability of general practice out of hours, inability to attend the GP, poor knowledge of GP services, convenience of 24-hour access, time of day, ethnicity, age, socio-economic status, social deprivation, homelessness and health insurance status.[6] Research has proposed that diverting such patients away from the ED may improve access and care across the system.[7] However, research has also indicated that frequent users of the ED are more likely than occasional ED users to have made primary care visits in a year.[8] These studies also note that the highest-frequency users more often present with lower-acuity complaints. However, a significant proportion of these lower acuity patients (30 per cent in one UK study) may have sought help for the same problem at an alternative primary care service prior to attending the ED.[9] This illustrates a common

[4] Kahan D, M Leszcz, P O'Campo, SW Hwang, DA Wasyelnki, P Kurdyak, DW Harris, A Gozdzik & V Stergiopoulos, "Integrating care for frequent users of emergency departments: implementation evaluation of a brief multi-organizational intensive case management intervention," BMC Health Services Research 16.156 (2016): 1-9.
[5] Ting J, "Rising burden of emergency department congestion," Medical Journal of Australia InSight [Online]: 30 January 2017.
[6] Cooke M et al. Reducing Attendances and Waits in Emergency Departments: A systematic review of present innovations: Report to the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D, Coventry: University of Warwick, 2004.
[7] Ramlakhan S, S Mason, C O'Keeffe, A Ramtahal & S Ablard, "Primary care services located with EDs: a review of effectiveness," Emergency Medicine Journal 33.7 (2016): 495-503.
[8] LaCalle E & E Rabin, "Frequent Users of Emergency Departments: The Myths, the Data, and the Policy Implications," Annals of Emergency Medicine 56.1 (2010): 42-8.
[9] Penson R, P Coleman, S Mason & J Nicholl, "Why do patients with minor or moderate conditions that could be managed in other settings attend the emergency department?" Emergency Medicine Journal 29:6 (2012): 487-91.

problem – a reliance on ED for services that cannot be provided at an alternative service, despite having been diagnosed there. This discontinuity may result in time or monetary cost to the patients while fragmenting their continuity of care. Numerous factors inform a patient's choice to go to ED, [10] and in order to make the most appropriate choice they must be supported by a wide availability of services and an easily-navigable system.

Though integrated models of care have been regularly proposed and introduced to address these problems, the extent to which individual models produce positive impacts is not uniform. This is in part due to the variance between different hospitals and jurisdictions. For example, non-urgent patients remain a poorly defined population and there is no specific universal definition of non-urgent ED visits.[11] Given that medical, social, and environmental factors enter into the decision process for categorising non-urgent patients, it is difficult to develop guidelines and determine a replicable approach to determining acuity.[12] Accordingly studies across Australia, North America and the UK have observed very different trends in the proportion of lower-acuity patients presenting at ED: while some studies suggest that the divertible percentage of presentations is as low as five per cent, others have suggested that at least half of the patients presenting at EDs could be better managed elsewhere.[13] [14] [15] A 2011 systematic review concluded that the average proportion is one-third of all presentations.[16] The most effective model for any given jurisdiction may hinge upon this number, as well as a number of other contextual factors.

1.2 Models

Spurred by the issues discussed above, multiple models have been developed and implemented to reduce the impact of lower acuity presentations on EDs. As outlined in the following section of the literature review, these models largely conform to three key approaches: co-location of different services, diversion to alternative services and integration between services. The central premise of each approach is that an accessible primary care system has the capacity to provide timely, adequate, and effective care for patients and enables them to avoid low-acuity ED use.[17]

Whether an integrated primary care services and ED model is co-located, decentralised or hybrid has implications for its implementation and ultimate effectiveness. There is no clear choice for any given context. For instance, some of the challenges of a decentralised model include the lack of central oversight, and unclear accountabilities between service providers and the ED proper. However, the literature indicates that decentralisation may also facilitate innovation, whereas co-location facilitates the implementation of new approaches without allowing for the same flexibility or forward thinking. [18] Hence, co-located, decentralised and hybrid models have both positives and negatives and deciding which

[10] Kahan D, M Leszcz, P O'Campo, SW Hwang, DA Wasyelnki, P Kurdyak, DW Harris, A Gozdzik & V Stergiopoulos, "Integrating care for frequent users of emergency departments: implementation evaluation of a brief multi-organizational intensive case management intervention," BMC Health Services Research 16.156 (2016): 1-9.
[11] Durand AC et al. "ED patients: how non-urgent are they? Systematic review of the emergency medicine literature," The American Journal of Emergency Medicine 29.3 (2011): 333-45.
[12] Durand AC et al. "ED patients: how nonurgent are they? Systematic review of the emergency medicine literature," The American Journal of Emergency Medicine 29.3 (2011): 333-45.
[13] Capital Health Network & ACT Health, After Hours Joint Commissioning Report, 2016.
[14] Penson R, P Coleman, S Mason & J Nicholl, "Why do patients with minor or moderate conditions that could be managed in other settings attend the emergency department?" Emergency Medicine Journal 29:6 (2012): 487-91.
[15] Xin H, ML Kilgore, S Bisakha & J Blackburn, "Can Nonurgent Emergency Department Care Costs be Reduced? Empirical Evidence from a U.S. Nationally Representative Sample," Administration of Emergency Medicine 49.3 (2015): 347-54.
[16] Durand AC et al. "ED patients: how nonurgent are they? Systematic review of the emergency medicine literature," The American Journal of Emergency Medicine 29.3 (2011): 333-45.
[17] Xin H, ML Kilgore, S Bisakha & J Blackburn, "Can Nonurgent Emergency Department Care Costs be Reduced? Empirical Evidence from a U.S. Nationally Representative Sample," Administration of Emergency Medicine 49.3 (2015): 347-54.
[18] Kahan

approach to adopt is contingent on the context of the ED, the primary care services, and environmental and resourcing factors.

Several models of hospital-based urgent care centre (UCC) services have been implemented that primarily use a workforce of GPs or other primary care clinicians. These have been rolled out at significant cost in many cases but with little evaluation of effectiveness in the context of local health services. In many instances, the introduction of alternative and untested forms of UCC services has failed to reduce ED attendances. [19]

There are examples of each of these models in several countries, often with multiple examples in the same jurisdictions. They have achieved varied results. For example, studies in the UK have found that creating a service within or alongside the ED (co-located) in which GPs can use their distinct skills and therefore add value to the existing skill mix of ED staff should be an important consideration when establishing these systems. Effective triage arrangements should also be setup to ensure appropriate patients are referred to GPs.[20] In Australia, by contrast, hospital avoidance programs offering primary care services – such as Hospital in the Home and home IV services – have also been shown to reduce the burden of the ED.[21] There are also caveats on some interventions based on the demand profile and healthcare system in that region. For example, studies from the US have found effective connections between services that result in a large number of referrals between public EDs and primary care facilities. However, this alternative was viable only if the availability and coordination of primary care services were enhanced for low-income populations.[22]

The models examined in the literature are categorised and summarised in greater detail in Section 2.

1.3 Measures

Across the literature, there are a number of common metrics that are used to measure the success of any given intervention. For example, in an article for *Emergency Medicine Journal,* Ramalakhan et al. proposed the following three criteria for assessing the effectiveness of any proposed model:

1. Process outcomes: impact on attendances, process time measures (length of stay, waiting time, treatment time), resource utilisation, radiography, laboratory use, medication, follow-up rates, admission, referral, re-attendance/re-consultation.
2. Cost-effectiveness: cost associated with primary care services in an ED, costs per patient, and in some cases indirect costs associated with process times.
3. Patient satisfaction: satisfaction between usual ED care and addition of a primary care stream. [23]

These three factors are common across many of the studies, regardless of the model type. A number of the studies also dig down deeper into the experience of the patient as a yardstick for the success of a given system. For example, a before and after comparative study conducted in the Netherlands to introduce an in-hours GP service to the ED setting used the following criteria to assess the program's success from the patient perspective: [24]

- Total visits to the ED

[19] Ramlakhan S, S Mason, C O'Keeffe, A Ramtahal & S Ablard, "Primary care services located with EDs: a review of effectiveness," Emergency Medicine Journal 33.7 (2016): 495-503.
[20] Ablard S, C O'Keeffe, S Ramlakhan & S Mason, "Primary care services co-located with Emergency Departments across a U.K. region: early views on their development," Emergency Medicine Journal 34.10 (2017): 672-6.
[21] Ting J, "Rising burden of emergency department congestion," Medical Journal of Australia InSight [Online]: 30 January 2017.
[22] Grumbach K et al. "Primary Care and Public Emergency Department Overcrowding," American Journal of Public Health 83.3 (1993): 372-8.
[23] Ramlakhan S, S Mason, C O'Keeffe, A Ramtahal & S Ablard, "Primary care services located with EDs: a review of effectiveness," Emergency Medicine Journal 33.7 (2016): 495-503.
[24] Boeke AJP et al. "Effectiveness of GPs in accident and emergency departments," British Journal of General Practice 60:579 (2010): 378-84.

- Experience at Reception
- Treatment by nurse
- Treatment by doctor
- Emotional support

Other measures included autonomy; information; access to ED; and aftercare.

Accordingly, Nous' previous scoping study for the Capital Health Network – which examined options to further integrate the ACT Ambulance Service with local primary care services – concluded that an improved, integrated model for the ACT needs to fulfil a number of criteria in order to be accepted and effective. There is broad consensus in the literature, and among local stakeholders, that an ideal after hours primary health care system must achieve the following:

- Enable access to appropriate, safe, and quality care at all times.
- Support continuity of care, including consideration of existing health care relationships.
- Improved patient experience by supporting patient-centred approaches and patient decision-making through effective communication, awareness-raising and health literacy capacity-building.
- Maintain and build existing systems and relationships.
- Use existing funding more efficiently.
- Be suitable for the ACT context, and ensure equal access and fair geographical distribution.
- Reduce burden on EDs managing cases that could be appropriately managed elsewhere.

These criteria are strongly aligned with the 'service goals' stated in the After Hour Joint Commissioning Report, which seeks to develop a whole of system approach to improve the provision of appropriate and sustainable after hours primary health care in the ACT.[25]

1.4 Impacts

The impacts of integrated approaches vary between models and across different contexts, though the consensus in the literature is that these approached have the potential to improve both experience and efficiency. Foremost, research indicates that lower acuity patients who agree to seek alternative services did not suffer worse outcomes and may in fact have received more timely and satisfying care.[26]

Multiple studies reported increases in patient satisfaction, particularly with respect to treatment received from doctors or nurses. Other metrics have shown that interventions to improve integration can significantly reduce the mean process and wait times, as well as the actual treatment time.[27] Other research has observed significant increases in the appropriateness of triage and the value of care provided by primary care providers working with, or within, the ED. [28]

It is important to note that the redirection of lower acuity cases away from ED proper and into alternative (if co-located) primary care services is not universally supported. A systematic review of the NHS ED model concluded that although there is a vast amount of literature about waits and delays in ED, there is little literature about service delivery and organisation factors in emergency care that provides true evidence to change the time course of a person's stay in the ED.[29] There are also potential ethical and safety concerns as redirection of patients from ED raises the problem of availability, accessibility, and affordability of another source of care, especially for vulnerable populations. Secondly, redirection of patients also raises

[25] Capital Health Network & ACT Health, After Hours Joint Commissioning Report, 2016.
[26] Ting J, "Rising burden of emergency department congestion," Medical Journal of Australia InSight [Online]: 30 January 2017.
[27] Boeke AJP et al. "Effectiveness of GPs in accident and emergency departments," British Journal of General Practice 60:579 (2010): 378-84.
[28] Ablard S, C O'Keeffe, S Ramlakhan & S Mason, "Primary care services co-located with Emergency Departments across a U.K. region: early views on their development," Emergency Medicine Journal 34.10 (2017): 672-6.
[29] Cooke M et al. Reducing Attendances and Waits in Emergency Departments: A systematic review of present innovations: Report to the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D, Coventry: University of Warwick, 2004.

concerns relating to safety of care, with the risk of inadvertently refusing care to patients truly in need of emergency interventions. Other issues relate primarily to the necessary cost impact of developing or adapting current service models – due to capital and recurrent costs, the potential savings from a diversion of non-urgent visits to primary care are frequently modest.[30] This is particularly important in relation to co-location models, as paradoxical increases in presentations have been observed through provider-induced demand – the honeypot effect of establishing new services at an already popular ED location. [31] Though marginal savings may be realised per patient, this is likely to be overshadowed by the overall cost of introducing a new, attractive service.

Nonetheless, the literature is largely positive about the impact of interventions to improve ED and primary care integration. Of all the literature studied in this review, there were no observations of a reduction or worsening of outcomes following integration. Though some research identified little change to the above metrics following implementation, the majority identify some benefits of improvement across each of the measures identified above.

1.5 Communications

Another key element of the integration literature is the repeated importance of patient awareness and effective communication regarding primary care services. Education of patients as to what type of conditions are appropriate for the ED is widely advocated due to frequently low levels of awareness within the community about the availability and variety of services. In a 2012 UK survey, between 30 and 50 per cent of people reported that they did not know that after hours alternatives to the ED existed, or if they did know that they existed, were unsure if these services were available.[32] To address this, a comprehensive and consistent communications strategy must be implemented that informs the public about the impact of lower acuity presentations on EDs and the availability of alternative services that they can access for conditions that do not require emergency response. [33]

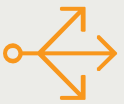
The literature emphasises that the responsibility for effective communication and education belong to both government decision makers and service providers. Federal, state and local governments, together with hospitals and primary care services must educate the public that EDs should not be the first port of call for lower acuity presentations. Additionally, public, private and NFP stakeholders should work together to chart a long-term strategy which aims to boost public health education to better enable people to manage their own health and make informed decisions for their own care. [34]

[30] Ramlakhan S, S Mason, C O'Keeffe, A Ramtahal & S Ablard, "Primary care services located with EDs: a review of effectiveness," Emergency Medicine Journal 33.7 (2016): 495-503.
[31] Ramlakhan S, S Mason, C O'Keeffe, A Ramtahal & S Ablard, "Primary care services located with EDs: a review of effectiveness," Emergency Medicine Journal 33.7 (2016): 495-503.
[32] Penson R, P Coleman, S Mason & J Nicholl, "Why do patients with minor or moderate conditions that could be managed in other settings attend the emergency department?" Emergency Medicine Journal 29:6 (2012): 487-91.
[33] Ting J, "Rising burden of emergency department congestion," Medical Journal of Australia InSight [Online]: 30 January 2017.
[34] Ting J, "Rising burden of emergency department congestion," Medical Journal of Australia InSight [Online]: 30 January 2017.

2 Existing integrated service models follow three key approaches

This section synthesizes various interventions and primary health care models into eight key types. The examples are drawn from Australian and international literature. Though they are not an exhaustive summary of the available options, they provide broad insights into the variety, as well as the benefits and drawbacks of various health care network interventions. They also indicate the many similarities between models used in different parts of the world, which can be categorised under three main approaches:

Table 21: Three main approaches adopted in primary care integration models

	Co-location Introduction or relocation of additional primary care services in or next to an ED.
	Diversion Diversion of low-acuity patients to other primary care services, in other locations, as an alternative to treatment in the ED.
	Integration Active coordination of ED services with other primary care services at multiple levels of the care pathway.

The various models are grouped beneath these categories, and the key features of each model are described. Table 22, Table 23 and Table 24 identify where similar models have been implemented, as well as their key benefits and drawbacks. It also suggests any considerations if the model were to be applied in the ACT, and include areas of investigation if the model is to be pursued further.

2.1 Though co-location models streamline access to specialised services, they may also increase ED burden

Table 22: Summary of co-location models

Benefits	Drawbacks	Context
1		Introduction or relocation of an existing primary care service provider to within, adjacent or near an ED – services include extended hours GPs (mostly bulk-billed or subsidised), extended hours pharmacies and/or nurse practitioners for patients with lower acuity, non-life-threatening conditions. Generally these services are only available after hours. *Examples:* Australia (including NSW, VIC, and WA), Sweden, the UK, and multiple others
1. GP-type consultation and treatment is directly available next to/close to the ED – patients choose or are redirected from the ED towards the primary care service, and vice versa 2. These models accept that patients will attend EDs for after hours primary care, and provide an alternative on-site service to free up emergency care for more acute presentations 3. Service locations promote collaboration/partnership between hospital services and GP 4. May be able to share triage capability by streaming all arrivals through the ED triage nurse 5. Addresses a potential 'mismatch' between the need for EDs to respond to high acuity presentations and the needs of low acuity presentations 6. May reduce wait times and treatment times for patients from all triage categories, including those patients who attend the GP and those who remain in the ED	7. These services may operate at different times to ED, and are rarely 24 hours (if they only operate after hours, they may be closed during times of peak activity in the ED itself) – If they increase overall attraction to the hospital campus but are not available, this may lead to a paradoxical increase in ED attendance 8. Unless services are free or low cost, ED attendance may remain the default choice for financial reasons 9. ED attendance may remain as a preference due to access to 'one-stop shop' services not offered through other primary care options (e.g. pathology, radiography). 10. It has been occasionally observed that GPs are sometimes expected to take on responsibilities beyond the usual scope of GP practice and seen as an "extra pair of hands" rather than offering a distinct service with alternative skills and approaches to patient care	11. There are existing co-located GP services in the ACT (CALMS is a medical deputising service owned and operated by Canberra GPs – it is co-located in TCH) and the CALMS model would need to be reviewed to enable a greater impact 12. There are physical limitations due to the size and layout of the existing Canberra hospital ED and surrounding environment but SPIRE will revisit current limitations and enable alternative approaches to be considered as part of the redevelopment 13. May require changes to existing services near the ED – for example, the current private pharmacy in TCH could be altered to provide extended hours services, or to employ a nurse practitioner.

Benefits	Drawbacks	Context

2

Co-location of a Minor Injury Unit (MIU), Urgent or Unscheduled Care Centre (UCC) or walk in centre (WIC) Establishment of a Minor Injury Unit (MIU)/UCC/WIC within the ED. Patients arrive at the ED and are advised or triaged at reception about the best service for their needs. An MIU/UCC/WIC is able to treat minor wounds, sprains, strains, fractures and other lower acuity (but nonetheless urgent) presenting problems.

Examples: Throughout the UK, and some European countries

14. Rarely require appointments (allowing for walk-ins originally intending to attend ED)
15. Patients have input into which service they attend when they present at ED, due to central use of ED triage system
16. Patients with lower acuity problems (especially triage categories 4 & 5) receive treatment faster than if they were to wait in the ED
17. Due to proximity, services are able to share resources or return the patient to ED if the severity of the condition increases
18. Benefits vary depending on the MIU/UCC/WIC model. Observed results vary across services – in some instances in the UK the introduction of a UCC resulted in no significant difference in compliance with the average patient length of stay, in other instances the substitution of a GP for the usual ED clinician found a significant reduction in mean length of stay

19. These services may operate at different times to ED, and are rarely 24 hours (if they only operate after hours, they may be closed during times of peak activity in the ED itself) – If they increase overall attraction to the hospital campus but are not available, this may lead to a paradoxical increase in ED attendance
20. An increase in presentations to the ED campus could occur due to the honey-pot effect. Co-location of a Walk-in-Centre (WIC) with TCH ED previously coincided with an increase in ED presentations.
21. Some models do not have the facilities to treat young children as this depends on the capacity, resources or skill levels available
22. There are potential challenges in informing the community about availability of these newer services and the distinction from ED
23. Marginal savings may be realised per patient but in the short run this would be overshadowed by the cost of introducing a new service
4.

24. There are existing co-located GP services in the ACT (CALMS is a medical deputising service owned and operated by Canberra GPs – it is co-located in TCH) and the CALMS model would need to be reviewed to enable a greater impact
25. There are physical limitations due to the size and layout of the existing Canberra hospital ED and surrounding environment
26. Establishment would require a substantial reorganisation of existing Canberra Hospital services to find the physical space required, making the prospect of setting up an MIU far more challenging in the short term – however, it could be considered as part of the development of SPIRE
27. This model requires further understanding of the demand profile at Canberra Hospital ED as well as analysis of what extent patient numbers have increased at existing EDs that offer co-located UCC/MIU/WIC
28. There is a need to understand the relative benefits of this model operating on an extended hours vs a 24/7 model – the ACT may not have the demand for services to buoy a 24/7 model, so it is important to understand if this would be a valuable intervention for only the 'sociable' segment of the after hours period
5.
6.

2.2 Diversion models support increased access to after hours care but may require significant investment up-front

Table 23: Summary of diversion models

Benefits	Drawbacks	Context
1 Increased use of GP-led after hours services, covering a defined region, and coordinating between general practices to provide rostered after hours telephone consultation, face-to-face contact in extended hours practices, and house calls. *Examples:* After hours primary care coordinated services operating throughout Denmark, the Netherlands, and the UK		
29. Generally low-cost options for patients that allow one-to-one consultation for a small fee or co-payment – some models include free access for patients for phone and face to face consultations 30. Leverages trust-based relationships between patients and their GPs 31. Increased job satisfaction rates for GPs 32. Increased phone handling (by nurses) allows for rapid, broad consultation for low acuity patients 33. Research suggests there is little increased burden on GPs (and sometimes reduced workload) as the focus is primarily on phone based rather than physical consultation	34. Conflicting findings on whether there is a direct impact in reducing ED attendances – multiple studies cite there is no significant reduction in usage of either ED or ambulance 35. Requires a developed relationship between local GPs and phone triage providers 36. Reduced patient satisfaction for phone-based consultation observed in the Netherlands	37. Would require buy-in, collaboration and investment by numerous ACT GP services and may not be feasible in the short run 38. This is similar to the CALMS model, and how new arrangements would amend, work with or replace the CALMS model would need to be worked through 39. The phone triage element of the model overlaps to an extent with both Healthdirect and CALMS – collaborating with Healthdirect (the national government-funded phone triage service) is possible but would require negotiation and development 40. The Healthdirect After Hours GP Helpline could potentially be leveraged as an alternative to increased local GP involvement in after hours triage and care.
2 Creation of freestanding UCCs or extended hours GP care facilities as after hours alternatives to ED – these services provide an alternative to EDs for urgent and unscheduled care that is non-life threatening. They are located away from the hospital campus. *Examples:* Australia (WA), New Zealand, and throughout the US and the UK		
41. Care is provided through a multidisciplinary team of doctors, nurses and paramedics. Many examples are free of charge at point of care for eligible patients (in AUS and NZ), but there are patient-billed services such as the	45. Requires significant investment to set up and require long-term impact assessment and funding negotiation 46. These services usually focus on walk-in presentations (self-referred patients) rather than ambulance,	48. Does not depend on co-location – would have equivalent impacts on Canberra Hospital and Calvary 49. Due to small size of jurisdiction, and the role of the Walk in Centres, Canberra may not have the critical mass necessary to

Benefits	Drawbacks	Context
Walk-in Specialist Emergency Clinic (Wised) in Sydney and major UCC chains in the US. 42. Patients are referred back to their GPs for follow-on care, promoting integration of the broader primary health care network 43. Some UCCs offer comprehensive primary care in one location through services including dental, x-ray, dermatology, onsite pathology and pharmacy, and occasionally orthopaedics 44. Can be located in popular public areas (such as shopping centres) or in densely populated suburban areas and do not require set-up near an existing hospital	thus have limited impact to reduce low acuity presentations that arrive by ambulance unless ambulance protocols can be developed. 47. Freestanding UCCs require a steady stream of low acuity patients to be economically viable but there are conflicting findings on whether UCCs are sustainable in their own right and whether they warrant the significant investment and operational costs	justify the establishment of a new service of this nature. 50. If UCCs were to be pursued, expansion of the role of WiCs would be the logical approach, but this would require substantial reworking of the WiC model. 51. Further analysis of the return on investment for UCCs established in Australia to date (and their impact on ED presentations) is required

3

Extended Care Paramedics (ECPs) – a model that extends the role of paramedics to provide on-scene treatment for patients who would otherwise be transported to the ED.

Examples: Australia (QLD, NSW, SA and TAS) and Canada

52. Patients benefit from not having to be transported and not having to wait for care at their destination (there is also potential to improve patient experience and outcomes by enabling treatment at home (including residential aged care), avoiding the experience of transport and displacement) 53. Health care system (EDs in particular) benefits through reduced presentations by those who don't require ED resources to be appropriately treated 54. Paramedics benefit from added training, responsibility, engagement and job satisfaction	55. Requires trust and buy-in from local population, who may not be familiar with the on-scene treatment model 56. Requires time and salary investment in training of the current paramedic workforce	57. Does not depend on co-location – would have equivalent impacts on Canberra Hospital and Calvary 58. The ACT had a trial of an ECP program in 2012/2013 – of the five states which trialled the program, only the ACT and NT did not continue the program 59. To be cost effective, the service would need to be well integrated with current ambulance services and processes established to ensure a critical mass of patients 60. There are existing relationships with Ambulance SA to conduct ECP training 61. Would require a communications program to inform the public of the new service – this would need to be scoped

2.3 Integrated models require complex negotiation but can support clear, collaborative relationships between providers

Table 24: Summary of integration models

Benefits	Drawbacks	Context
1	An integrated system which allows collaboration and communication between multiple elements of the health system provides an alternative model for reducing ED attendance, by enabling more appropriate transitions to various other primary health care services. For example, an emphasis on phone-based triage as well as diversion to non-ED treatment options. Integrated models can have, for example, phone triage as the entry point to all services, with patients streamed to ambulance, ED, GP according to the results of the triage. *Examples:* The Netherlands, New Zealand, and the UK	
62. Patients are able to enter the system via health information or triage services provided by a central provider, which can inform them of the multiple care options and provide tailored advice 63. Patients potentially diverted from the ED do not end up in a single alternative location, but are more evenly dispersed to a variety of non-ED treatment options 64. Though the system may take time to develop, some elements can be implemented as 'quick wins'	65. Increased emphasis on phone based triage requires trust from consumers that they are receiving the best advice from the outset 66. There may be significant start-up costs associated with development across services, including training costs (for triage or paramedic staff) and negotiation with service providers – these may require additional funding	67. Requires buy-in from multiple, independent health service providers in the ACT, including GPs, ACT Health, the ACT Ambulance Service and Healthdirect 68. Nous' previous study for Capital Health Network has scoped options for some elements of an integrated approach, which would support the aims of this parallel project
2	A partly integrated system which fosters collaboration between after hours primary care providers (e.g. extended hours GPs and walk in centres) and hospital-based pathology, radiography and other specialised services without the requirement for ED presentation and assessment. *Examples:* Arrangements are already in place for WIC patients to access radiology in the ACT	
69. Access to pathology, radiology and specialist reviews are key drivers for patients choosing to attend ED after hours 70. Such arrangements enable patients to access these services on referral from primary care providers without requiring ED assessment 71. Models are usually free of charge to ensure that cost does not create incentives to revert to ED	72. Policies and procedures would need to be developed to balance access for primary care referred patients with hospital and ED-based referrals 73. Requires capacity to accommodate increased demand on services after hours 74. There is a likely cost associated with additional after hours staffing and this would need to be assessed against savings and additional revenue generated	76. Canberra Hospital currently has limited after hours capacity across these services and the potential impact of additional demand would need to be modelled 77. Point of care pathology testing and image capture, with remote access to specialist advice and reading of images could be explored to reduce the need for patients to travel between service providers

Benefits	Drawbacks	Context
	75. Patients would still be required to have travel from the primary care providers to the hospital – this may create strains on the Ambulance and non-emergency transport system, and may impose costs	

3

A health care system structured through a single organisational body, responsible for managing the range of primary health care services within a local network. This includes integration of funding and medical records.

Examples: The UK (NHS Direct), Canterbury (New Zealand)

78. Enables smooth transition through the care pathway, from triage, transport and service delivery, and has oversight of the process
79. Eliminates the issue of silos of funding, and promotes sustainable collaboration between services
80. Promotes better continuity of care by allowing health practitioners to access and update medical records for all patients, ensuring smooth communication between care providers across different specialisations and jurisdictions
81. Allows for the documentation and development of local best practice
82. Can significantly reduce wait times for procedures, for example elective surgery wait-times, due to greater coordination and oversight

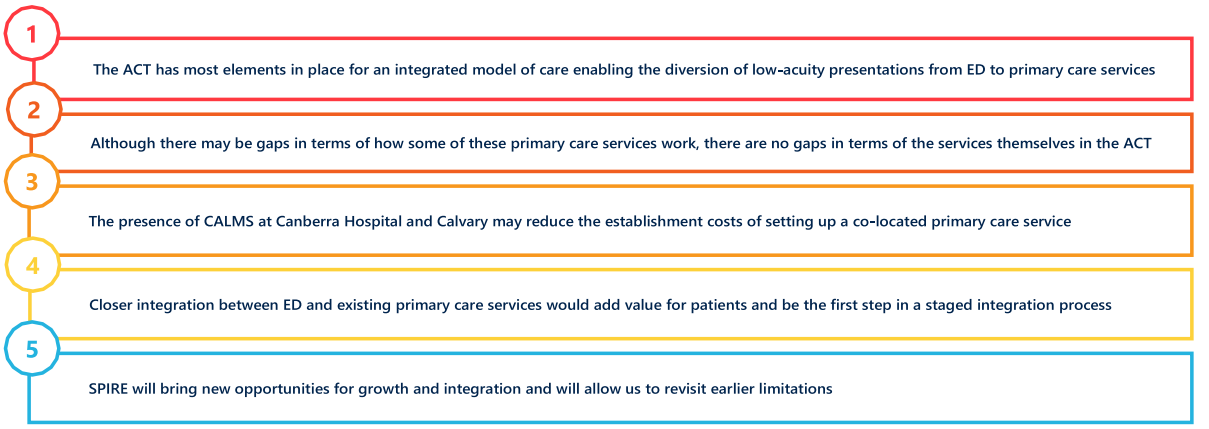
83. Expensive and complex to develop, particularly where there is an existing primary care health infrastructure which involves multiple independent players
84. Design and development of a system effectively tailored to local context would take multiple years
85. Requires buy-in from a variety of government stakeholders
86. Poor design features or a flawed implementation process would create significant operational problems for the health system as a whole

87. This would not be feasible in the foreseeable future for the ACT as it requires substantial overhaul or redesign of the ACT's current health system

3 Multiple interventions have the potential to positively impact the ACT health system

There is potential for any of the above models to have a positive impact on the efficiency and effectiveness of the ACT health system. A summary of some of the local attributes that support the development of integrated care models for the ACT are provided below.

Figure 4: Enablers that support integrated care in the ACT



Accordingly, our research to date indicates that the three factors outlined in Sections 5.1 to 5.3 below are important to consider or research further. These factors have potential to achieve the goals set out in Section 1.3, including improved appropriateness, safety and quality of care, improved patient experience, and cost effectiveness for patients and service providers in the ACT.

3.1 Pursue a staged strategy that values quick wins as well as long-term development

Full implementation of improved integration arrangements could take a significant time to achieve. 'Quick wins' that build towards longer term objectives would enable proposed approaches to be beneficial in the short-term as well as the longer-term and build support for more significant changes. These are small changes to the existing health system which can be implemented relatively quickly, for an earlier impact, and which will facilitate the more significant developments later in the implementation timeline.

If pursuing one of the above models, potential 'quick wins' include the following interventions:

Increased coordination with and awareness-raising for Healthdirect, to promote a centralised use of triage. Studies have found that an effective triage process that is prospective and based on explicit criteria are necessary components of a broader system to reduce non-urgent ED presentations.[35] The ACT Government currently contracts Healthdirect to provide phone-based health information and diagnostic/triage services the ACT residents. However, these services are only being utilised at two-

[35] Durand AC et al. "ED patients: how non-urgent are they? Systematic review of the emergency medicine literature," The American Journal of Emergency Medicine 29.3 (2011): 333-45.

thirds of their currently funded capacity. Through closer collaboration with Healthdirect, as well as community awareness-raising regarding the service's availability in general, this service could be utilised to assist more ACT residents in informed decision-making regarding the appropriate primary care service for their needs.

Promote safe diversion to alternative primary care providers at multiple points in the care pathway. This includes compiling complete information about the variety, availability and cost of various primary care services across all time periods. This information would be provided to nurses at Healthdirect, as well as ambulance paramedics, pharmacists and other patient-facing service providers who could refer patients to alternative services as appropriate, rather than defaulting to ED.

Introduce alternative services that can provide urgent care services outside of the ED context. Given the infrastructure established by the 2012/2013 extended care paramedic trial, there are opportunities in the short-to medium-term to reintroduce an ECP program as an alternative to default ED transport. This would enable people with significant urgent care needs to receive treatment safely and on-location, reducing the flow of patients to the ED via ambulance and providing appropriate care without needing to relocate the patient or take a transport ambulance off the road.

Use findings to inform the design and development of SPIRE. Any findings of this scoping study could be used to inform the development of SPIRE. The planning for SPIRE could expedite the process of implementing a co-located service.

Increase access to and awareness of alternative services that are already co-located with the ED. CALMS and TCH private pharmacy are existing services located close to the ED, and patients who arrive on ED campus automatically have easy access to their services. Though CALMS is well-established in Canberra, a large proportion of the local population may not be aware of their services and availability, and price can be a barrier to accessing their services. Improved community communication, a closer relationship between CALMS and the ED triage process and revisiting the pricing structure for CALMS could increase use of the service. Additionally, if the private Canberra Hospital pharmacy was expanded into an extended hours service, it could be able to provide medication after hours.

Promote pathways between and collaborative access to pathology and radiology. The Capital Health Network is currently running a trial of afterhours provision of private imaging service in partnership with the Canberra Imaging Group, which is located on Calvary Hospital Campus. These services will be available for use by patients of alternative service providers in the after hours period. A similar after hours partnership arrangement could be put in place on TCH campus for radiology and pathology services. This arrangement would allow patients from alternative services to be referred directly to diagnostic services without attendance at the ED. These partnerships would eliminate the problem of the duplicated waiting period – where patients who have already received a diagnosis elsewhere are require to wait in the ED before receiving the necessary service.

3.2 Develop a communications strategy to inform the community about service variety and availability

A communications strategy that informs ACT residents about existing after hours primary care services has the potential to increase demand for these services. Education of patients as to what type of conditions are appropriate for the ED is widely advocated due to frequently low levels of awareness within the community about the availability and variety of services. To address this, a comprehensive and consistent communications strategy could be implemented that informs the public about the impact of lower acuity presentations on EDs and the availability of alternative services that they can access for conditions that do not require emergency response.

The evidence suggests that this on its own would not result in a significant change to patterns of service use, but that a communications strategy would be a key adjunct to any other service changes.

3.3 Draw on urgent care centre models that incorporate specialised service offerings

The definition of urgent care centres (UCC) varies, but most centres have a few common characteristics. These include provision of unscheduled care, after-hours access, expanded services compared to primary care, and a lower cost than emergency care.[36] The concept of UCC began as early as 1970 and gained traction as the gap between patients' access to primary care and emergency care widened. UCCs have aimed to fill that gap as they serve patients' needs for acute but non-emergent medical care. Expanded access outside of working hours is a significant attribute of urgent care. Most UCCs tend to operate between 10-12 hours a day and close late for ease of patient access. UCCs also operate on weekends and their operations vary from six to more than 12 hours a day. Another notable feature of UCCs is the range of expanded services they offer such as on-site x-ray, intravenous medications and fluids, treatment of lacerations, minor burns and scalds, basic fracture care, wound infections, minor head injuries, insect and animal bites, minor eye injuries, among others.[37]

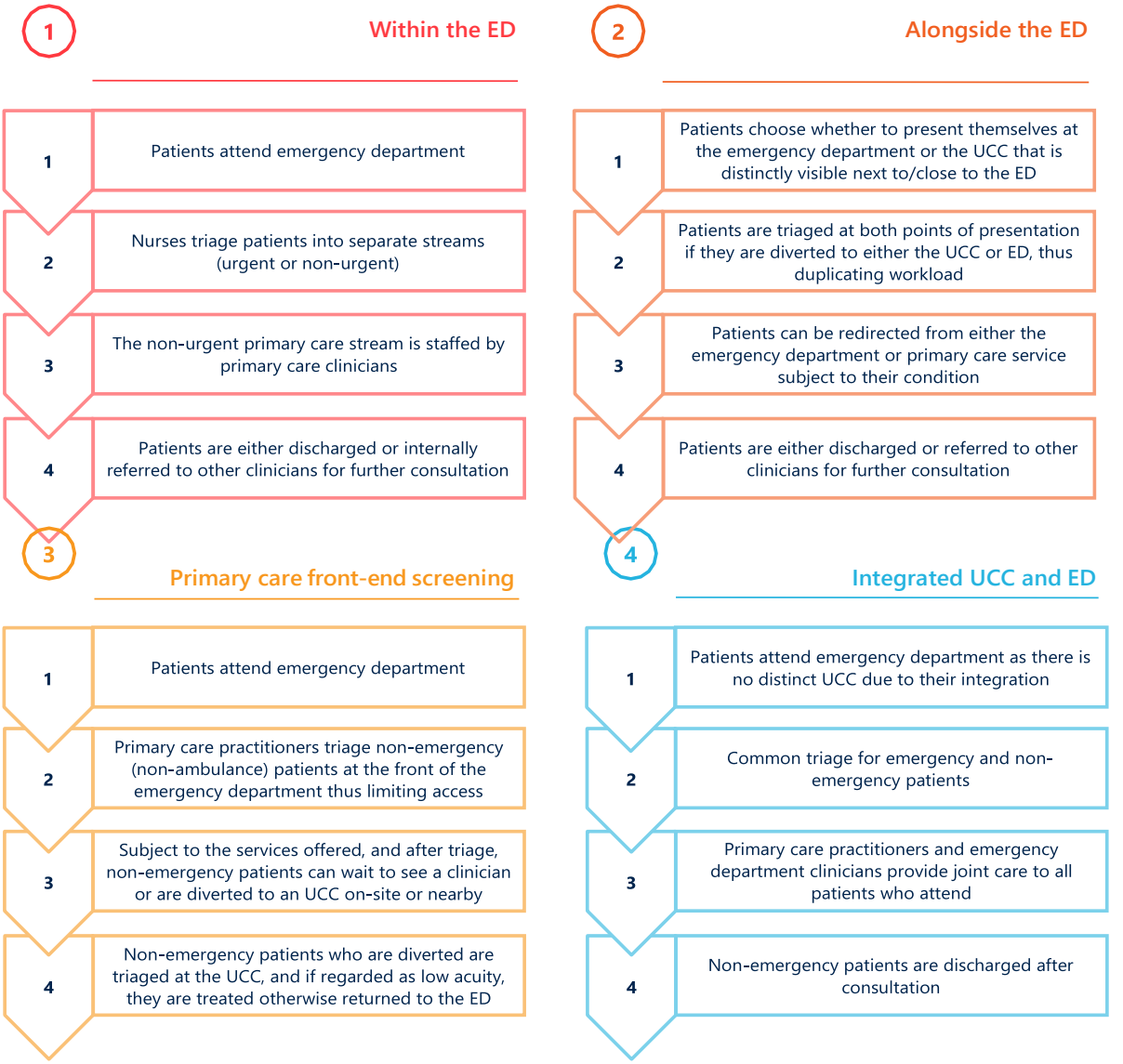
Though UCCs have proliferated in both the US and the UK, their impact on overall health care access, reducing presentations at EDs, and lowering costs remains unclear. In the US, the high cost of ED care for avoidable presentations has likely increased the demand for UCCs as an alternative service that is economical and accessible. Approximately 9,000 UCCs in the US have been established over the past two decades which indicates that these facilities are filling a gap in the space for medical care.[38] Historically, UCCs in the US have been independently owned standalone facilities, but they have adapted as the landscape of healthcare around them has changed significantly. For instance, large chains operate UCCs in some regions, and hospital systems are also establishing UCCs to expand their footprint and retain their patient base. More recently, health insurers are partnering with or setting up UCCs as a way to grow revenue, control spending by redirecting some care from EDs to lower-cost UCCs. But, as market dynamics influence the location and ownership of UCCs, the extent to which they are able to integrate with other care providers and offer coordinated care is unclear. A recent qualitative study in the US by the Centre for Studying Health System Change for the National Institute for Health Care Reform found that hospitals and insurance providers are optimistic about the potential of UCC to improve access and reduce ED visits.[39]

The National Health Service (NHS) introduced a model of GP-led UCCs in the UK in 2000 to tackle rising demand for urgent care and increasing hospital attendances, delays in accessing healthcare and associated rising healthcare costs. UCCs in the UK sit alongside Walk-in-Centres (WIC), Minor Injury Units (MIU), GP out-of-hours clinics, ambulance services and NHS 111, a national call service where callers can speak to fully trained advisers for urgent medical conditions (similar to Healthdirect in Australia). Yet, despite the proliferation of UCCs, the urgent care system is under strain with attendances to EDs increasing year on year. In fact, NHS England's chief executive, Simon Stevens, remarked that the lack of integration of NHS 111 with other parts of the urgent and emergency care system is a fundamental weakness that needs to be addressed.[40] Due to the compounding pressure on the health system, the NHS

[36] McNeeley S, "Urgent Care Centres: An Overview," American Journal of Clinical Medicine 9.2 (2012): 1-2.
[37] National Health Service (UK),"Minor injuries units and urgent care centres," <nhs.uk/NHSEngland/AboutNHSservices/Emergencyandurgentcareservices/Pages/Minorinjuriesunit.aspx>, accessed 12 January 2018.
[38] Urgent Care Association of America, The Case for Urgent Care, Naperville: Illinois, 2011.
[39] Yee T et al. "The Surge in Urgent Care Centres: Emergency Department Alternative or Costly Convenience?", Center for Studying Health System Change, Research Brief, Number 26, July (2013): 1-7.
[40] Ham C, "Emergency Department pressures need to be tackled through integrated urgent and emergency care," British Medical Journal 350 (2015): 1-2.

published a review which set out a plan to integrate ED services, GP out of hours, MIU, ambulance services and the NHS 111 call service so that patients can get the right care in the right place, whenever they require it. The rationale behind an integrated system of care is to "provide care as convenient for the patient as complexity of their illness allows, in the lowest acuity setting that is appropriate, and at the lowest cost for the [provider]… a new urgent and emergency care system needs to shift people from right to left, delivering as much care as close to home as possible."[41] **Figure 5** describes some of the models that seek to achieve this, comparing the patient journey in each case.

Figure 5: A selection of UCC models in the UK

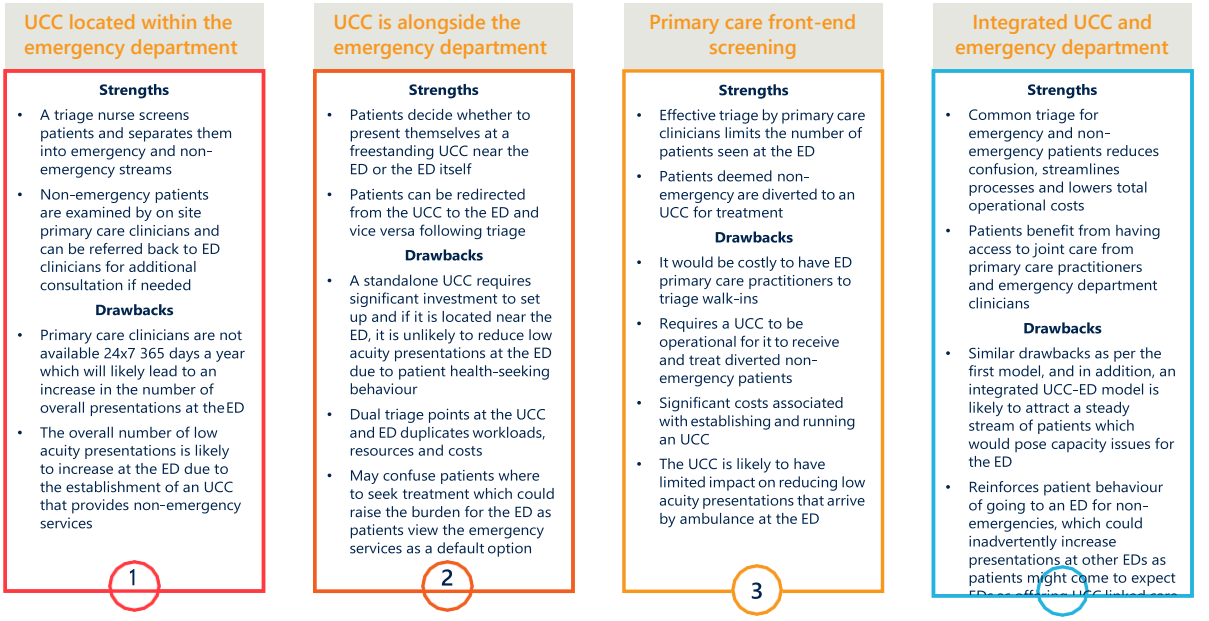


As noted earlier in this section, the literature and evidence on whether UCCs reduce the burden on EDs is inconclusive. A 2016 study that examined the effectiveness of primary care services located within EDs in Sheffield (UK) found a paradoxical increase in presentations which was likely due to provider-induced demand.[42] The latter study explains this paradoxical finding saying that once resources or services were

[41] Willett K, "Session four: Next Steps," The King's Fund, Urgent and emergency care: Learning from the vanguards on improving the co-ordination of services," <kingsfund.org.uk/events/urgent-and-emergency-care-1>, accessed 11 January 2018.
[42] Ramlakhan S, S Mason, C O'Keeffe, A Ramtahal & S Ablard, "Primary care services located with EDs: a review of effectiveness," Emergency Medicine Journal 33.7 (2016): 495-503.

made available, overutilisation of services would occur even if outcomes or quality is uncertain. Hence, as per this finding, caution must be exercised in estimating the proportion of patients suitable for diversion into a primary care service as this is likely to increase presentations once the service is operational. This effect of provider-induced demand is likely to be compounded if a service does not accept patients 24x7 and 365 days a year as the additional patients attending out of hours could amplify the burden on EDs. For comparison, **Figure 6** weighs the drawbacks of different UCC models – such as those described here – against their relative strengths.

Figure 6: Snapshot of UCC model strengths and drawbacks



Ultimately, despite the surge in the number of global UCCs, a thorough cost-benefit analysis must be carried out on whether to establish one. An equally important consideration to make is designing the model itself, as opposed to replicating a pre-existing UCC, which is responsive to the needs of the patients it will service and the environment within which it will operate.

4 Key lines of enquiry

Problem statement	Areas for investigation	KLE	Research question
What are the most effective service model(s) to further integrate ACT after hours primary healthcare services and Canberra Hospital ED to improve timeliness and appropriateness of services and continuity of care for patients and more effectively and appropriately reduce low acuity presentations?	Context	What is the value of a more integrated PCS-ED model?	To what extent (if at all) do other PCS improve timeliness and appropriateness of services and continuity of care for patients and relieve the burden for EDs and how do they relieve this burden?
		What does the ACT context require from an integrated PCS-ED model?	Why are after hours lower acuity presentations increasing at Canberra Hospital ED? How can this be appropriately targeted and reduced?
	Models	What are some examples of integrated PCS-ED models and what outcomes have they achieved?	What does an integrated PCS-ED model look like from a conceptual standpoint? What are the common elements? Where does the model operate, and what attributes stand out that are transferable to the ACT context? What does an integrated PCS-ED model look like from a practical standpoint? What are the associated implementation considerations and start-up costs? Are different models more effective for different groups of patients, eg aged care residents, young children, people from disadvantaged and marginal groups?
	Impacts	What are the implications of a more integrated PCS-ED model of care?	What are the impacts on patients and do these impacts vary for different groups of patients? What are the impacts on doctors, nurses and administrative staff, as well as providers as a whole? What are the finanical impacts?
	Measures	How do we measure a PCS-ED model's effectiveness in achieving its intended outcomes?	What are examples of measures used elsewhere (if any)?
	Communications	What communications are necessary to support appropriate used of ED services by lower acuity patients?	What are examples of external strategies used to inform low-acuity patients of their healthcare options beyond the ED?

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