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**title** Review of after-hours service models: Learnings for regional, rural and remote communities

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## Executive summary

The Australian Government Department of Health's 2014 Review of After-hours Primary Health Care (Australian Government Department of Health 2014a) found that after-hours primary health care delivery in Australia is functioning sub-optimally.

The transition of Medicare Locals (MLs) to Primary Health Networks (PHNs) provides a timely opportunity to re-evaluate and re-orientate after-hours primary care services. All PHNs have been tasked with evaluating their current after-hours service provision and determining the best approach for delivering after-hours primary care to consumers in their region.

This Issues Brief, developed by the Northern Queensland Primary Health Network in partnership with Healthy Futures Pty Ltd, the Australian Healthcare and Hospitals Association, evaluates the current delivery models of after-hours primary health care nationally and internationally. In particular, it describes the varied approaches to service delivery. This variation is attributable to a range of factors including funding sources, workforce availability, consumer awareness, distance and remoteness, population structure and local economies.

A literature review and a study of current and alternate models of service delivery identified a wide range of service models across Australia, including GP-centred models which utilise practice-based after-hours GP visits, Medical Deputising Services, co-located GP clinics in hospitals, nurse-led telephone triage models, and internet-supported triage models. Each of these approaches has its benefits and limitations.

Additional challenges to effective after-hours service delivery were identified in regional, rural and remote areas, including poor transport access, lack of home visiting for some patient groups, poor access to allied services including pharmacy and mental health services, lack of or poor internet access and widespread health care workforce insufficiencies.

Delivery models considered relevant to rural and remote Australia are explored to inform PHN decision making for commissioning of services, and ensure the best possible care is provided to consumers during the after-hours period. In order to tailor after-hours services appropriately, each model must be assessed in terms of suitability in the local context. As such, this Issues Brief describes individual program elements and options for innovations in after-hours service delivery which may be adaptable and transferrable across PHNs.

Key principles common across the options proposed are:

- Services are flexible, responsive and tailored to regional circumstance
- Efficient and effective use is made of the broader health workforce
- Innovative service delivery is promoted
- Data is used to inform policy change
- Communication with patients and providers is key to success.

The Issues Brief highlights the limited availability of formal evaluation material in the scientific literature. More work is required to address this evidence gap.

## Introduction

The Australian Government Department of Health (DoH) has targeted the provision of after-hours services as an area of key importance for improvement in the health system. Reviews commissioned by DoH identified a number of issues with after-hours service provision (Australian Government Department of Health 2014a, 2014b). The disbanding of the Medicare Locals (MLs) and the rolling out of Primary Health Networks (PHNs) in July 2015 have resulted in a change in funding structure for provision of services, with PHNs acting as purchasers and commissioners of services, rather than being responsible for service delivery. As such, it is timely to look at how best to manage available after-hours services, and at innovations for providing best possible access to services for consumers.

In Australia, the after-hours period is defined as:

- Sociable after-hours period – 6 pm to 11 pm weeknights
- Unsociable after-hours period – 11 pm to 8 am weekdays, before 8 am and after 12 noon Saturdays, all day Sundays and Public Holidays. (Australian Government Department of Human Services 2015).

After-hours primary care is intended for urgent primary care treatment that cannot wait until regular hours, rather than for 24/7 access for non-urgent cases.

## 1 The international setting – current trends and learnings in after-hours primary care

After-hours primary care is an emerging issue of importance in many western countries, as it forms an integral component of health service provision. There are many different approaches to after-hours service provision, each with benefits and drawbacks. Huibers, Giesen, Wensing et al. (2009) identified nine models of after-hours care provision in current use in western countries, described as follows:

- Small doctor-based models – individual general practitioner (GP) practices providing 24 hour on-call services; or via rotations between several small GP practices
- Larger GP-based services – not for profit GP cooperatives sharing after-hours duties; Primary Care Centres for walk-in appointments
- Medical Deputising Services (MDS) – commercial companies employing GPs specifically for the after-hours period to work for regular GPs during this period
- Minor injury / walk-in centres – nurse-led centres for treatment and advice on minor health issues
- Telephone triage and advice services – phone call services via a (toll free) phone number delivered by a medical professional (nurse or GP), providing advice or referral where necessary

- Integrated primary care within hospitals – after-hours provision of GP services co-located within hospital grounds
- Emergency departments (ED) – primary-type presentations to Emergency Departments in after-hours periods.

While not in the literature there are other local models observable – as follows:

- Non-integrated arrangements with in-hours primary care services defaulting to other services during the after-hours period
- Remote communities with no locally available health care services that are required to treat urgent cases during business hours or after-hours (such as Torres Strait Island communities relying on medicine chests with remote advice from the Royal Flying Doctor Service provided by phone or radio) .

### *United Kingdom*

Huibers et al. (2009) identified all nine models of care in use in the UK for the after-hours period. However, as with many other countries, the UK has struggled to coordinate and promote after-hours primary care in the community, with low levels of awareness of the services available and of the NHS 111 number (National Audit Office [NAO] 2014) (this differs from the emergency services phone number in the UK, 999, akin to Australia's 000). NHS 111 is the national telephone triage system, introduced as a result of the Carson report (UK Department of Health 2000), which called for a more integrated system of after-hours care. NHS 111 is intended to be the initial point of call into the after-hours system. It is provided by trained, non-clinical staff who assess callers' conditions, then refer them to an appropriate channel of care. Services that 111 staff provide include organising: returned phone calls from a GP for further clinical assessment; booking an appointment at the client's nearest after-hours or in-hours GP; arranging a GP home visit; offering advice; or, in an emergency, staff advise the caller to attend the ED or call an ambulance (NAO 2014). Polling indicates that most patients are satisfied with the after-hours services offered in the UK (NAO 2014). The NHS 111 system appears to have decreased the demand on GPs in the after-hours period (NAO 2014), although there are recruitment difficulties leading to a lack of GPs available after-hours, thereby increasing strain on the system (NAO 2014). There is continuing work to identify methods to improve after-hours service delivery and coordination in the UK (Urgent Care Commission 2014).

### *New Zealand*

The after-hours primary care system in New Zealand falls under the auspice of the Primary Health Organisations (PHOs) (After-hours Primary Health Care Working Party 2005). Patients enrolled with a PHO receive subsidised access to after-hours primary care providers, while those who are not enrolled with a PHO pay the full service fee with equal access. As of 2014, approximately 95% of people in New Zealand were enrolled with a PHO (New Zealand Ministry of Health n.d.). However, privately run GPs and medical centres set their own fees (NZ Ministry of Health 2015), and charge more for after-hours services than regular visits (NZ Ministry of Health 2015). In contrast, after-hours care provided in public hospital emergency departments incurs no cost to the consumer. This fee

discrepancy is suspected to be a factor in avoidance of use of after-hours primary care services in preference for free treatment within a hospital ED (DoH 2014a).

Furthermore, coordination of after-hours care was identified as a barrier to the success of after-hours services, so to address this barrier the Auckland Regional After-hours Network (ARAFTER-HOURS N) was formed in 2011 (Tenbenschel, Edlin, Field et al., 2013). This network coordinated the PHOs, District Health Boards (DHBs) and Accident and Medical (A&M) clinics, to all contribute funds to the running of an After-hours Health Initiative (AFTER-HOURS I) which offered affordable and accessible after-hours services. The initiative ensured longer opening hours (until 10 pm) with subsidised payments for vulnerable groups of patients, and a subsidised telephone triage system linked back to GP services— HomeCare Medical Limited (HML) (Tenbenschel et al. 2013). The HML phone triage links the after-hours patient consult information back to GPs, an additional communication loop which is not provided by other telephone triage services within the Auckland area (Tenbenschel et al. 2013). An evaluation of the AFTER-HOURS I indicated improvements could be gained with increased awareness of services and better positioning of facilities to better meet community needs (Tenbenschel et al 2013).

### *Canada*

Widespread use of Canadian EDs has predictably resulted in overcrowding and overuse of these services (DoH 2014a). To reduce overcrowding and inappropriate ED presentations, Canada, like many other countries, has recently identified after-hours service provision as a means to address these inefficiencies. Their current after-hours system involves GPs receiving financial incentives for provision of after-hours service, although they are not legally bound to provide them (National After-hours for Medical Deputising Service 2014). Each of the 13 provinces and territories have responsibility for service provision (DoH 2014a), and a mix of the nine service models identified by Huibers et al. (2009) are used to varying degrees across the jurisdictions. Most jurisdictions have a teletriage system providing 24 hour access, and while three do not offer this, it is reported that in these areas, community health services and hospitals provide after-hours care (Health Council of Canada 2011). In some jurisdictions, the teletriage service will allow contact with pharmacists regarding advice about medications, or advice from a dietician (COACH 2013).

### *The Netherlands*

The main model of after-hours primary care in the Dutch system utilises large-scale Primary Care Physician (PCPs) co-operatives of 40 to 250 GPs (Giesen, Smits, Huibers et al. 2011). This model of care offers nurse-led telephone triage mostly supervised by Primary Care Physicians, who direct an appropriate treatment pathway; such as advice, transfer to a care facility, or home visits (Giesen, Smits, Huibers et al. 2011). This approach, which replaced GP rotation rosters involving small numbers of GPs, is generally well accepted by physicians, with a reported decrease in average hours worked after-hours (Giesen, Smits, Huibers et al. 2011); and by patients, although lower satisfaction is reported from a nurse-only triage system (Giesen, Smits, Huibers et al. 2011, Smits, Huibers, Bos et al. 2011). To address this, national triage training programs are available (Giesen, Smits, Huibers et al. 2011).

## USA

After-hours care in the USA appears to be varied and fragmented (O'Malley, Samuel, Bond et al. 2012), with only one-third of primary care physicians having after-hours arrangements in place in 2013 (Mossialos, Wenzl, Osborn et al 2015). O'Malley et al. (2012) described five different after-hours models covering 16 US states and found service range was dependent on organisation size – e.g. solo practices were responsible for all of their on-call provision all of the time, in contrast to after-hours clinics that offer contractual agreements to primary care physicians to provide after-hours care and report clinical information back to the patient's regular primary care physician (O'Malley et al. 2012). The choice of after-hours care offered depended on delivery feasibility, driven by factors such as patient preference and needs, local availability of health care services, and the amount of compensation received by primary care physicians (O'Malley et al.). Some health insurance providers offer nurse telephone triage services directly to patients guiding them to appropriate care (e.g. self-managed, or ED), as many insurance companies refuse to cover ED costs if the patient self-refers without telephone triage (O'Malley et al. 2012). There is currently a movement in the USA for health insurers to reimburse patient costs for video-conferenced doctor consults (Pearl 2014).

## Denmark

In Denmark, after-hours primary care is provided by large-scale GP rotation rosters (Huibers, Moth, Andersen et al. 2014, Pedersen, Andersen & Sondergaard 2012). The after-hours service centre is usually co-located within the local hospital ED, although it functions independently of the ED (Pedersen et al. 2012). Patient options in the after-hours period include calling an after-hours GP helpline, attendance at their local after-hours service, or receiving a home visit by a mobile on-call GP (Pedersen et al. 2012). While the helpline is currently staffed by GPs, evaluations of the benefit of using nurses are currently being undertaken (Moth, Huibers & Vedsted, 2013). Problems within the system include the payment system for GPs operating the GP helpline triage. They receive greater remuneration if the call is not referred to other sources, this being based on evidence that such calls take up more GP time (Olesen & Jolleys 1994); and patient access to ED, as they may require a referral from a GP to access ED care (Pedersen et al, 2012).

Denmark appears to have high level of usage of after-hours services, double that of the Netherlands, with particularly high usage of the GP telephone triage system (Huibers, Moth, Andersen et al 2014). While reasons for this are not entirely clear, Huibers, Moth, Andersen et al. (2014) suggest this may be a result of a well-functioning system providing after-hours care which is easy to navigate and affordable.

## Norway

The after-hours primary care model in Norway varies across locations of practice, and there is no single national after-hours helpline (Mossialos et al. 2015). All GPs (under an age cut off) have contracts with their municipalities to provide after-hours care (Mossialos et al. 2015). In rural areas, several municipalities may combine their after-hours service provision in one location (Mossialos et



al. 2015), while more populated areas have walk-in clinics with a triage nurse, and these offer numerous treating GPs (Mossialos et al. 2015). Very remote areas use municipality home nursing services combined with telemedicine (Ringard, Sagan, Saunes et al. 2013). In smaller municipalities, patients have after-hours telephone access to a nurse, who will contact a GP if necessary, however there is no single national after-hours helpline (Mossialos, et al. 2015). Patients contribute to the cost of their after-hours appointments and the fees are higher than in regular hours (Mossialos et al. 2015).

## 2 After-hours primary care in Australia

### *Health System Context*

Subsequent to the 2014 review of Medicare Locals (DoH 2014b), these organisations were disbanded and replaced by 31 PHNs, effective as of July 1 2015 (DoH 2014b). An independent Review of After-hours Primary Health Care (DoH 2014a) was also undertaken.

Coinciding with the commencement of operations of PHNs, new funding arrangements for after-hours service provision came into effect on 1 July 2015. This involved a revised version of the Practice Incentive Program (PIP) after-hours incentive payment, now paid directly to GP practices for provision of service, designed to remove administrative burden associated with the previous incentive scheme (Department of Human Services 2015b). This new PIP scheme has five levels of incentive payment depending on the level of after-hours service provided (see Appendix 2 for PIP levels).

Another key recommendation from the After-hours Primary Health Care Review, now implemented by the Government, is for the PHNs to be funded to work with key stakeholders in their areas (such as Local Hospital Networks, Medical Deputising Services, etc) to identify gaps in optimal provision of services for all consumers and to assist the coordination of services (DoH 2014a). Rather than holding the responsibility for provision of after-hours services, the PHNs are now charged with collaborating with stakeholders to inform the commissioning of services and streamline service provision.

The Review identified varying levels of satisfaction and a number of issues associated with the HealthDirect Australia (HDA) after-hours GP Helpline (After-hours GPH), including lack of awareness, confusion over inequality of after-hours telephone support systems across regions (some regions had more than one service), and, importantly for rural and remote areas, the lack of local knowledge of service options, which was problematic for referring patients to appropriate services in their area. As a result, the After-hours GPH ceased operation on 30 June 2015, and a new system was established to better streamline the service (DoH2015b). To avoid confusion, the existing 1800 number was retained and 24-hour access continues (DoH 2015b).



### *Workforce issues in remote areas*

In rural Australia the ratio of health care providers to population decreases as the remoteness of location increases (AIHW 2014b), furthermore, rural GPs and nurses work longer hours than those in metropolitan areas (AIHW 2014b). Hence, health care workers in non-metropolitan areas struggle to provide regular, in-hour services, and the demand to provide after-hours coverage places greater strain on already stretched resources. This is set to be further exacerbated by an ageing health care workforce in these areas who may wish to offer fewer hours of service including a reduction in after-hours services (Fragar & Depczynski 2011). To address this, the Government has provided a number of incentives to attract more workers to regional, rural and remote area (see Appendix 3). There is evidence that the numbers of GPs and nurses in these locations have increased as a result of such programs (Rural Health West 2014, AIHW 2014b, AIHW 2013a), although there is still a shortage of other health care workers, such as pharmacists (AIHW 2013b).

The current level of remoteness classification system (Australian Standard Geographical Classification – Remoteness Area, ASGC-RA) (Senate Community Affairs References Committee 2012) used to assess level of remoteness in determining eligibility for grants, has resulted in an unfair distribution of funds, with greater remuneration provided to GPs working in regional areas than remote areas (Independent Expert Panel Report 2015). Consequently, the Government has recently opted for an alternative method of classification, the Modified Monash Model (MMM), which includes factors that assist recruitment issues in the workforce, such as total hours worked, and number of on-call after-hours required (Humphreys, McGrail, Joyce et al. 2012). This more equitable model of classification has been used to inform the General Practice Rural Incentives Program since 1 July 2015 (Australian Government Department of Human Services 2015a).

### *Overview of national infrastructure and services*

GP services are encouraged to make after-hours provisions in some capacity for their patients. A range of options are available with funding incentives provided under the new PIP After-hours Incentive scheme offered across a range of levels, subject to service provision (DoH 2015b) (see Appendix 2).

A number of after-hours service models are in use in Australia:

- Practice-based services – GPs providing services to their patients within their practices (Leibowitz, Day & Dunt 2003). This service model offers high patient satisfaction due to continuity of care, but can be labour intensive with unpredictable hours required to meet demand, particularly in regional, rural and remote areas (McGrail, Humphreys, Scott et al. 2010). This model often results in fewer home visits by GPs in the after-hours period, due to a perceived risk to personal safety (Magin, Adams, Ireland et al, 2005, Hallam 1994, Comino, Zwar & Hermiz 2007).
- GP co-operatives – these not-for profit organisations combine groups of GPs to provide after-hours care to patients within a specific area using a roster system, and may include home visits (Comino et al. 2007, Leibowitz et al 2003). Following each after-hours

consultation, the patient returns to their regular GP for in-hours monitoring and follow up (Comino et al. 2007). Telephone triage may be used by the co-operative to help reduce workload and the number of home visits required (Leibowitz et al. 2003). However, the fewer home visits offered by co-operatives can negatively impact some patient groups who struggle to attend the clinic, such as the elderly, or those with children who cannot be left home alone late at night (Comino et al 2007).

- Co-location within hospitals – provision of GP services at or near hospital emergency departments. The Macarthur GP After-hours Service is an example of such a model (Comino et al. 2007), where a GP co-operative works within the local hospital. The benefits to GPs include access to hospital facilities, such as diagnostic services, while allowing bulk-billed alternative access for patients to treatment. The ED benefits from a reduced low acuity patient load and costs diverted from state health budgets (Comino et al 2007). The main drawbacks to co-located clinics are the lack of home visiting (Comino et al. 2007), and the inconvenience for remotely located community members.
- Medical Deputising Services (MDS) – companies that directly supply medical practitioners on contract to practices to cover the after-hours period (NAMDS 2015). MDSs must provide home visits, and they may provide telephone triage services (NAMDS 2015). Research suggests that there is widespread use of MDSs in metropolitan areas (Britt, Miller & Valenti, 2001), largely to release GPs from a high burden of after-hours work, however, this model of service delivery has very low level use in rural areas (Britt, Miller & Valenti 2001). MDSs are useful for providing services to residential aged care facilities as they travel to the patients, however, there were low levels of satisfaction with waiting times (Barwon Medicare Local 2012).
- Telephone Triage and Advice Services – a Government-funded national telephone service, staffed by trained nurses who use a triage protocol to assess callers and direct them to appropriate pathways of care (such as self-care, a GP appointment during regular hours, an after-hours GP). This service is intended to support community members who lack face-to-face access to GPs in the after-hours period (such as in rural and remote locations, residential aged care facilities, and palliative care patients). There is some evidence that the helpline is more successful in metropolitan areas than rural or remote areas, due to poor triage knowledge of the local area (National Rural Health Alliance 2014) and poor access to IT services in rural regions hindering communication between the helpline and the patient's regular GP (e.g. problems providing electronic documentation of follow-up advice and care) (Rural Doctors Association of Australia 2014). Additionally, low consumer awareness of telephone helpline services limited its usefulness (DoH 2015a). Mixed success of this national approach prompted the recommendation that the service be terminated and funding directed towards more locally tailored approaches (DoH 2015a). However, the Government elected to streamline this service and it continues to operate nationally. Victoria and Queensland offer state-funded telephone helplines. Community members calling the national HealthDirect number have their calls automatically transferred to state-run triage call services – Nurse-On-Call in Victoria, or 13-Health in Queensland, for no fee (health.vic n.d., Queensland Government 2014).
- Web-based - HealthDirect Australia is funded by Commonwealth, State and Territory governments to provide online access to reliable online health care information. This service

provides a symptom checker, as well as details about the after-hours GP helpline, with mapping to the patient's nearest after-hours clinic and pharmacy ([www.healthdirect.gov.au](http://www.healthdirect.gov.au)).

- The Royal Flying Doctors Service (RFDS) provides urgent medical attention 24 hours a day to remote and very remote communities including retrievals and transfers to major tertiary hospitals. RFDS also provides 24-hour telehealth services with a medical chest available for emergency medications. RFDS works collaboratively with local Hospital and Health Services (HHS) and with agencies such as Retrieval Services Queensland to determine the aeromedical response to emergencies (<https://www.flyingdoctor.org.au/>).

### **Funding arrangements**

#### *Funding to PHNs*

As of July 1 2015, PHNs receive funding from the Commonwealth Government to work with local stakeholders to commission services and streamline service provision for optimal after-hour services across their region (DoH 2015b). This is separate and in addition to the Practice Incentives Program After-hours Incentive funding (see below). Unlike Medicare Locals, PHNs will not have responsibility for providing PIP Incentives, which now fall within Medicare rebates as a responsibility of the Department of Human Services, on behalf of the Department of Health (Australian Government Department of Human Services 2015c).

#### *Practice Incentives Program (PIP) After-hours Incentive* (Department of Human Services 2015b)

Effective from 1 July 2015, five PIP payment levels are offered to registered accredited general practices "to encourage and support practices to provide after-hours access". Incentives range from level 1 (\$1 per standardised whole patient equivalent [SWPE]) for practices having formal arrangements in place for patients to access after-hours care, through to Level 5 - the Complete After-hours Practice Coverage Payment (= \$11 per SWPE) for those who provide after-hours care for the whole after-hours period (for more details, see Appendix 2).

#### *After-hours Other Medical Practitioners (After-hours OMPs) Programme* ([www.health.gov.au](http://www.health.gov.au))

This programme provides access to the higher level of Medicare rebate for non-vocationally recognised GPs who provide after-hours services (either through an accredited practice, or through provision of Medical Deputising Services). This programme is only available to GPs with a Medicare provider number and it requires GPs to enrol for Fellowship within the Royal Australian College of General Practitioners (RACGP) or Australian College of Rural and Remote Medicine (ACRRM) accreditation. The After-hours OMP encourages service provision in metropolitan and rural areas.

### 3 Challenges

#### *Workforce and recruitment issues in regional, rural and remote Australia*

Regional, rural and remote areas struggle to provide adequate services during regular hours, and this is exacerbated after-hours. In addition, these areas report high levels of poor health compared to metropolitan areas (AIHW 2014a). A number of incentives have been developed to increase health care worker recruitment (see Appendix 2) with some success (Rural Health West 2014, AIHW 2014b, AIHW 2013a), but the workforce remains insufficient to meet demand in regional, rural and remote Australia. Additionally, while the GP and nurse workforce has increased in rural areas, the pharmacy workforce remains inadequate (AIHW 2013b) and this further hinders provision of services in the after-hours period.

#### *Changes in GP work patterns and attitudes to working hours*

The landscape of general practice has been changing in Australia for a number of years, including a decrease in hours worked by GPs between 1999 and 2009, down by 3.4 hours per week, to 42.2 (AIHW 2011). This is largely attributable to a change in the gender profile of GP workforce (more women working part time) and equates to 6000 fewer full time positions nationally (Joyce, 2013).

Greater focus on work-life balance (Shrestha & Joyce 2011) has resulted in the workforce, particularly younger doctors, favouring locations offering more leisure time and predictable working hours (Shrestha & Joyce 2011); notably in metropolitan areas (McGrail et al. 2010). To improve their work-life balance many doctors may reduce the hours they choose to work – as rural GPs are known to work longer hours (AIHW 2014b), this could potentially deter GPs from moving to a remote or rural area (Shrestha & Joyce 2011). Findings from one study on GP job satisfaction reported that smaller community GPs reported comparable to (and not lower than) job satisfaction than GPs from metropolitan areas, although some dissatisfaction was voiced from small community GPs about unpredictable hours (McGrail et al. 2010).

#### *Transport*

The review of after-hours primary health care highlighted access to transport as a barrier. In instances where doctors are unavailable to provide home visits during the after-hours period, patients require access to transport to attend an after-hours facility. Barriers to this include: being too ill to drive; having no licence; no money for petrol; no car; infrequent or no public transport; no taxi service, or difficult driving conditions at night (particularly in rural and remote areas) (Johnson & Rennick 2015). This lack of transport particularly affects older patients for whom home visits are preferable (COTA 2014). One study found that poor accessibility or lack of transport to an after-hours facility was a greater barrier to use of after-hours services than financial disadvantage (Keler, Dunt, Day et al. 2006).

### *Residential aged care facilities (RACFs)*

Access to after-hours primary care is a particular concern for those in residential aged care facilities (Arendts, Reibel, Codde et al. 2010). For primary care, RACF residents are often reliant on MDSs for in-house visits, but waiting times may be long, necessitating other options such as unnecessary referrals to ED (Arendts, Reibel, Codde et al. 2010, Comino et al. 2007). Other issues for RACF residents who receive services from MDSs include: poor continuity of care, as visiting doctors having little or no knowledge of the patient's history (Barwon ML 2012) and lack of access to GPs during regular hours, resulting in delays in consults until the after-hours period (Barwon ML 2012). An additional problem for RACF residents is access to prescribed medications, as they may be dependent on staff, carer or family member availability to collect medications from a pharmacy during the after-hours period (ACTML 2014).

### *Palliative care*

According to a 2011 NSW survey, 76% of Australians would prefer to die in their own homes. Despite this, 51% of palliative care patients die within a hospital setting (cited in Southern NSW Medicare Local brochure 2014). Planning end-of-life care with patients, family and carers can help with decision-making. However, the provision of nursing, medical and other supports to palliative care patients after-hours is frequently problematic.

One review of out-of-hours palliative care in the UK (Thomas, 2000) reported four main areas of concern:

- communication
- reduced access to support services
- reduced access to medical advice
- reduced access to medication and equipment.

The evidence highlights the lack of up-to-date clinical information for palliative care interventions after-hours (Burt et al 2004). Although Australian literature on the subject is limited, GPs report problems with on-call and after-hours support when required to make decisions in the absence of readily available medical records. Ballarat Hospice Care trialled access to essential clinical information via a handheld Palm Pilot™, and noted that nurses' confidence markedly increased and GPs reported improved patients outcomes (Brumley et al 2006).

In 2012 the Victorian Government (Department of Health 2012) developed an After-hours Palliative Care Framework designed to assist palliative care consortia and palliative care services to develop models of after-hours support for their region. The framework (cited in the Gippsland Regional Palliative Care Consortia 2012, p.5) identified three alternative models of after-hours palliative care that could apply in the Gippsland region:

- A regional (or sub-regional) after-hours nursing telephone triage service provider supporting several community palliative care services.

- A local hospital after-hours manager providing telephone triage to the local community palliative care service.
- An individual palliative care service or local district nursing service providing after- hours telephone triage support to the local community.

Key success factors to support service model development included educating clients and carers on symptom management and providing them with written plans to assist self-management; and good project management including administrative/clinical support, consistent principles, ownership, and service-specific strategies with integration of existing processes, to facilitate successful implementation of an after-hours service (Victorian Government, Department of Health 2011 & 2012).

Community palliative services in some areas offer their own after-hours triage service, though most rely instead on the local hospital after-hours coordinator (Gippsland Region Palliative Care Consortium 2014). In addition, no community palliative care services provided guidelines that supported nurses in triaging patients after-hours (Gippsland Region Palliative Care Consortium 2014).

Service mapping in NSW conducted during 2010 (NSW Ministry of Health 2012) identified that rural specialist palliative care services were predominately small, nurse-led teams and after-hours access to specialist palliative care services was limited outside metropolitan areas. Auchett (2012) identified challenges associated with few available palliative-trained specialist nurses which limits district nursing service options during the after-hours period. This deficit of speciality trained nurses is particularly evident in rural and remote areas of the region.

One other model of palliative care, the Loddon Mallee Palliative Care Consortium model, incorporates all aspects of community palliative care education, support and service delivery after-hours. This after-hours rural model consists of two key aspects linked by specifically developed tools, resources, clinical training, local input and quality control measures. It is not currently supported by after-hours funding.

- Patient/carer support and enabling processes:
  - education of patients/carers on symptom management and provision of written plans to assist them to manage potential situations - Guidelines for Patients and Carers
  - patient-held written information—Emergency Medical Information Book (on fridge); patient kit etc
  - advanced care plans—including written and discussed End of Life (EOL) plan
  - promotion of the after-hours telephone number provided on magnet/sticker
  - multidisciplinary team meetings, including district nurses
  - service support for carers and patients: social worker; carer groups; bereavement counselling; volunteers
  - local initiatives (including day hospices).
- After-hours Nursing Telephone Triage Services partnering with local services:
  - clinical training of telephone triage nurses in the use of palliative care triage protocols
  - provision of high-quality after-hours telephone support to patients/carers after-hours



- development of technology
- flow chart to explain information exchange pathways.

Effective systems, service and patient supports were identified as key drivers to ensure successful model implementation including: catering for culturally and linguistically diverse and clients with hearing impairments; addressing different IT capacity and programs; the need to build on existing relationships between local GPs and the palliative care community service around pre-emptive medication; the need to build on protocols and relationships between hospitals and the Palliative Care community service; establishing consistent protocols for verification of death; addressing the lack of resources for nursing staff; capacity of hospitals to include palliative care -specific protocols within their current after-hours system; and significant costs with the implementation of IT to support the after-hours model.

The Southern NSW Medicare Local (2014) implemented a new service with NSW Ambulance to avoid unplanned transfers to hospital during end of life care period. This involved the submission of a treatment plan to NSW Ambulance, which authorised the ambulance, offers to follow the GP's prescribed orders if Triple Zero (000) was called. This program's collaborative planning across state based services, community nursing, GPs, ambulance services and patients and carers suggest the service supported quality outcomes for end-of-life planning.

Technology will also play an increasingly important role in linking patients and their primary and tertiary care providers, to overcome obstacles of distance and after-hours time periods. Technology provides potential opportunities for palliative care services, particularly through access to reliable information about a patient's medication regime and medical history (NSW Ministry of Health 2012).

### **Mental health**

The National Mental Health Commission Review of Mental Health Programmes and Services (Australian Government National Mental Health Commission 2014) highlighted that provision of mental health services is fragmented and pathways to treatment are unclear. As a result, the Australian Government has committed to redesigning provision of mental health services and programmes (DoH 2015), including greater involvement of primary health care professionals in provision of care to achieve better coordination of care (DoH 2015). However, a literature review of mental health services in primary care found that there was a lack of publicly available information on evaluation of mental health programmes that have shown potential (Bywood, Brown & Raven, 2015). These difficulties within mental health service provision naturally have a flow-on effect for provision of mental health care in the after-hours period.

Access to after-hours mental health care is a major challenge in rural and remote communities (National Rural Health Alliance Inc. 2014). Web-based information can direct consumers to various helplines and police, ambulance services, GPs working after-hours, nurses in remote community health centres and EDs may all be the first point of contact for consumers who require after-hours mental health care. Published evidence supports workforce roles such as the psychiatric/mental health nurse practitioner-liaison roles within EDs. While these roles have been provided in some



locations, they have not been formulated into specific models. Research by Wand et al on Australian EDs found the nurse practitioner-led extended hours service embedded within the ED team structure provides prompt and effective access to specialised mental health care for people with 'undifferentiated health problems' and removes a significant workload from other nursing and medical staff (Wand et al., 2015). This new service model has been met with high levels of approval by patients and staff. The service reduced waiting times, provided therapeutic benefits, and enhanced communication and support for emergency staff. These types of roles and collaborative engagement with broader GP-type hospital after-hours diversion programs have potential application for cooperative GP-hospital integration models.

Due to the multidisciplinary and collaborative approach required in mental health treatment, and the multiple points of entry into the system, this topic requires separate, detailed examination.

### *Pharmacy*

Recent (2015) Commonwealth Government reviews have considered modification of pharmacy ownership and location regulations to ensure access to medicines and quality of advice to patients that does not unduly restrict competition. It was recommended that the rules targeted at pharmacies in urban areas should continue to be eased while alternative mechanisms should be established to address access to pharmacies in rural locations. However, these recommendations have not yet been implemented, and after-hours access to pharmacies remains an issue in non-metropolitan areas, which struggle to attract pharmacists (AIHW 2013b), despite government incentives aimed at boosting the pharmacy workforce.

A recent Pharmaceutical Society of Australia discussion paper (2014) highlighted that the Sixth Community Pharmacy Agreement (6CPA) presents an opportunity to focus on improvements in consumer health outcomes through integrated primary care. These improvements can be achieved from the delivery of high quality pharmacist services, particularly for those with chronic diseases who are prescribed multiple medications. The Society highlighted the need to establish an evidence-informed framework to guide solutions through optimising pharmacists' contribution in a primary care context. See Appendix 4 for further details.

Despite limited access to research and published service models for after-hours pharmacy services, innovative ideas that have potential application in the after-hours period should be explored. The 6CPA presents an opportunity to focus on improvements and address inequalities in access to pharmacy services in underserved populations.

### *Consumer awareness*

There is generally poor understanding across Australia of the available and appropriate options for accessing primary care during the after-hours period (DoH 2014a). Medicare Locals initiated some awareness-raising campaigns, the evaluations of which are unavailable in the current literature

(Rinehart et al. 2014). Other reports indicate that there remains great need for improvements in this area (Rinehart, Smorgon & Holman, 2014).

### *Financial viability*

Financially, rural practices are at a disadvantage to metropolitan GP practices as it costs more to run clinics in isolated regions and it is more difficult to attract quality staff (RDAA 2014). Rural practices are particularly dependent on purpose-specific after-hours funding supplementation and incentives and the sector contends that any threat to this would greatly risk the provision of after-hours services in these areas (RDAA 2014).

### *Case study: After-hours services in the Northern Queensland PHN region*

Northern Queensland PHN encompasses the areas of former Far North Queensland Medicare Local and the Townsville Mackay Medicare Local (DoH 2015a). Based on the demography of these two regions, the majority of the population reside in regions classified as outer regional, remote and very remote (Australian Government Medicare Local 2015a, 2015b). Thus, services provided by the Northern Queensland PHN will face different challenges to those with a greater proportion of metropolitan-based clients. Some of these challenges include health workforce shortages, provision of services across vast geographic areas with difficult access, ageing populations, and often populations with worse health trajectories than that of their metropolitan counterparts (Australian Institute of Health and Welfare [AIHW] 2014a). In order to provide the best available services to the region, each of these challenges must be understood and addressed in planning of services.

## 4 Innovations

As noted in the After-hours Review (DoH 2014a) the ultimate success of after-hours primary care depends on tailoring approaches to specific regions and population groups. In an attempt to address gaps in after-hours service provision, a wide range of innovations are in use or being trialled across Australia. Outlined below are a number of different approaches that have been suggested and/or evaluated.

Key principles common across these models are:

- Services are flexible, responsive and tailored to regional circumstance
- Efficient and effective use is made of the broader health workforce
- Innovative service delivery is promoted
- Data is used to inform policy change
- Communication with patients and providers is key to success

### *GP- diversion programs to address low acuity (Category 4 and 5) GP-type presentations to EDs*

The National Emergency Access Target (NEAT) provided new targets for referral hospital Emergency Departments nationally, and aimed for 90% of ED visits to be processed (clinically reviewed-then admitted or discharged) within 4 hours by 31 December 2015 (AIHW, 2013c). Currently, NEAT qualified hospitals are not required to report selected potentially avoidable GP-type presentations to ED as a performance indicator. Despite this, many hospitals recognise the importance of reducing GP-type presentations to help meet their NEAT targets and they wish to reduce low acuity presentations to improve ED access for those in greater need. This approach is supported by the Council of Australian Government (COAG Reform Council 2013) performance goal that all Australians receive appropriate high quality and affordable primary and community health services.

For 2012–13, potentially avoidable GP-type presentations accounted for almost 2.2 million ED presentations (AIHW 2013c). Attendance by patients with non-urgent conditions to local EDs accounts for a significant proportion of total services. Category 4 and 5 presentations represent less severe conditions and many are identified as potential GP-manageable cases. Reduced access to community GP services, especially during the after-hours period, has been recognised as a significant contributor to avoidable ED presentations. A major barrier to accessing GP services is often availability. GP rationale for not expanding after-hours services include: workforce availability, security and safety issues, maintaining work-life balance and part-time work options (Shrestha & Joyce 2011). The other significant contributor to avoidable ED presentations is the lack of consumer awareness of the range of GP services available, as these may differ from the traditional “family practice” model with which consumers are most familiar, such as GPs performing minor surgical and semi-urgent medical treatments. Furthermore, there is scope to employ highly skilled nurse practitioners who can offer treatment and review of semi-urgent presentations without a scheduled appointment.

Evidence suggests that opportunities exist to reduce admission rates from ED during the after-hours period for certain conditions. These conditions are associated with high presentation rates to EDs, despite significant evidence that they can be safely and effectively managed in an ambulatory environment, when appropriate diagnostic referral pathways are in place (Metro South Health 2014). In Australia, cooperative after-hours arrangements between hospitals and GPs are emerging as potential non-competitive models that enable shared workforce and infrastructure (AIHW 2014b). There is strong local level support for cooperative models, however, their success is dependent on relationships between the hospital and GPs.

In the UK a Clinical Commissioning Group has successfully applied a virtual ward model aimed at maximising patient preferences while reducing spiralling costs of hospital admissions. Computer ‘predictive models’ are used to help identify individuals at high risk of future hospital admissions, to provide these people with extra support to enable them to stay healthy and avoid the need for emergency admissions. Virtual wards provide extra support to prevent unplanned admissions by using the systems of a hospital ward to provide multidisciplinary case management in the

community. The virtual wards work just like a hospital ward, using the same staffing, systems and daily routines, except that the people being cared for stay in their own homes throughout. The results of a recent study from the implementation of the virtual ward model showed a significant reduction in ED presentations and avoidable patient admissions to hospital (Jones & Carroll 2014). The success of virtual wards is dependent on integrated working between different health care disciplines.

### *Changes to incentive models*

The Inner East Melbourne Medicare Local (IEMML) implemented the After-Hours Practice Support Payments (AHPSP) scheme from 1 July 2013. This scheme moved away from incentivising service availability to a focus on expanding access and service delivery, based on research of best practice models, sector and community consultation and data mining.

This research found that the historical Practice Incentive Payment (PIP) resulted in inefficiencies and inequities:

- Some practices were receiving significant amounts of funding to provide minimal after-hours services, and other practices were receiving very little to provide significant after hours services.
- The Tier 1 payment was intended to be used to secure MDS services, a requirement of practice accreditation. It was found that some practices were paying more than the Tier 1 payment, and others significantly less to secure the same service.
- Tier 3 practices were receiving significant amounts of funding to generally deliver minimal on-call services.
- A number of practices admitted to being on call, such as between 6am and 8am 5 days per week, and therefore qualified for after-hours PIP, but did not ever see patients, or provided a minimal telephone service only.
- Some doctors were on call in the after hours, and charged such large call out fees that the service was very rarely used, but payments were continuing to be made to the practice through After-Hours PIP.
- MDS services were paid the same total amount in funding as all of the practices combined, and yet they only provided 17% of the after-hours consultations.

Outcomes of the AHPSP scheme in the 2 years to 30 June 2015 included:

- A five-fold increase in the number of clinics open for after-hours services for the community, from 11 practices in the IEMML region that were open in the after-hours period to 51 in 2015.
- A 29% increase in the number of hours practices are open in the after-hours period across the region. The second six months of 2013 delivered 17,975 hours of after-hours clinic availability compared with 23,192 in the second six months of 2014.
- The increased number of open hours was reflected in an increase of 32% or 40,757 additional reported consultations delivered by practice GPs over the second six months of 2014 compared with the same period in 2013.

- IEMML was able to secure 100% regional cover by the MDS with a 70% reduction in cost for the 2014/15 year than was paid under the previous Medicare funded scheme.
- Working with the public hospital residential in-reach programs demonstrated a major decrease in the number of avoidable presentations to Emergency Department.
- Funding for the collaborative after-hours GP clinic opposite the major Emergency Department ensured patient access for the remaining practices that were closed after hours.

### *Transport – Grampians Medicare Local taxi service provision*

One key impediment to the use of primary health after-hours services is transport access. Reasons for poor access include: being too ill to drive; having no licence; no money for petrol; no car; infrequent or no public transport; or difficult driving conditions at night (particularly in rural and remote areas) (Johnson & Rennick 2015). The rural Victorian Grampians Medicare Local (GML) trialled and evaluated the use of local taxis to address transport needs (Johnson & Rennick 2015). This approach utilised existing infrastructure to provide transport for GML residents during the after-hours period. The system dovetailed with similar patient transfer services, operating through the Department of Veterans' Affairs (DVA) patient travel scheme (Australian Government Department of Veterans Affairs). To access the GML taxi service patients were initially triaged over the phone. An after-hours GP Helpline or Nurse-on-Call helpline assessed the severity of the caller's condition, and if non-urgent, the phone call was transferred to the Safety Link call centre, where the patient was directed to suitable care, with transport organised via a taxi company where required. A regional database enabled Safety Link operators to geographically coordinate taxi companies with patients to local after-hours facilities. If necessary, the taxi could return the patient home following their consultation, including an after-hours pharmacy stop off en route (Johnson & Rennick 2015). Monthly billing systems were prepared with contracted taxi companies similar to those used by the DVA (Johnson & Rennick 2015). Evaluation of the scheme calculated the average cost of a trip at \$35 - \$45, which compares favourably to the use of an ambulance (Johnson & Rennick 2015). This approach circumvented the need for the GML to establish its own staffed transport service, which would have been costly and inefficient (Johnson & Rennick, 2015). A similar approach was used by the Australian Capital Territory Medicare Local (ACTML 2014), with telephone triage used to refer patients to the taxi company.

In its submission to the After-hours Primary Care Review, COTA noted that while GP home visits are preferable for the elderly, there is an opportunity to facilitate access to after-hours clinics by the elderly, particularly in regional and rural areas, by utilising existing community transport resources (COTA 2014). While these resources are heavily used during the working day, they have greater capacity in the after-hours period and may provide a useful solution to after-hours transport needs. COTA suggested after-hours clinics buy in to these services directly (COTA 2014). However, this proposal has not been evaluated in the literature.

### *Consumer awareness*

To address low consumer awareness of after-hours primary care options, the Inner North West Melbourne Medicare Local (Inner NW MML) conducted and evaluated an awareness-raising exercise

(Rinehart et al. 2014). An assessment of information dissemination relating to the after-hours primary care arrangements in six GP and community health clinics in the Inner NW MML catchment area showed poor signage with difficult to navigate clinic web pages to access after-hours information, and very low mention of Nurse-on-Call or GP Helpline services (Rinehart et al.).

Following this baseline assessment, the Inner NW MML conducted an education forum with the participating GP and community health clinics, informing them of available resources, possible improvements to promote after-hours information and to educate clients on provisions for specific services, such as residential aged care facility outreach programs (Rinehart et al. 2014).

In the two weeks following the education forum, most participants had improved their after-hours information by displaying posters on telephone help lines, adding links to the ML on their practice website, and displaying Inner NW Melb ML posters and brochures in the clinic (Rinehart et al. 2014).

### ***Pharmacy – Australian Capital Territory Medicare Local after-hours pharmacy grants***

In 2014, the Australian Capital Territory Medicare Local (ACT ML) conducted a needs assessment, which found that, while Canberra is generally well served by pharmacies during in-hours periods, the location of pharmacies open after-hours did not match areas of greatest need (ACTML 2014). To address this unmet need the ACT ML created the Community Pharmacy After-hours grant. The aim of the grant was to assist pharmacies to extend their practice hours, with safe working conditions (My Gungahlin, 2013). This grant provided funding to community pharmacies to deliver education to their pharmacy staff, specifically targeted at improving pharmacists' skills and knowledge of assessment, management and treatment of conditions during the after-hours period. The grant funds could also be utilised to increase community awareness of after-hours pharmacy services (ACTML 2012). To date, this program has not been evaluated.

### ***Homeless to Home (H2H) after-hours service***

The Homeless-to-Home project is a Brisbane based nurse-led outreach program, with the primary aim of reducing hospital admissions by homeless people, who have disproportionately high ED admission rates (Connelly 2014). It is an integrated health care and housing service with each team comprising a nurse and a Street-to-Home outreach worker, operating during the after-hours period between 5 pm and 11 pm. Clinical services provided to the homeless include providing medication, wound care, mental health counselling, performing health assessments, and referring to other health services. The team serves as a single point of entry into both housing and health care for this vulnerable group. The H2H team also provides services to those who have been placed in temporary accommodation, and those who have been allocated accommodation, but who may need continuing monitoring and care (Connelly 2014).

An economic evaluation of the H2H program showed that the cost benefits of the program were favourable with reduced ED presentations and reduced hospital length of stay following a hospital admission (Connelly 2014). Importantly, the program proved broader benefits such as increased



access to GPs and other health care services (Connelly 2014). Further evaluation is needed, but indications are that findings will be favourable (Connelly 2014).

### ***Residential aged care facilities (RACF) – Southern NSW Medicare Local after-hours care program***

The Southern NSW Medicare Local (SNSW ML) after-hours needs assessment conducted in 2013 identified a number of issues specifically relating to after-hours care in RACFs (NSW Agency for Clinical Innovation [ACI] 2015). Specifically, there was poor, or no, primary care coverage in some facilities during the after-hours period, leading to inappropriate use of ambulances and unnecessary ED presentations. After-hours medication management and supply were problematic, and there was poor availability and low use of advanced care directives. High turnover of staff often led to inadequate knowledge of clinical information, and subsequent confusion, distress and reliance on GPs. Additionally, poor communication was the result of low uptake of eHealth (ACI 2015).

To improve RACF quality of care, SNSW ML developed an Emergency Decisions Guideline tool and implemented training to staff (ACI 2015). The program involved a number of approaches including the Sth NSW ML employing an after-hours project manager, forming a local advisory group (involving the Local Health District, GPs, RACFs, practice nurses, ambulances, consumers and the ML), and appointing an aged care nurse to work with facilities to address skills gaps and associated training needs (ACI 2015). Further, SNSW ML incentivised local GPs to create a roster system that provided after-hours support to RACFs (ACI 2015).

Follow-up evaluation of the project showed a number of positive outcomes, with decreased presentations to ED and better medication management (ACI 2015).

### ***Self-managed care during the after-hours period: Anticipatory care – Bayside Medicare Local***

One approach to managing after-hours primary care is to raise patients' health literacy levels to enable them to self-manage their illness. This approach known as anticipatory care provides mapped pathways for care in anticipation of the need for care (Kennedy, Harbison, Mahoney et al. 2011). Anticipatory care plans are written documents developed between patients and physicians which give patients the tools to self-manage their illness (Kennedy et al. 2011). The Melbourne-based Bayside ML piloted an initiative to extend anticipatory care plans (initially developed for the management of the elderly and frail) to all primary care patients with a view to reducing the need for urgent or emergency services during the after-hours period (Evangelista, James & Deveny 2015).

A number of clinics in the Bayside ML area participated in the six month pilot project between 2013 and 2014 (Evangelista et al. 2015). Clinic staff attended workshops to develop templates for care plans and enable them to identify patient types at high risk of requiring emergency care during the after-hours period (Evangelista et al. 2015). Early evaluation of anticipatory care plans highlighted the benefits in raising patients' understanding of their own conditions. Additional benefits were voiced by patients who were empowered by their ability to self-manage their illness and access



alternative pathways of care should they need treatment after-hours (Bayside ML 2015). The project resulted in a number of proforma anticipatory care plans for common conditions, including asthma, fever in children and mastitis (Bayside ML 2015). To improve the likelihood of anticipatory care plan success, it was suggested that buy in from all parties would be required as a behaviour shift may lead to resistance from GPs and patients (Evangelista et al. 2015). Of note, the Australian Primary Health Care Nurses Association (APNA) suggested that nursing care incentives be provided to outreach teams to create structured anticipatory care with patients and prevent expensive call-outs during the unsociable hours (APNA 2014).

### *Telehealth and videoconferencing*

Internationally, telehealth is growing into a global multi-billion dollar market; however, much of the focus to date has been centred on utilising information technologies (IT) in acute care hospitals. The increasing use of IT has assisted the Australian health system to strive for greater efficiency and effectiveness in providing high levels of quality and accessible health care; however Australia is yet to fully apply IT services to facilitate improved health care in rural and regional centres.

Telehealth in the trauma and critical care setting has the potential to improve access to services and specialists, improve access to clinical information to support decision making and provide care previously not available to a rural location. It also supports professional education, which can improve quality of care in addition to assisting staff recruitment and retention. In the ED, telehealth has demonstrated transformed patterns of patient management and in particular, reduced the number of admissions and transfers associated with some trauma conditions (Zangbar et al., 2014).

Many health care workers are adamant that videoconferencing cannot replace face-to-face services (RDAA 2014, Australian College of Rural and Remote Medicine 2014); however, telehealth can still play a useful role (APNA 2014). In the context of residential care (RACF) videoconferencing provides visual tools to aid nurses to make accurate treatment decisions in telephone triage (Vecellio, Georgiou & Westbrook 2013). However, across Australia IT and broadband access are often poor in rural and remote areas (Services for Australian Rural and Remote Allied Health 2014); and this creates barriers to effective use in some areas which would most benefit from these added service options. Overcoming these challenges should be a key priority. E-health provides enormous opportunities for health professionals to increase productivity and improve patient care, particularly through access to reliable information about a patient's medical history and medication regime.

## **Conclusion**

After-hours primary care provision has been the focus of attention in many western health care systems over the last few years. Governments have been attempting to address how to better provide appropriate care to semi urgent and low acuity presentations in non-ED settings. Internationally, many models are applied to deliver after-hours care, and although these include

traditional GP-based models, there has been a shift away from this towards cooperative GP rosters, co-located GP clinics at hospitals, nurse-led telephone triage models, and internet-based services. Australia currently engages all of these after-hours models to a varying extent. Recent changes to funding have simplified support to GPs and this has eased the financial strain of after-hours provision; however, many challenges still exist including investigation into alternate models of transport during the after-hours period; lack of home visiting (particularly for residents in aged care facilities and palliative care patients), poor access to allied services such as pharmacy and mental health services, and the broader issue of insufficient health care workforce. Non-metropolitan areas arguably shoulder a larger proportion of these challenges. A number of innovations have been developed in response to the specific needs of that area, which are key for successful uptake of services, but many innovations are still in their infancy with room for expansion and improvement.

The provision of optimal after-hours services lies in the ability to fully and accurately assess local needs. This issues brief has clarified that no single approach can sufficiently improve all current deficits, however a number of innovations have been presented here that could translate to improvements in some areas. Further solutions are required that facilitate PHN discussion and can drive market change in circumstances where innovations are co-designed between providers and their partnering PHN. Truly innovated approaches to after-hours care will facilitate improvement in this area of high service need.

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## Appendix 1 – Methodology

Literature searches were performed using a variety of search engines and journals (see Table 1), to identify English language articles published post-2010 relating to the topic of after-hours service models, internationally and nationally. Key words searched included: **after-hours primary care, after-hours primary care models, best practice in after-hours care, residential aged care facilities, after-hours primary care and pharmacy, after-hours primary care and mental health, after-hours primary care and palliative care, after-hours primary care and transport, rural primary care workforce issues.**

### Search Limitations

There is limited recent local evidence within the published scientific literature regarding best practice after-hours service care models from Australia. This may be due to the limited time frame available for Medicare Locals to research, implement, formally evaluate models of care and publish findings (Medicare Locals commenced operation between July 2011 and July 2012, and were disbanded June 2015). Also, the approaches to after-hours primary care differ vastly by region – one of the main features of the success of after-hours programs is the need to specifically tailor an approach to an area (DoH 2014a). As such, it is possible to examine elements of models that have worked, but the whole model in that area may not be directly transferrable to other PHNs. This review focuses on individual program elements for potential suitability and adaptability to other PHNs. However, the short time frame of operations has limited the availability of formal evaluation material in the scientific literature. For this reason, much of the data in the Australian context is sourced from the grey literature.

*Table 1: Sources searched for relevant literature*

Databases / Journals	Biomed Central, CINAFTER-HOURS L, Cochrane Library, CSIRO Journals, DOAJ, Elsevier ScienceDirect Journals EMBASE, Proquest Central, MEDLINE, Medical Journal of Australia
Search engines / Websites	Australian Institute of Health and Welfare, Australian Government Department of Health, Australian Government Department of Veterans' Affairs, Australian Government Department of Human Services, Rural Doctors Association of Australia, COTA, National Rural Health Alliance, Medicare Local Websites, Australian Journal of Primary Health

## Appendix 2 – Practice Incentives Program After-hours Incentives Levels (DoH 2015b)

Payments are based on the Standard Whole Patient Equivalent (SWPE)

### **Level 1 – Participation Payment. \$1 per SWE**

Practice has formal arrangements in place for patients to access some form of care during all of the after-hours period

### **Level 2 – Social After-hours Co-operative Coverage Payment. \$4 per SWPE**

Practices must participate in a co-operative with other GP practices during the social after-hours period (6 p.m. – 11 p.m. weeknights), and have formal arrangements in place for patients to access some form of care for the unsociable after-hours period

### **Level 3 – Sociable After-hours Practice Coverage Payment \$5.50 per SWPE**

Practices must directly provide their practice patients with care during the sociable after-hours period (6 p.m. – 11 p.m. weeknights), and have formal arrangements in place for patients to access some form of care for the unsociable after-hours period

### **Level 4 – Complete After-hours Co-operative Coverage Payment. \$5.50 per SWPE**

Practices must participate in a co-operative with other GP practices providing after-hours care for the complete after-hours period

### **Level 5 – Complete After-hours Practice Coverage Payment. \$11 per SWPE**

Practices must provide after-hours coverage for their practice patients for the whole of the after-hours period

## Appendix 3 – Current Funding Models for Attracting and Retaining Health Workforce to Regional, Rural and Remote Areas (DoH 2015d)

In addition to national programs for funding to support health care practitioners, the Australian Government funds a number of programs to support health care in specific communities:

- **Australian and Torres Strait Islander Pharmacy Scholarship Scheme (ATISPSS)** – aims to increase the number of Aboriginal and Torres Strait Islanders with pharmacy qualifications
- Dental Training – Expanding Rural Placements Training (DTERP) -
- **Bonded Medical Places Scheme (BMP)** – funding to medical school students in return for commitment to working in an area of workforce shortage for 12 months.
- **International Medical Recruitment Strategy** – aims to increase the number of overseas doctors (with appropriate qualifications) working in areas of workforce shortage.
- **John Flynn Placement Program (JFPP)** – offers medical students placements in small rural or remote areas for eight weeks (over four years) in order to provide an understanding of rural and remote medical practice, with a focus on social and cultural aspects
- **MedicarePlus for Other Medical Practitioners Program (MOMPs)** – allows access to A1 medical rebates to pre-1996 non-vocationally registered practitioners who can usually only access A2 level, in return for commitment to five years of service in an area of workforce shortage
- **Nursing and Allied Health Rural Locum Scheme (NAFTER-HOURS RLS)** – provides locum support to allow nurses, midwives and other allied health professionals to take leave, or to fill positions where needed to support services
- **Remote Vocational Training Scheme (RVTS)** – provides structured distance education for vocational training, to allow doctors in remote areas to train while remaining in and the community
- **Rural and Remote General Practice Program (RRGPP)** – funding for improved recruitment and GP workforce retention in rural and remote areas. Funding assists with recruitment, relocation costs, provision of infrastructure and training
- **Rural Australia Medical Undergraduate Scholarship Scheme (RAMUS)** – aims to attract students from rural backgrounds into medicine
- **Rural Clinical Training and Support program (RCTS)** – delivery of rural medical training through Australian universities with the aim of increasing the medical workforce, and providing greater opportunities for Aboriginal and Torres Strait Islanders
- **Rural Other Medical Practitioners program (ROMPs)** – allows non-vocationally recognised medical practitioners access to A1 medical rebate in return for provision of GP services in rural and remote areas

- **Rural Pharmacy Scholarship Scheme (RPSS)** – aims to increase the number of students from rural and remote areas studying pharmacy
- **University Departments of Rural Health program (UDRH)** – aims to provide opportunity to a range of health care workers to practice skills in a rural environment.

For more detail on these programs, see:

<http://www.health.gov.au/internet/main/publishing.nsf/Content/work-co-rur>



## Appendix 4 – Recommendations for pharmacy workforce innovation: Pharmaceutical Society of Australia discussion paper (2014)

In rural and remote settings, the Pharmaceutical Society of Australia recommendations include:

- Promoting innovation through:
  - Investigation of provisions for pharmacist dispensing at rural outposts;
  - Funding for salaried clinical pharmacy positions in areas of identified need;
  - Reimbursement of rural pharmacists for Telehealth services, in the same way as their GP colleagues; and
  - Increased funding for the Rural Pharmacy Liaison Officer (RPLO) program to provide full-time roles, which will allow more rural students and more regional education.
- Better support for rural and remote pharmacists practice by addressing the mal-distribution:
  - Providing allowances for pharmacists, interns and students located in regional areas, currently classified as Accessibility and Remoteness Index for Australia (ARIA) 1 (such as Townsville);
  - Rural scholarships could be bonded i.e. scholarship recipient gives a commitment that they will practice rurally; and
  - Providing interns with a graded financial incentive (higher incentive for remoteness).
- Enhanced focus on Aboriginal and Torres Strait Islander People
  - Streamlining the Quality Use of Medicines Maximised for Aboriginal and Torres Strait Islander People (QUMAX) medication access programs so that eligibility is based on Aboriginality, not the location of the Aboriginal Community Controlled Health Service (ACCHS);
  - Subsidising Dose Administration Aids for Aboriginal and Torres Strait Islander people, regardless of the setting;
  - Reducing the Indigenous Pharmacy Assistant Traineeship ATAR criteria, better support trainees to complete training, and provide incentive for pharmacists to employ Aboriginal pharmacy assistants once the allowance has finished;
  - Providing salaried positions for pharmacists in all Aboriginal Health Services to oversee the supply process, provide Quality Use of Medicines (QUM) education to patients and staff and to assist patients with medication adherence;
  - Continuing the allowance to employ Aboriginal pharmacy assistants through Cert II & III, and also to receive it for Certificate IV;
  - - Including face to face teaching and mentoring in pharmacy assistant courses (Cert II & III); and
  - - Increased number of Aboriginal and Torres Strait Islander pharmacy scholarships.
  - Increased investment of \$200 million will be needed to effectively fund these proposed arrangements in 6CPA.

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