Integrating ACTAS and after hours primary health care services – Final Report and Business Case

Capital Health Network

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An Australian Government Initiative

Capital Health Network
Partnering for better health

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1 Executive Summary

Background to the scoping study and business case

The Australian Capital Territory (ACT) has an established range of after hours primary health care services, encompassing multiple primary care, emergency and advising services. These include extended hours general practices (GPs), home visiting GP services, Walk-in Centres, the ACT Ambulance Service (ACTAS) and two emergency departments (EDs), located at Canberra Hospital and Calvary Hospital.

Despite the variety of services, previous studies have indicated that the limited availability, connectivity, and patient awareness of after hours primary care services have contributed to large numbers of after hours ambulance call-outs that do not result in transport to ED, and significant numbers of lower acuity patients being transported by ACTAS to ED. Improved integration between services and use of alternative services in preference to EDs after hours has the potential to improve the appropriateness of care for patients, as well as reducing waiting times and costs.

To address these concerns, the Capital Health Network (CHN) commissioned a scoping study and associated business case to examine the potential for improved integration with between ACTAS and after hours primary care services. The scoping study involved development and testing with stakeholders of options for improved integration. The business case then assessed the financial implications of the options supported by stakeholders.

The initial stages of the scoping study involved a literature review of ambulance and primary care integration approaches interstate and internationally, analysis of ACTAS and ACT ED data, and consultation with ACT and interstate stakeholders. The key findings of this work were that:

- The current ACT system results in avoidable ambulance calls, attendances and transports and avoidable ED presentations.
- Better integration of primary care services has been widely found to improve appropriateness and efficiency of care.
- After hours primary health care delivery in the ACT would benefit from greater integration; and
- Stakeholders support a shift towards further integration.

Based on the literature review, data analysis and stakeholder consultations, a series of options were developed and presented to a stakeholder workshop.

Options for improved integration

Three options for improved integration between ACTAS and primary care services were presented to the workshop, covering:

- Improved phone triage services to improve use of phone triage services for low-acuity patients.
- Increased diversion of low acuity patients from EDs to alternative primary health care services.
- Introduction of an Extended Care Paramedic (ECP) program to the ACT.

At the workshop, stakeholders agreed that a fully integrated model, including each of the above interventions, should be scoped and, if financially viable, pursued. However, the different interventions have varying lead times and implementation challenges, and an approach that staged the implementation of the three interventions was supported.

Improved phone triage services

Phone calls for ambulance services via Triple Zero are currently received at the ACTAS Communications Centre (Comcen) and triaged by priority level by the Comcen call-takers. Improved triage services would allow lower acuity calls to be transferred for more appropriate, in-depth assessment and advice.

Healthdirect is a free 24-hour telephone health triage, information and advice service and supports triage of non-emergency calls in other Australian states. Accordingly, the recommended approach is for ACTAS to partner with Healthdirect to support improved triaging of non-emergency calls.

Diversion to alternative primary health care services

The second proposed intervention involves diverting low-acuity patients from EDs to appropriate after hours primary health care services in the ACT. There is a range of services to which ACTAS could refer or transport patients. This could either be through referral by ACTAS to phone-based or home visiting services, or physical transport to after hours services away from the EDs.

Diverting patients to alternative services is recommended as an opportunity for a quick win. Diversion at point of paramedic assessment could be implemented quickly, at the cost of minimal additional training and information provided to paramedics regarding available alternative services. Transport to alternative services could be implemented through negotiation with local after hours service providers and minimal training to paramedics.

Extended care paramedics

The third proposed intervention is the introduction of an ECP program in the ACT on an ongoing basis. ECPs operate in most other Australian states, and are trained to provide a wider range of services than other paramedics. ECPs would increase the capacity of ACTAS to assess and treat patients on the scene of an ambulance attendance, by providing on-site care for patients who do not require medical care.

ECPs have previously been trialed in the ACT, but the trial was not extended. To address the concerns arising from the trial, the recommended approach is to introduce an ECP model incorporating the following elements:

- A 24/7 roster enabling one ECP to be on call at any time.
- A requirement that ECPs can provide Intensive Care Paramedic services if required.
- A model responding to the needs of elderly patients, particularly in residential aged care facilities.

Financial implications

The business case has assessed the potential costs and savings of the options. A conservative approach to estimating savings has been taken to reduce the risk of overstating the potential savings that would arise from the options.

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 three interventions.

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

- Changes to the ACTAS Comcen could commence in the first 3-6 months.
- Alternative care/transport approaches could be introduced within the first 6-9 months, and can be led by the CHN in association with ACTAS and to a lesser extent ACT Health.
- Once funding can be confirmed, a tailored ECP program will take 12-18 months to put in place because of the need to train the ECPs and establish the treatment protocols and processes.

2 Introduction

The ACT has an established range of after hours primary health care services, encompassing multiple primary care, emergency and advising services. These include extended hours GPs, home visiting GP services, Walk-in Centres, ACTAS, and two EDs, located at Canberra Hospital and Calvary Hospital.

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 range of providers of after hours primary care services is depicted below (Figure 1).

Figure 1: After hours primary health care service providers in the ACT

Despite the variety of services, data indicates that limited availability, connectivity, and awareness have created significant room for improvement (Section 3.1). A literature review supports these findings, and indicates that the ACT is lagging behind other Australian states and territories in implementing new arrangements (Section 3.2). Senior stakeholders and health care providers in the ACT have supported these observations, and expressed support for three key improvements and interventions (Section 3.3).

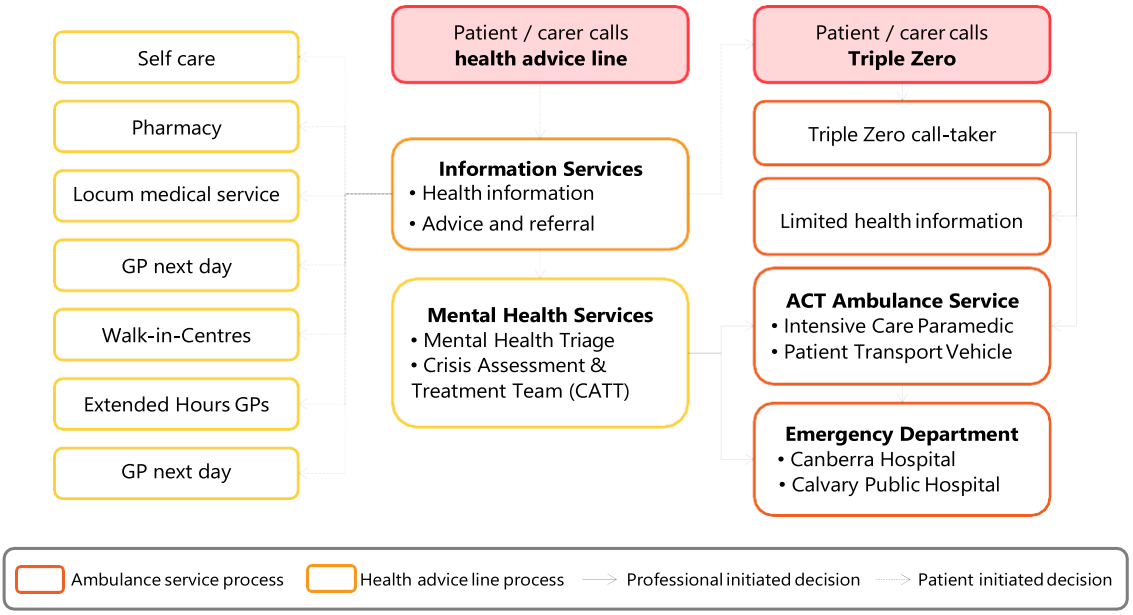
After hours primary health care delivery in the ACT would benefit from greater integration

Consensus among stakeholders is that the current ACT after hours primary health care offers limited integration between services, high levels of use of ACTAS services for people with low acuity health needs, and a bias towards defaulting to ED attendance. 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. Use of EDs for primary care service provision, and limited integration of care between providers can result in less optimal care for patients. Improved integration between services and use of alternative services in preference to EDs after hours has the potential to improve the appropriateness of care for patients, as well as reducing waiting times and costs.

The current ACT situation has arisen from a combination of factors. Primarily, there is a lack of communication and connection between services, including between health advice and health care services. The lack of integration is underscored by a lack of consumer awareness about access to, and availability of, different after hours services.

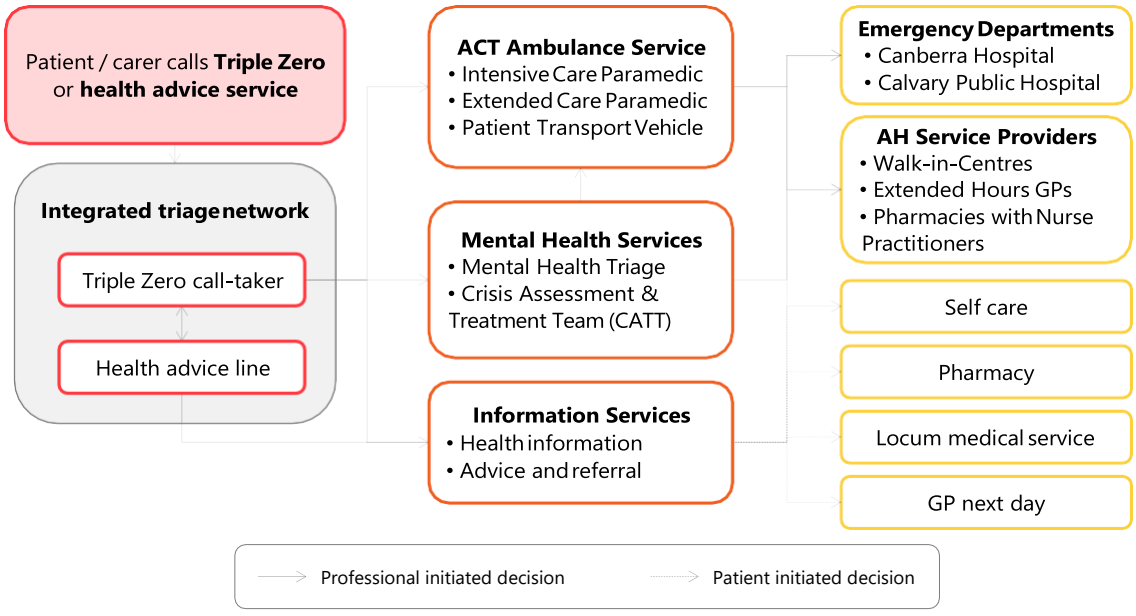
The patient pathway to ambulance and other after hours health services, when accessed via phone services, is modelled in Figure 2 overleaf.

Figure 2: Current pathway to accessing after hours primary care



This simplified roadmap indicates the lack of facilitated movement between services and the reliance of patient-initiated decisions. These findings are supported by national and international literature, notably the After Hours Joint Commissioning Report (AHJCR) conducted by the Capital Health Network and ACT Health in 2016. As noted in the AHJCR, there are two types of people who seek health care services in the after hours period: those who want care and those who need it. The aim of the scoping study, and thus of this business case, is to ensure that those in need receive appropriate care as quickly as possible. It also aims to ensure that individuals who want care – but whose needs are not immediate – are aware of and have access to the most appropriate care for their circumstances. Nous believes that this could be achieved through a model with greater integration and a clearer roadmap, similar to the roadmap modelled in Figure 3.

Figure 3: Future pathway to accessing after hours primary care



To improve the integration between after hours services, and to facilitate access to them, Nous' scoping study has investigated and evaluated options to improve ACTAS' integration with after hours primary care services. Among its key objectives is a reduction in non-emergency ambulance attendances, ambulance transports and presentations to local emergency departments (EDs), especially by low-acuity patients.

If the role of the ambulance service can be adjusted to better meet the needs of patients not requiring ED attendance, it would enable more appropriate care, at the right place, right time, and for the right person. It would also reduce congestion within EDs, wait-times for patients, and potentially lessen the burden on the ambulance service, emergency doctors, nurses and other staff by ensuring an appropriate and timely distribution of the primary care workload.

3 Business Case

The Capital Health Network commissioned a scoping study to examine the potential for improved integration between ACTAS and after hours primary care services. Among its key objectives is a reduction in avoidable, lower acuity ambulance attendances, ambulance transports and presentations to local EDs.

A literature review, extensive analysis of ACTAS and ED data, and local and interstate stakeholder consultations were undertaken as part of the study. The literature review and stakeholder consultations demonstrated that the ACT experience shared many common characteristics with other regions. It found that interstate and international service responses have the potential to improve service appropriateness, integration and efficiency in the ACT.

Based on the scoping study this business case concludes that changed arrangements for integrating ambulance and primary care services after hours, covering enhanced phone triage for calls to ACTAS, Extended Care Paramedics (ECP), and alternative transport options would enable more appropriate care and achieve a level of financial saving. These changed arrangements would also support reduced congestion within EDs, and lessen the burden on the ambulance service, emergency doctors, nurses and other staff by through a more appropriate distribution of the primary care workload.

The focus of the study and the business case is on the after hours period. However, for two of the recommended changes – enhanced triage for calls to ACTAS and ECPs – introducing these interventions solely in the after hours period would be potentially confusing for patients and service providers and could compromise their effectiveness. Accordingly, the business case has costed introduction of these services over the full 24 hour period. Savings however have been calculated based on their impact in the after hours period in line with the focus of the study.

3.1 The current ACT system results in avoidable ambulance calls, attendances and transports and avoidable ED presentations

To identify the number of avoidable ambulance calls, attendances and transports, and avoidable ED presentations, Nous analysed ACTAS data from the two year period of 2015 and 2016 calendar years. These two years were used 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.

The data analysis indicates that in the ACT, there are currently significant numbers of avoidable ambulance attendances and transports to EDs. This finding is consistent with evidence from ambulances services interstate and internationally.

One fifth of ACTAS call-outs do not result in transport to the ED

Over 2015 and 2016, ACTAS recorded over 60,500 cases of Priority 1 (emergency) and Priority 2 (urgent) paramedic responses. Approximately 11,850 of these cases (19.5 per cent) did not result in transport to the ED. About 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.

The decision not to transport was paramedic-initiated in over 7,000 cases (4,200 AH), and patient-initiated in approximately 3,400 cases (2,200 AH). Among these cases, there was 'no problem identified' or no diagnosis given in 3,450 cases (2,050 AH). Among non-transported cases, 'no problem' or no diagnosis were the most common paramedic assessments, followed by 'pain' in 1,000 cases (575 AH), abrasions, grazes and lacerations in 640 cases (400 AH), and 'anxiety' in 430 cases (270 AH).

According to data matching and clinical review carried out by ACTAS, non-transport protocols that support the decision not to transport patients are safe and effective: over 2015 and 2016 they resulted in no deaths and a low adverse event rate of 0.2 per cent.

A significant proportion of ambulance patients do not require or wait for ED treatment

Canberra Hospital ED is one of the 10 busiest EDs in Australia and presentations have grown by over 10 per cent between the 2015/16 and 2016/17 financial years. The AHJCR reported that potentially avoidable presentations to ED (such as GP-type presentations) comprised nearly 45 per cent of all ED presentations between 2004 and 2014.[1] These trends continue and extend to patients arriving by ambulance.

In 2015 and 2016, 60 per cent of triage category 4 and 5 patients (Cat 4 and 5) who arrived by ambulance after hours were not admitted to hospital. This amounted to nearly 5,200 patients over the two year period, or 2,600 patients annually. Across the business and after hours periods, this figure was 56 percent – approximately 7,900 Cat 4 and 5 patients arriving by ACTAS ambulance were not admitted to hospital (3,950 patients annually).

Furthermore, of all Cat 4 and 5 patients arriving at ED via ACTAS after hours, over 8.5 per cent do not wait to be seen by a doctor (740 of 8,600 cases). This compares with the overall 'did not wait' rate of 9 per cent among Cat 4 and 5 patients arriving after hours (7,300 of 80,600 cases). This shows that among Cat 4 and 5 patients arriving after hours, 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.

In addition to patients who do not wait, among Cat 4 and 5 patients, there were a further 137 instances of presentation for 'non-emergency' conditions (e.g. 'social admission,' 'medication only,') or where ED assessment indicated 'no disease was found.' Therefore over one tenth of all Cat 4 and 5 cases (874 of 8,592) presenting to the ED via ACTAS after hours either did not wait for care, presented with 'non-emergency' conditions, or were found to have had no disease once assessed.

35 per cent of ACTAS after hours call outs do not result in hospital transport, or are for patients who do not require urgent ED care or admission

When combined, the proportion of after hours ambulance call-outs not resulting in transport and the proportion of patients who do not require urgent ED care or admission is approximately 35 per cent, or 6,200 patients annually. 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.

The ACT experience is consistent with findings in Australian and international literature. Research on international ambulance usage patterns has observed that unnecessary emergency ambulance dispatch occurs in 11 per cent to 52 per cent of all emergency calls.[2] The assessment that about 35 per cent emergency dispatches in the ACT are not necessary is at the midpoint of this range.

3.2 Better integration of primary care services has been widely found to improve appropriateness and efficiency of care

To achieve a more integrated ambulance and primary care model, the literature provides support for two approaches: 'hear and treat,' or phone-based assessment and advice services; and 'see and treat,' or on-the-scene treatment for patients or transport to services other than EDs. These interventions have been implemented and evaluated as effective in improving the appropriateness and efficiency of care in England, Wales, the United States, Canada and New Zealand.

Similar models are in place across Australia. For example, 'hear and treat' interventions such as phone-based triage coordinated with ambulance communications centres is well-established in New South Wales,

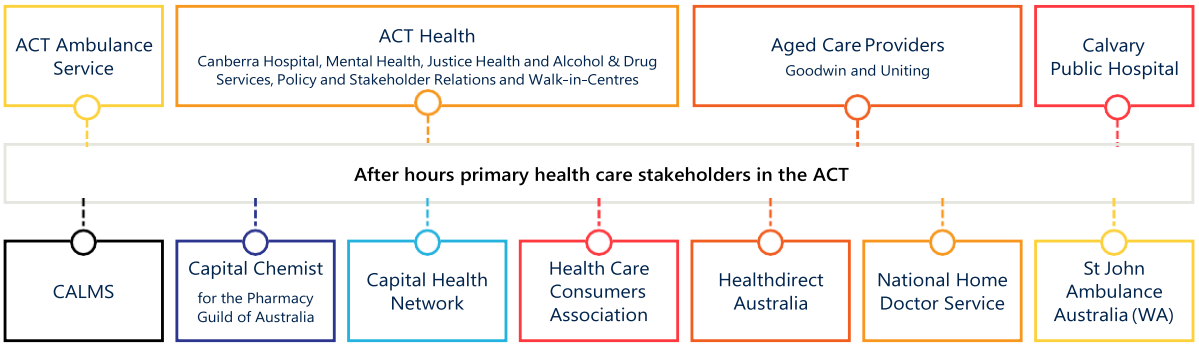
Victoria, and Western Australia, have been trialed in Queensland, and are currently being developed in Tasmania. Australian 'see and treat' models include the increased diversion of non-emergency ED patients to alternative primary health services through partnerships with after hours medical deputising services (in New South Wales) and the creation of urgent care centres for non-emergency self-presentations (in Western Australia, and being considered in Tasmania). 'See and treat' ECP programs operate in Queensland, New South Wales, South Australia and Tasmania, and were trialed in the ACT and the Northern Territory in 2012/13. The ACT and the Northern Territory are the only two jurisdictions who have not adopted any of the above interventions.

The literature emphasises the need for public communications strategies to accompany these interventions and ensure the public are informed about their health care options, particularly after hours. Community awareness campaigns are established in every state and territory except for the ACT and the Northern Territory. [3] [4] [5] [6] [7] [8]

3.3 Stakeholders support a shift towards further 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 indicated in Figure 4.

Figure 4: After hours primary health care stakeholders in the ACT



Providers in New South Wales, South Australia and Western Australia operating alternative service models were also interviewed.

Stakeholders confirmed that an improved model for the ACT needs to fulfil the following criteria:

- Enable access to appropriate, safe, and quality care at all times.
- Support patient choice and improved patient experience.
- Use existing funding more efficiently.
- Maintain and build existing systems and relationships.
- Support continuity of care, including consideration of existing health care relationships.
- Be suitable for the ACT context, and ensure equal access and fair geographical distribution.
- Reduce burden on EDs managing cases that could be more appropriately managed elsewhere.
- Be reinforced by a consumer awareness campaign that support patients' awareness of the available options, builds trust and improves health literacy.

3.4 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. This can be achieved through three interventions (Table 1).

Table 1: Proposed interventions for the ACT

	**Improved triage services** • Connecting the ACTAS communications centre with a secondary triage service • Improving uptake of phone-based triage services for low-acuity patients
	**Increased diversion to alternative primary health care services** • Led at multiple stages by triage nurses and/or paramedics • Decisions made in dialogue with patients
	**A tailored ECP program** • Updated from the 2012/13 ACT trial model • Allowing for a 24-hour roster and improved response to changes in demand

Stakeholders agreed that a fully integrated model, including each of the above interventions, should be scoped and, if financially viable, pursued. However, the different interventions have varying lead times and implementation challenges, and an approach that staged the implementation of the three interventions was roundly supported by stakeholders.

Each proposed intervention is described in detail in the following sections. Details regarding staging and implementation are provided in Sections 3.6 and 3.7.

3.4.1 Phone triage services

Phone calls for ambulance services via Triple Zero are currently received at the ACTAS Communications Centre (Comcen) and triaged by priority level by the Comcen call-takers. Comcen is currently staffed by civilian call-takers and dispatchers, overseen by a coordination officer, and assisted by an on-hand clinician, who has clinical oversight of all cases. There are between 4-6 communications and clinical staff on duty at any time.[9] Improved triage services would allow lower acuity calls to be transferred to more appropriate, in-depth assessment and advice.

An improved triage system would achieve the following:

- Calls to be handled by appropriately skilled staff, including registered nurses, paramedics, and adequately trained communications personnel, according to the callers' needs.
- Secondary triaging for Triple Zero calls classified as non-emergency or low priority, with warm transfers back to ACTAS or other telehealth services where necessary.

International and interstate experience indicates that achieving these objectives would have positive impacts for both ambulance services and callers:[10]

- Secondary triage would reduce pressure on ACTAS as lower acuity callers are referred to more appropriate, less urgent care, speeding up emergency care delivery at both phone and dispatch stages.
- Benefits for callers are two-fold.
    - Low-acuity patients would receive more appropriate guidance on where to access services.

- The clinical assessment provided by secondary triage may result in detection of urgent care needs that were not identified in the initial assessment, leading to a timely referral back to ambulance services with a more rigorous triage than may have been provided in-house.

In both Australia and the UK, the savings obtained through reduced ambulance and emergency service utilisation through secondary triage outweighs the cost of running the secondary triage services. Assessment of England's ambulance services has estimated that secondary ambulance triage saves the National Health Service £40-80 million on an annual basis. Similarly, during their trial of ambulance secondary triage, Queensland Ambulance Service estimated that a diversion of 6 per cent of their Triple Zero calls would result in annual savings up to $21 million. [11]

There are two feasible models to achieve these benefits (Table 2).

Table 2: Triage services development options

	Collaborate with existing triage service (*Healthdirect*)	Build local capability for secondary ambulance triage
Approach	• Clinically appropriate non-emergency calls (Priority 2 Ambulance calls and lower acuity) made by members of the public to ACTAS are transferred to Healthdirect for assessment, advice and referral. • Healthdirect Australia is a free 24-hour telephone health triage, information and advice service. Healthdirect links the caller with a registered nurse, supported by software systems that support healthcare decision-making, who helps the caller to address any non-emergency health concerns in a safe and consistent way. The aim is to provide alternative advice/service options where appropriate as an alternative to the dispatch of an ambulance and subsequent presentation to an ACT ED. • Assessment centres like Healthdirect have a conservative disposition approach, where they refer back to Triple Zero where an alternative decision is risky. • The central concern of Healthdirect collaboration is the feeling of giving patients the run around.[12]	• The ACTAS Comcen provides secondary triage for low-acuity patients in addition to dispatch function. • If a Triple Zero call-taker believes a caller does not require an emergency response, their case is passed to an appropriately trained secondary triage nurse in the same Comcen. Some urgent event types previously resulting in dispatch will then be assessed more thoroughly through a secondary triage process by paramedics and registered nurses. • Internal secondary triage provides a safety net to ensure that emergencies that reach secondary triage are identified and can get an immediate emergency response, and that non-emergencies are appropriately referred to patient transport ambulances or alternative health services. • The central concern of this approach is the need for rapid growth in size and capabilities required in the Comcen – Ambulance Victoria increased staff from 25 to 69 to accommodate the new triage capability.[13]

Examples	• St John Ambulance WA
	  • 14 per cent of Triple Zero calls directed to Healthdirect; less than 10 per cent of these calls returned to Triple Zero [14]
	  • St John WA now requires two fewer ambulances on the road due to improved triage processes [15]
	• NSW Ambulance (After Hours)
		• Ambulance Victoria
		  • 30 per cent of calls referred to secondary triage
		  • 22 per cent of Triple Zero calls diverted to an alternative service provider or an Ambulance Victoria non-emergency transport vehicle [16]
		• Ambulance Tasmania
		• NSW Ambulance (Business Hours)

Impact	**Moderate**	**High**
Cost	**Low**	**Moderate**

Recommended approach

Given the limited size of Comcen's current operation and of the ACT's local population, this business case recommends a coordination of ambulance secondary triage with Healthdirect, with possible future review to consider expansion of internal Comcen capacity. In WA, the collaboration between St John Ambulance and Healthdirect has led to 14 per cent of calls to the ambulance communications centre being redirected (and more than 12.5 per cent of calls successfully managed) through Healthdirect's secondary triage.[17] The calculations in Table 3 overleaf use this percentage as an estimate of the number of calls to ACTAS Comcen that could be redirected to Healthdirect as part of a comparable agreement.

ACTAS is currently in the early stages of developing and proposing internal changes to Comcen, following on from successful internal reforms in Comcen that have been achieved in recent years.[18] Due to the likely timeframes for this work, collaboration with Healthdirect in line with interstate models would be a quicker approach for providing secondary triage services. Coordinating with Healthdirect may have ripple effects by promoting awareness and trust of the service, and may lead ACT residents to use Healthdirect's services, including Healthdirect's After Hours GP Helpline (AHGPH), already funded by the Commonwealth Government.[19] Evaluation of this service has observed significant reductions in unnecessary ED attendances: over three-quarters of people intending to go to ED prior to accessing theses services were advised by GPs to self-care, with less than 7 per cent of these patients attending ED when advised to get care elsewhere. [20] [21]

In the longer term, there is potential for a hybrid model that includes elements of both of these options. For example, once an established relationship with Healthdirect is built for ambulance secondary triage, ACTAS could build the capability of its Comcen through extra training for select communications staff or retention of an additional 24/7 clinician.

3.4.2 Diversion to alternative primary health care services

The second proposed intervention involves diverting patients to appropriate after hours primary health care services in the ACT. There is a range of services to which ACTAS could refer or transport patients. Throughout the after hours period, referrals are possible to Healthdirect (including the After Hours GP Helpline) 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 transport during some of the after hours period include the Walk-in Centres, CALMS, extended hours GPs, pharmacies with Nurse Practitioners, and the Winnunga Nimmityjah Aboriginal Medical Service.

One concern that has been raised about diverting patients to services other than EDs after hours is the potential cost to patients at point of service. A number of the available services require patient co-payments, but the Walk-in Centres and the National Home Doctor Service are available free of charge at the point of care. The Walk-in Centres are not available across the full after hours period, but the Home Doctor Service is available as a bulk billing service across the full after hours period. Accordingly, there are no cost alternatives to EDs available across the full after hours period.

There are three points at which diversion to alternative services could be initiated (Table 5).

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

	At point of call handling	At paramedic assessment	At point of transportation
Approach	• With a secondary triage service, alternative service options could be could recommended when patients call ACTAS. • At the point of call handling, the patient could be advised to use an alternative service. For example, they could be directed to their regular GP, if they operate after hours, another after hours GP, the Walk-in Centres or the National Home Doctor Service.	• 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. • If the ECP model was available (see Section 3.4.3), ECPs with a greater scope of practice to ICPs could treat more cases on scene and would be more likely to decide to refer a patient to an alternative service than to take them to the ED due to their increased training and clinical knowledge.	• The paramedic assessment that alternative services could be utilised rather than treatment on scene or transportation to the ED could be taken a step further for ACTAS to physically transport the patient to another site, rather than just referring on or providing alternative information. • ICPs and/or ECPs could make the assessment and transport the patient to the alternative service, particularly in circumstances where the patient was unable or unlikely to transport themselves.
Impact	**High**	**Moderate**	**High**
Cost	**Low** (No additional cost)	**Low**	**-**

Recommendations

The opportunity to divert to alternative services provides the opportunity for a quick win. If secondary ambulance triage is available, diversion at point of triage could be implemented at no cost. Diversion at point of paramedic assessment could be implemented quickly, at the cost of minimal additional training and information provided to paramedics regarding available alternative services. Diversion to alternative services at point of transportation could be implemented through negotiation with local after hours service providers and minimal training to paramedics.

3.4.3 Extended care paramedics

The third proposed intervention, the introduction of an ECP program in the ACT on an ongoing basis, aims to increase the capacity of ACTAS to assess and treat patients on the scene of an ambulance attendance, by providing appropriate on-site care for patients who do not require medical care.

Incorporating ECPs as part of the mix of resources available to ACTAS would have benefits to patients, EDs and paramedics themselves:

1. Patients benefit from not having to be transported, or transport themselves, for medical care, and not having to wait for care at their destination. For elderly patients and those residing in aged care facilities, there is also potential to improve patient experience and outcomes by enabling treatment at home, avoiding the experience of transport and displacement.
2. The health care system (and EDs in particular) benefits through reduced utilisation of high-cost paramedic response units and emergency departments for those requiring less urgent or acute care.[24]
3. Paramedics can benefit from added training, responsibility and engagement, and achieve higher rates of job satisfaction – all ECPs involved in the ACT trial indicated their desire to continue working in their new roles as ECPs following the conclusion of the program.[25]

The range of cases that ECPs in Australia can attend include wound care, pain management, minor burns, minor lacerations, minor procedures (e.g. catheter changes), back pain and injuries, falls, gastroenteritis and diarrhoea, urinary tract infections, allergies, bites, and general symptoms of illness.[26] [27] A diagnostic breakdown of 2015 and 2016 ED data from both Canberra Hospital and Calvary demonstrates that up to 13.6 per cent of cases (in both the business and after hours periods) could be managed by an ECP.

The ACT and the NT were the only national jurisdictions which did not continue the ECP program beyond their trial period. The ACT trial received several local healthcare awards, including an ACT Quality in Healthcare Award. The 2012/13 ACT trial achieved a rate of 73 per cent of ECP responses not requiring transportation to an ED.[28] This is above the target rate of 70 per cent achieved by the South Australian Ambulance Service (SAAS), whose ECP program has been in place since 2008.[29] Changes within ACTAS since the time of the trial, resulting in higher rates of staff retention, suggest that the program could be even more successful and sustainable if reintroduced now.[30]

Recommendations

To improve on the 2012/13 model and improve outcomes for patients, an ECP model incorporating the following elements are recommended (Table 10):

Table 10: Alterations to the 2012/13 ACT Extended Care Paramedic model

	**A 24/7 roster enabling one ECP to be on call at any time.** • To maximise the extent to which ECPs can treat appropriate patients across both business and after hours periods • To build recognition, awareness and trust of ECP services across the community
	**A requirement that ECPs retain ICP skillset and can provide ICP services if required.** • To enable them to act as first responders to emergency calls when they are the nearest vehicle, to improve response time and stabilisation before handing off to ambulance staff fortransportation • To allow an on-duty ECP to provide surplus ICP services during periods of low demand for ECPs (if they arise)
	**A targeted model that responds to demand and is ideally placed to help elderly patients.** • To improve patient outcomes by developing relationships with residential aged care facilities, to build relationships with ECPs for cases which are more appropriately treated on-site (e.g. catheter changes, oral analgesia).

3.6 Staging

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. There is an expected compounding benefit associated with implementing all three interventions: for example, improved triage would enable a triage nurse to commence the diversion process prior to ambulance dispatch. Stakeholders consulted during the scoping study strongly supported a model including all three interventions.

To build and implement a model incorporating all three interventions would require staged implementation. Based on our research and consultation, Nous assumes the following:

- Changes to the ACTAS Comcen would be implemented in line with their current reform agenda. Given the ACT Government's existing relationship with Healthdirect, a trial collaboration using Healthdirect's ambulance secondary triage service could commence in the first 3-6 months.
- Alternative care/transport approaches could be introduced within the first 6-9 months, and can be led by the CHN in association with ACTAS and to a lesser extent ACT Health.
    - To achieve this, it will be necessary for ACTAS to confirm clinical criteria for alternative transports and for CHN to work with general practices and ACT Health to create a matrix of the times and

locations where each available after hours service is accessible.

  - 10005This may include an expression of interest process to ensure that there is no concern about breaches of competition law. The expression of interest process may also consider how the availability of appointments will be dealt with to ensure that ambulance integration with these services does not interfere with their normal operations.

- Once funding can be confirmed, a tailored ECP program will take 12-18 months to put in place because of the need to train the ECPs and establish the treatment protocols and processes, including alterations to ACTAS' policy frameworks and clinical governance guidelines. Details on the trial process and the projected timings are available in Health Workforce Australia's *Extended Care Paramedic Final Report* (2014).

3.7 Implementation considerations

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.

- **Availability**
  As indicated within the report, each of the above interventions has potential to benefit the local primary care network both within and after normal business hours. Therefore any recommendations expressed in the report are recommended to be made available 24/7, to provide consistency across the business and after hours periods and to reduce the risk of confusion about which services are available at different times.

- **Costs and savings**
  Though the above calculations indicate savings that can be realised through implementation of the recommended initiatives it is important to note that the services involved are experiencing increasing demand, Accordingly, the savings may be best characterised as offsetting future growth costs, rather than overall reductions in expenditure.

- **Residential Aged Care**
  It is important for the success of the ECP program in particular that ACTAS builds and maintains strong lines of communication with RACF throughout Canberra. This is to ensure that there is a mutually-beneficial trust-based relationship between ECPs and the residents in these facilities, to ensure that the benefits of on-site assessment and treatment can be fully realised. It is also necessary to ensure that staff at the RACF are aware of the availability of ECP services and what types of treatment are within their scope of practice, to ensure that they are directed to the patients who could most benefit from their attention.

- **Triage**
  Advice for best practice implementation of ambulance secondary triage has been provided at length by the University of New South Wales' Centre for Health Systems and Safety Research and is accessible online.[32] The criteria for secondary triage would follow certain criteria to ensure patient safety, for example, default face-to-face consultation for high-risk demographics (elderly people, young children, people placing calls regarding trauma) and increased ability for call-takers to flag the urgency of a call even if computer algorithms flag the case as non-urgent. Call-takers may also take a complete medical history and follow the protocol indicated for use in their centre – all criteria that may suggest urgent need should be eliminated before a patient can be diverted to secondary triage.

- **ECPs**
  ECPs are likely to be most effective if trained and recruited from within the current cohort of ACTAS ICPs in order to support internal advancement within the cohort, reduce establishment costs and ensure that newly-trained ECPs have experience with the ICP skillset and in the ACT context.

- **Education and training**
  Appropriate community awareness building and training for staff and service providers 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 Triple Zero call-takers at the ACTAS Comcen, Healthdirect triage nurses, paramedics, ICPs, ECPs, as well as ED staff and other primary care service providers. To support long-term success, it is necessary to provide appropriate information for staff about changed arrangements. To sustain ECP services, it may also be necessary to negotiate a long-term training agreement with SAAS, the training providers from the 2012/13 trial.

  - **Consumers**
    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, as part of the recent NSW Health "Is Your Urgency an Emergency campaign," 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.[33] 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 ambulance and 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 anticipate 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 Walk-in Centres, it is necessary that agreed processes are in place for their arrival.

Appendix A Project Overview

The scoping study was conducted between May 2017 and January 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
Lizzy O'Shea	Project Manager/Consultant
Jillian Masters	Project Manager/Consultant
Thida Sheriff	Project Coordinator

A.1 Project governance

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

Organisation	Steering Committee members
ACT Ambulance Service	Carol Brook Matt Smith Megan Davis Peter Le Lievre
ACT Health	Louise Symons
Capital Health Network	Angelene True Julie Porritt Vlad Aleksandric Yolanda McKean

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)		✓	✓
Capital Chemist O'Connor (on behalf of the Pharmacy Guild of Australia)		✓	✓
Capital Health Network	✓		✓
Goodwin		✓	✓
Health Care Consumers Association ACT		✓	✓
Healthdirect Australia		✓	
National Home Doctor Service		✓	✓
St John Ambulance Australia (Western Australia)		✓	
Uniting		✓	✓

The final stakeholder workshop was held on 15 September 2017.

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